



BIO THERM ENERGY (PTY) LTD

Proposed Development of the Aletta 140MW Wind Energy Facility (WEF) and Associated Infrastructure near Copperton, Northern Cape Province

Draft Environmental Authorisation (EA) Amendment Motivation Report

DEA Reference Number: 14/12/16/3/3/2/945/AM1
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BIO THERM ENERGY (PTY) LTD

PROPOSED DEVELOPMENT OF THE ALETTA 140MW WIND ENERGY FACILITY (WEF) AND ASSOCIATED INFRASTRUCTURE NEAR COPPERTON, NORTHERN CAPE PROVINCE

DRAFT ENVIRONMENTAL AUTHORISATION (EA) AMENDMENT MOTIVATION REPORT

Executive Summary

SiVEST SA (Pty) Ltd (hereafter referred to as SiVEST) was appointed by BioTherm Energy (Pty) Ltd (hereafter referred to as “BioTherm”) in 2015 as the independent Environmental Assessment Practitioner (EAP) to undertake the Environmental Impact Assessment (EIA) process for the proposed development of the 140MW Aletta Wind Energy Facility (WEF) and its associated infrastructure, near Copperton in the Northern Cape Province (hereafter referred to as the “proposed development”). The overall objective of the proposed development was to generate electricity to feed into the national grid.

As the proposed WEF is located within the declared Karoo Central Astronomy Advantage Area, a Path Loss and Risk Assessment, including an Emission Control Plan (ECP), was undertaken to assess the impact of the proposed WEF on the Square Kilometre Array (SKA). This assessment and the ECP related to a specific turbine available for consideration at the time, this being the Acciona AW 125 TH 100A, with a hub height of 100m and a rotor diameter of 125m.

Following the conclusion of the EIA process, BioTherm was subsequently issued with an Environmental Authorisation (EA) for the proposed development on 09 May 2017 (DEA Reference Number: 14/12/16/3/3/2/945). The EIA process and associated specialist studies considered the impacts of turbines with maximum hub heights of 120m and maximum rotor diameters of 150m. The Department of Environmental Affairs (DEA), however, reduced the authorised turbine specifications based on the provided Path Loss and Risk Assessment and ECP, which was based on the Acciona AW 125 TH 100A (Fouché, C., 2016). The turbine specifications authorised were intended to reduce the potential risk of adverse impacts of wind turbines on the SKA.

BioTherm is now proposing a larger turbine for the proposed development, namely the Acciona AW 140/3465 TH 120 with a hub height of 120m and a rotor diameter of 140m. The proposed higher hub height takes advantage of the high wind shear on site which increases the wind speeds available. In addition, the larger rotor diameter means that the turbines can capture more of the energy in the wind.

SiVEST was therefore appointed as the independent EAP to apply for an Amendment of the EA in order to increase the authorised turbine dimensions to have a hub height of 120m, a rotor diameter of 140m and a generation output of 3.465MW each.

The amendments to the EA which are now being requested include the following:

▪ **Page 8:**

FROM:

- 60 wind turbines with a total output of 140MW. Turbines will have a hub height of 100m, a rotor diameter of 125m and a generation output of 3MW each.

TO:

- 60 wind turbines with a total output of 140MW. Turbines will have a hub height of 120m, a rotor diameter of 140m and a generation output of 3.465MW each.

▪ **Page 9 (Technical details of the proposed facility):**

FROM:

Component	Description / Dimensions
Hub height from ground level	100m
Rotor diameter	125m

TO:

Component	Description / Dimensions
Hub height from ground level	120m
Rotor diameter	140m

▪ **Page 9 (Scope of authorisation No. 2):**

FROM:

2. Only a wind turbine generator with the following specifications are authorised: An Acciona AW 125 TH 100A with a 100m hub height, 125m rotor diameter and a 3MW output.

TO:

2. Only a wind turbine generator with the following specifications are authorised: An Acciona AW 140/3465 TH 120 with a 120m hub height, 140m rotor diameter and a 3.465MW output.

▪ **Page 17 (Turbine position No. 37):**

FROM:

37. Only a wind turbine generator with the following specifications are authorised: An Acciona AW 125 TH 100A with a 100m hub height, 125m rotor diameter and a 3MW output.

TO:

37. Only a wind turbine generator with the following specifications are authorised: An Acciona AW 140/3465 TH 120 with a 120m hub height, 140m rotor diameter and a 3.465MW output.

▪ **Page 28 (Findings):**

FROM:

e) Only a wind turbine generator with the following specifications are authorised: An Acciona AW 125 TH 100A with a 100m hub height, 125m rotor diameter and a 3MW output.

TO:

e) Only a wind turbine generator with the following specifications are authorised: An Acciona AW 140/3465 TH 120 with a 120m hub height, 140m rotor diameter and a 3.465MW output.

As part of the original EIA process for the proposed 140MW Aletta WEF and its associated infrastructure, the following specialist studies were undertaken:

- Biodiversity Assessment;
- Avifauna Assessment (including pre-construction monitoring);
- Bat Assessment (including pre-construction monitoring);
- Surface Water Impact Assessment;
- Soils and Agricultural Potential Assessment;
- Noise Assessment;
- Visual Impact Assessment;
- Heritage and Palaeontology Assessment;
- Socio-economic Impact Assessment;
- Traffic Assessment; and
- Electromagnetic Interference Path Loss and Risk Assessment (Including Emission Control Plan).

The EIA process and above-mentioned associated specialist studies, except for the Electromagnetic Interference Path Loss and Risk Assessment, considered the impacts of turbines with maximum hub heights of 120m and with maximum rotor diameters of 150m. Therefore, the proposed turbine dimensions are still in-line with the specialist assessments undertaken for the WEF and findings set out in the Final Environmental Impact Assessment Report (FEIAR) dated 20 January 2017. Further assessment was only required by the Electromagnetic Compatibility specialist and it was subsequently determined that the proposed Acciona AW 140/3465 TH 120 turbine model will not result in increased risks of electromagnetic emissions from the WEF and that no new mitigation measures will be required. Acciona confirmed that the AW 140/3465 TH 120 turbine's emissions are similar as per the Acciona AW 125 TH 100A and thus there is no need to change the ECP. This was confirmed by ITC.

The proposed change in output of each turbine from 3MW to 3.465MW will have no bearing on the specialist findings or environmental impacts as the proposed number of turbines, hub height and a rotor diameter are still in-line with the assessed turbine specifications. The proposed amendments will not result in any additional negative environmental impacts, over-and-above those already assessed in the FEIAR and authorised in the EA, and will not change the nature or scope of the project from what was assessed.

The findings of the Path Loss and Electrical Design Change Evaluation are summarised in **Table ii** below and a copy is provided in **Appendix D**.

Table ii: Summary of Path Loss and Electrical Design Change Evaluation of Acciona AW 140/3465 TH 120 Wind Turbine

Environmental Parameter	Summary of major findings
Path Loss and Electrical Design Change	<p>Since drafting the Electromagnetic Control Plan (CP 6778/16) for the Aletta Wind farm in 2016, the turbine of choice for the development has changed from the Acciona Model AW3000/125 TH100 50Hz wind turbine to Acciona Model AW 140/3465 TH120.</p> <p>In order to confirm the validity of the proposed mitigation measures, the Acciona Engineering department issued a comparison between the two (2) turbine models to confirm the electrical similarity.</p> <p>The path loss calculations were repeated at a hub height of 100m and 120m to confirm the attenuation requirements and to ensure no discrepancy would arise due to location variations.</p> <p>Little impact on the path loss values was found due to the increase of the hub height from 100m to 120m except in the case of WTG 31 to SKA 1895 where the 20m height difference caused a 26dB reduction in path loss. The impact on the path loss values to the core is however less than 1.5dB.</p> <p>Although there is a 26 dB reduction in path loss due to the hub height change, the initial mitigation requirements in CP 6778/16 was based on a minimum path loss of 134dB @ 6GHz whereas the reduced path loss of WTG 31 to SKA 1895 is still 136dB (2dB more than the previous minimum).</p> <p>According to the design change statement from Acciona (Appendix A of Path Loss and Electrical Design Change Evaluation), there is no foreseen risk of increasing the electromagnetic emissions of the WEF that would require additional mitigation measures to be developed to fulfill the SKA requirements, notwithstanding that the Aletta WEF's control plan and path loss calculations be updated.</p>

	In conclusion, the change in hub height and minor electrical differences between the AW125 TH100A and AW 140/3465 TH120 does not impact on the mitigation requirements as set out in the Path Loss and Risk Assessment Report for New Aletta WEF Layout Including Emission Control Plan for the AW125 TH 100A WTG (CP6778/16).
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It should be noted that BioTherm sent the above-mentioned Path Loss and Electrical Design Change Evaluation to the South African Radio Astronomy Observatory (SARAO) for final review and approval upon its completion. Having assessed the proposed amendments to the turbine specifications, SARAO stated that they do not anticipate any negative impact on the SKA and that the modifications to the Aletta WEF do not impact on the previously agreed path loss mitigation measures. Accordingly, SARAO has raised no objection to the proposed amendments. A letter from SARAO which confirms this has been provided in **Appendix C4**.

An application to amend the EA according to the above-mentioned proposed amendments was submitted to the DEA on 11 April 2019. All affected landowners, as well as the relevant provincial authority, were notified about the EA Amendment Application which was submitted (**Appendix C6**). The Department subsequently acknowledged having received the application on the same day (namely 11 April 2019) and assigned the following reference number for the amendment process: 14/12/16/3/3/2/945/AM1. Following the review of the application for amendment of the EA, the DEA concluded that the proposed amendments are considered a change of scope. The application therefore falls within the ambit of amendments to be applied for in terms of Part 2 of Chapter 5 of the Environmental Impact Assessment (EIA) Regulations, 2014, as amended. In light of this, the EAP was referred to regulation 32 of GN R. 982. A copy of the above-mentioned DEA Acknowledgment Letter is provided in **Appendix B**. In light of the DEA's response, a Part 2 amendment process is being followed accordingly.

Advertisements (English and Afrikaans) were placed in the "Gemsbok" local newspaper on Wednesday the 29th of May 2019 (**Appendix C2**). Accordingly, site notices were also placed on the boundary of the application site on Friday the 31st of May 2019. Refer to **Appendix C1** for a copy of the site notices. Proof of the site notices (photos and GPS coordinates) which were erected will be included in the Final EA Amendment Motivation Report. Should stakeholders respond (**Appendix C4**) to advertisements, they will be registered on the project database and sent letters of invitation to participate. It should be noted that all I&APs and Organs of State / Authorities will be given 30 days to comment on this Draft EA Amendment Motivation Report, which has been compiled in terms of regulation 32(1)(a) of GN R. 982. The Draft EA Amendment Motivation Report has subsequently been made available to the public for review on SiVEST's website (<http://www.sivest.co.za/>, click on Downloads, then browse to the folder '15499 Aletta WEF Amendment') for a period of 30 days from Monday 03 June 2019 to Friday 05 July 2019. All comments received throughout the EA amendment process (including comments received during the Draft EA Amendment Motivation Report's commenting period) will be incorporated into the Final Amendment Motivation Report, which will then be submitted to the competent authority (namely the DEA) for decision-making. Additionally, all comments received throughout the EA amendment process will also be included in the Comments and Response Report (C&RR) (**Appendix C5**). As such, the Public Participation Process is being conducted as outlined in Chapter 6 of the EIA Regulations, 2014, as amended.

Although the new specifications are still in-line with the specialist assessments undertaken for the WEF and findings set out in the FEIAR, the EA issued on 09 May 2017 will need to be amended to reflect the larger turbine specifications. It was however confirmed that the proposed amendments will not result in any additional negative environmental impacts, over-and-above those already assessed in the FEIAR and authorised in the EA issued and will not change the nature or scope of the proposed development from what was assessed. As such, it is requested that the EA be amended to allow for increased turbine dimensions as detailed above.

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DRAFT ENVIRONMENTAL AUTHORISATION (EA) AMENDMENT MOTIVATION REPORT

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Appendix F: Project Team CV's

GLOSSARY OF TERMS

ABBREVIATIONS

ATNS	- Air Traffic Navigation Services
C&RR	- Comments and Response Report
CV	- Curriculum Vitae
DAFF	- Department of Agriculture, Forestry and Fisheries
DEA	- Department of Environmental Affairs
DMR	- Department of Mineral Resources
DoE	- Department of Energy
DWS	- Department of Water & Sanitation
EA	- Environmental Authorisation
EAP	- Environmental Assessment Practitioner
ECP	- Emissions Control Plan
EIA	- Environmental Impact Assessment
EIAr	- Environmental Impact Assessment Report
EMC	- Electromagnetic Compatibility
EMI	- Electromagnetic Interference
EMPr	- Environmental Management Programme
ESA	- Early Stone Age
EWT	- Endangered Wildlife Trust
FEIAr	- Final Environmental Impact Assessment Report
GIS	- Geographic Information System
GN	- Government Notice
GPS	- Global Positioning System
HIA	- Heritage Impact Assessment
I&AP(s)	- Interested and Affected Parties
IPP(s)	- Independent Power Producers
KM	- Kilometre(s)
M	- Metres
MSA	- Middle Stone Age
MW	- Megawatt
NCR	- National Noise Control Regulations
NC DENC	- Northern Cape Department of Environment and Nature Conservation
NEMA	- National Environmental Management Act (Act No. 107 of 1998)
OoS	- Organs of State
RE	- Renewable Energy
REIPPPP	- Renewable Energy Independent Power Producer Procurement Programme
PPA	- Power Purchase Agreement
PPP	- Public Participation Process
SA	- South Africa
SA CAA	- South African Civil Aviation Authority

SAHRA - South African Heritage Resources Agency
SANRAL - South African National Roads Agency SOC Limited
SKA - Square Kilometre Array
WEF - Wind Energy Facility
WESSA - Wildlife & Environment Society of South Africa
WTG - Wind Turbine Generator

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1 INTRODUCTION

SiVEST SA (Pty) Ltd (hereafter referred to as SiVEST) was appointed by BioTherm Energy (Pty) Ltd (hereafter referred to as “BioTherm”) in 2015 as the independent Environmental Assessment Practitioner (EAP) to undertake the Environmental Impact Assessment (EIA) process for the proposed development of the 140MW Aletta Wind Energy Facility (WEF) and its associated infrastructure, near Copperton in the Northern Cape Province (hereafter referred to as the “proposed development”). The overall objective of the proposed development was to generate electricity to feed into the national grid.

As the proposed WEF is located within the declared Karoo Central Astronomy Advantage Area, a Path Loss and Risk Assessment, including an Emission Control Plan (ECP), was undertaken to assess the impact of the proposed WEF on the Square Kilometre Array (SKA). This assessment and the ECP related to a specific turbine available for consideration at the time, this being the Acciona AW 125 TH 100A, with a hub height of 100m and a rotor diameter of 125m.

Following the conclusion of the EIA process, BioTherm was subsequently issued with an Environmental Authorisation (EA) for the proposed development on 09 May 2017 (DEA Reference Number: 14/12/16/3/3/2/945). The EIA process and associated specialist studies considered the impacts of turbines with maximum hub heights of 120m and maximum rotor diameters of 150m. The Department of Environmental Affairs (DEA), however, reduced the authorised turbine specifications based on the provided Path Loss and Risk Assessment and ECP, which was based on the Acciona AW 125 TH 100A (Fouché, C., 2016). The turbine specifications authorised were intended to reduce the potential risk of adverse impacts of wind turbines on the SKA.

BioTherm is now proposing a larger turbine for the proposed development, namely the Acciona AW 140/3465 TH 120 with a hub height of 120m and a rotor diameter of 140m. The proposed higher hub height takes advantage of the high wind shear on site which increases the wind speeds available. In addition, the larger rotor diameter means that the turbines can capture more of the energy in the wind.

As such, BioTherm has appointed SiVEST to act as the independent EAP to undertake the proposed amendment process. An application to amend the EA according to the proposed amendments was subsequently submitted to the DEA on 11 April 2019. The Department acknowledged having received the

application on the same day and assigned the following reference number for the amendment process: 14/12/16/3/3/2/945/AM1. Following the review of the application for amendment of the EA, the DEA came to the conclusion that the proposed amendments are considered a change of scope. The application therefore falls within the ambit of amendments to be applied for in terms of Part 2 of Chapter 5 of the EIA Regulations 2014, as amended. In light of this, the EAP was referred to regulation 32 of GN R. 982. A copy of the above-mentioned DEA Acknowledgment Letter is provided in **Appendix B**.

In accordance with Regulation 32 (1) of the EIA Regulations 2014, as amended, a Part 2 amendment process is being followed accordingly, which will include:

- (a) A report, reflecting –
 - i. an assessment of all impacts related to the proposed change;
 - ii. advantages and disadvantages associated with the proposed change;
 - iii. measures to ensure avoidance, management and mitigation of impacts associated with such proposed change; and
 - iv. any changes required to the EMPr;

which report –

- (aa) had been subjected to a public participation process, which had been agreed to by the competent authority, and which was appropriate to bring the proposed change to the attention of potential and registered interested and affected parties, including organs of state, which have jurisdiction in respect of any aspect of the relevant activity, and the competent authority, and
- (bb) reflects incorporation of comments received, including any comments of the competent authority.

In light of the above, an EA Amendment Motivation Report has been compiled in terms of regulation 32(1)(a) of GN R. 982 accordingly. All the above legislated requirements will be met and are included this Draft EA Amendment Motivation Report.

The details of how the requirements in terms of Regulation 32 (1)(a) of the EIA Regulations 2014, as amended, have been addressed are provided in **Table 1** below.

Table 1: Requirements in terms of Regulation 32 (1)(a) of EIA Regulations 2014, as amended

Requirements in terms of Regulation 32(1)(a) of the EIA Regulations 2014, as amended.	Notes / Comments
<p>The applicant must within 90 days of receipt by the competent authority of the application made in terms of regulation 31, submit to the competent authority-</p> <p>(a) a report, reflecting -</p>	<p>The Application for Amendment of the EA dated 9 May 2019 was submitted to the DEA on 11 April 2019 and subsequently acknowledged on the same day (DEA Ref No.: <u>14/12/16/3/3/2/945/AM1</u>). All I&APs and Organs of State (OoS) / Authorities will be given 30 days to comment on the Draft EA Amendment Motivation Report, which has been compiled in terms of regulation 32(1)(a) of GN R.</p>

	<p>982, for a period of 30 days from Monday 03 June 2019 to Friday 05 July 2019. Following the 30-day comment and review period of the Draft EA Amendment Motivation Report, all comments will be incorporated into the Final Amendment Motivation Report which will then be submitted to the DEA for decision-making. This falls within the prescribed timeframe (refer to Appendix B for all consultation with the competent authority).</p>
<p>i. An assessment of all impacts of the proposed change;</p>	<p>Refer to Section 3. It should be noted that the new proposed specifications are still in-line with the specialist assessments undertaken for the WEF and findings set out in the Final Environmental Impact Assessment Report (FEIAR) dated 20 January 2017. The proposed change in output of each turbine from 3MW to 3.465MW will have no bearing on the specialist findings or environmental impacts as the proposed number of turbines, hub height and a rotor diameter are still in-line with the assessed turbine specifications. The proposed amendments will not result in any additional negative environmental impacts, over-and-above those already assessed in the FEIAR and authorised in the EA, and will not change the nature or scope of the project from what was assessed.</p>
<p>ii. Advantages and disadvantages associated with the proposed change;</p>	<p>Refer to Section 5</p>
<p>iii. Measures to ensure avoidance, management and mitigation of impacts associated with the proposed change.</p>	<p>Refer to Section 4. It should be noted that the new proposed specifications are still in-line with the specialist assessments undertaken for the WEF and findings set out in the Final Environmental Impact Assessment Report (FEIAR) dated 20 January 2017. The proposed change in output of each turbine from 3MW to 3.465MW will have no bearing on the specialist findings or environmental impacts as the proposed number of turbines, hub height and a rotor diameter are still in-line with the assessed turbine specifications. The proposed amendments will not result in any additional negative environmental impacts, over-and-above those already assessed in the FEIAR and</p>

	<p>authorised in the EA, and will not change the nature or scope of the project from what was assessed.</p> <p>As such, no new mitigation measures will be required.</p>
iv. Any changes to the EMPr.	<p>Not applicable. Since the proposed amendments will not result in any additional negative environmental impacts, over-and-above those already assessed in the FEIAr and authorised in the EA, will not change the nature or scope of the project from what was assessed, and no new mitigation measures will be required, no changes are required to the EMPr which was submitted along with the FEIAr dated 20 January 2017.</p>
<p>which report-</p> <p>(aa) has been subjected to a public participation process, which had been agreed to be the DEA, and which was appropriate to bring the proposed change to the attention of potential and registered I&APs, including organs of state, which have jurisdiction in respect of any aspect of the relevant activity, and the competent authority.</p>	<p>A 30-day comment period is being undertaken in line with the requirements of the legislation. As such, the Draft EA Amendment Motivation Report has subsequently been made available to the public for review from Monday 03 June 2019 to Friday 05 July 2019. All potential and registered I&APs as well as organs of state were notified of the availability of the report for comment. Refer to Section 6 for details regarding the Public Participation Process. All Public Participation relate documents have been provided in Appendix C.</p>
<p>(bb) which report reflects the incorporation of comments received, including any comments of the competent authority.</p>	<p>Correspondence received from the DEA on the Application for Amendment of the EA dated 9 May 2019 has been included accordingly within this report (refer to Appendix B). All further comments received on the Draft EA Amendment Motivation Report during the 30-day comment and review period will be captured and responded to in the Comments and Response Report (C&RR) – Appendix C5. All comments received throughout the EA amendment process will be incorporated into the Final Amendment Motivation Report, which will be submitted to the competent authority for decision-making. Refer to Section 6 for details regarding the Public Participation Process. All Public Participation relate documents have been provided in Appendix C.</p>

This report is being made available for public comment for a period of 30 days in terms of the standard requirements by the competent authority (namely the DEA) in-line with legislation (refer to **Appendix B**). The Draft EA Amendment Motivation Report is being made available to the public for review on SiVEST's website (<http://www.sivest.co.za>, click on Downloads, then browse to the folder '15499 Aletta WEF Amendment') from **Monday 03 June 2019 to Friday 05 July 2019** (end of business day).

1.1 Project Location and Layout

The proposed project is located within the Northern Cape Province. It falls within the Siyathemba Local Municipality of the Pixley ka Seme District Municipality. The proposed project is located approximately 20km east of Copperton. The WEF project includes the following farms:

- Portion 1 of Drielings Pan No.101
- Portion 2 of Drielings Pan No.101
- Portion 3 of Drielings Pan No.101
- Remainder of Drielings Pan No.101

The layout assessed in the FEIAR and indicated in the figure below will remain unchanged.

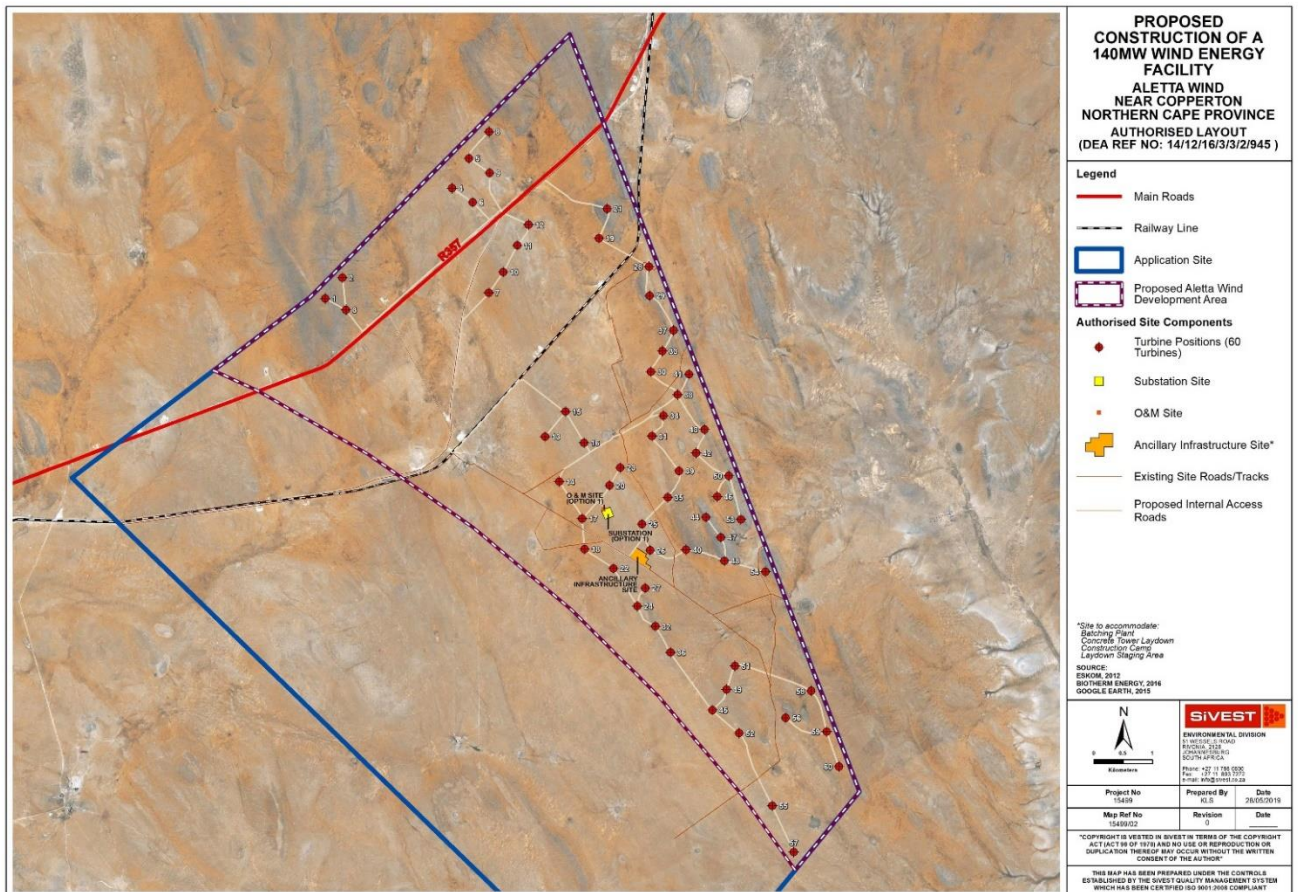


Figure 1: Layout Assessed in FEIAR

1.2 Reason for the EA Amendment

As mentioned, the EIA process and associated specialist studies considered the impacts of turbines with maximum hub heights of 120m and with maximum rotor diameters of 150m. In addition, a Path Loss and Risk Assessment, including an ECP, was undertaken to assess the impact of the proposed WEF on the SKA. This assessment and the ECP related to a specific turbine available for consideration at the time, this being the Acciona AW 125 TH 100A, with a hub height of 100m and a rotor diameter of 125m. The DEA, however, reduced the authorised turbine specifications based on the provided Path Loss and Risk Assessment and ECP, which was based on the Acciona AW 125 TH 100A (Fouché, C., 2016). BioTherm is now proposing a larger turbine for the proposed development, namely the Acciona AW 140/3465 TH 120 with a hub height of 120m and a rotor diameter of 140m, and thus the EA dated 09 May 2017 needs to be amended to allow for increased turbine dimensions. The higher hub height takes advantage of the high wind shear on site which increases the wind speeds available. In addition, the larger rotor diameter means that the turbines can capture more of the energy in the wind.

1.3 Expertise of Environmental Assessment Practitioner (EAP)

SiVEST Environmental Division has considerable experience in the undertaking of EIA and Amendment Application processes. Staff and specialists who were involved in this Amendment Application process and contributed to the compilation of this report are detailed in **Table 2** below.

Table 2: Project Team

Name and Organisation	Role
Andrea Gibb – SiVEST SA (Pty) Ltd	Project Coordinator and Environmental Assessment Practitioner (EAP)
Stephan Jacobs – SiVEST SA (Pty) Ltd	Environmental Consultant
Kerry Schwartz – SiVEST SA (Pty) Ltd	GIS and Mapping
Hlengiwe Ntuli – SiVEST SA (Pty) Ltd	Public Participation Consultant
Callie Fouché – Interference Testing and Consultancy Services (Pty) Ltd (ITC)	Electromagnetic Interference Path Loss and Risk Assessment (Including Emission Control Plan)

As per the requirements of the EIA Regulations 2014, as amended, the details and level of expertise of the persons who prepared the EA Amendment Motivation Report are provided in **Table 3** below.

Table 3: Expertise of the EAP

Environmental Practitioner	Andrea Gibb
Contact Details	andreag@sivest.co.za
Qualifications	B.Sc. Landscape Architecture and BSc (Hons) Environmental Management
Professional Affiliations	IAIA (International Association for Impact Assessment)

Expertise	Andrea has 11 years' work experience and specialises in undertaking and managing Environmental Impact Assessments (EIAs) and Basic Assessment (BAs), primarily related to energy generation and electrical distribution projects. She has extensive experience in overseeing public participation and stakeholder engagement processes and has been involved in environmental baseline assessments, fatal flaw / feasibility assessments and environmental negative mapping / sensitivity analyses.
Environmental Consultant	Stephan Jacobs
Contact Details	stephanj@sivest.co.za
Qualifications	B.Sc. Environmental Sciences and B.Sc. (Hons) Environmental Management and Analysis
Professional Affiliations	IAIA (International Association for Impact Assessment)
Expertise	Stephan joined SiVEST in May 2015 and holds the position of Graduate Environmental Consultant in the Johannesburg office. Stephan specialises in the field of Environmental Management and has been involved in the compilation of Environmental Impact Assessments (EIAs) and Basic Assessments (BAs). Stephan has also assisted extensively in the undertaking of field work and the compilation of reports for specialist studies such as surface water and visual impact assessments. Stephan also has experience in Environmental Compliance and Auditing and has acted as an Environmental Control Officer (ECO) for several infrastructure projects.

Please refer to **Appendix F** for CV's of each team member.

2 PROPOSED AMENDMENTS

As mentioned, BioTherm is proposing a larger turbine for the proposed development, namely the Acciona AW 140/3465 TH 120 with a hub height of 120m and a rotor diameter of 140m. The amendments to the EA which are now being requested include the following:

- **Page 8:**

- **FROM:**

- 60 wind turbines with a total output of 140MW. Turbines will have a hub height of 100m, a rotor diameter of 125m and a generation output of 3MW each.

- **TO:**

- 60 wind turbines with a total output of 140MW. Turbines will have a hub height of 120m, a rotor diameter of 140m and a generation output of 3.465MW each.

- **Page 9 (Technical details of the proposed facility):**

- **FROM:**

Component	Description / Dimensions
Hub height from ground level	100m
Rotor diameter	125m

TO:

Component	Description / Dimensions
Hub height from ground level	120m
Rotor diameter	140m

▪ **Page 9 (Scope of authorisation No. 2):**

FROM:

2. Only a wind turbine generator with the following specifications are authorised: An Acciona AW 125 TH 100A with a 100m hub height, 125m rotor diameter and a 3MW output.

TO:

2. Only a wind turbine generator with the following specifications are authorised: An Acciona AW 140/3465 TH 120 with a 120m hub height, 140m rotor diameter and a 3.465MW output.

▪ **Page 17 (Turbine position No. 37):**

FROM:

37. Only a wind turbine generator with the following specifications are authorised: An Acciona AW 125 TH 100A with a 100m hub height, 125m rotor diameter and a 3MW output.

TO:

37. Only a wind turbine generator with the following specifications are authorised: An Acciona AW 140/3465 TH 120 with a 120m hub height, 140m rotor diameter and a 3.465MW output.

▪ **Page 28 (Findings):**

FROM:

e) Only a wind turbine generator with the following specifications are authorised: An Acciona AW 125 TH 100A with a 100m hub height, 125m rotor diameter and a 3MW output.

TO:

e) Only a wind turbine generator with the following specifications are authorised: An Acciona AW 140/3465 TH 120 with a 120m hub height, 140m rotor diameter and a 3.465MW output.

3 ASSESSMENT OF ENVIRONMENTAL IMPACTS

As part of the original EIA process for the proposed 140MW Aletta WEF and its associated infrastructure undertaken in 2017 (DEA Ref No.: 14/12/16/3/3/2/945), the following specialist studies were undertaken:

- Biodiversity Assessment;
- Avifauna Assessment (including pre-construction monitoring);
- Bat Assessment (including pre-construction monitoring);
- Surface Water Impact Assessment;
- Soils and Agricultural Potential Assessment;
- Noise Assessment;
- Visual Impact Assessment;
- Heritage and Palaeontology Assessment;
- Socio-economic Impact Assessment;
- Traffic Assessment; and
- Electromagnetic Interference Path Loss and Risk Assessment (Including Emission Control Plan).

It should be noted that the EIA process and above-mentioned associated specialist studies considered the impacts of turbines with maximum hub heights of 120m and with maximum rotor diameters of 150m. As the proposed WEF is located within the declared Karoo Central Astronomy Advantage Area, a Path Loss and Risk Assessment, including an ECP, was undertaken to assess the impact of the proposed WEF on the SKA. This assessment and the ECP related to a specific turbine available for consideration at the time, this being the Acciona AW 125 TH 100A, with a hub height of 100m and a rotor diameter of 125m.

The proposed turbine specifications are still in-line with the specialist assessments undertaken for the WEF and findings set out in the Final Environmental Impact Assessment Report (FEIAR) dated 20 January 2017. As such, apart from the Path Loss and Risk Assessment, no further assessment was required and a summary of the specialist findings which were undertaken as part of the EIA process for the proposed 140MW Aletta WEF and its associated infrastructure is provided in **Table 4** below.

Table 4: Summary of findings from EIA process

Environmental Parameter	Summary of major findings
Biodiversity	<p>The vegetation types that occur within the region (Bushmanland Arid Grassland, Lower Gariep Broken Veld and Bushmanland Vloere and possibly floristic elements of Bushmanland Basin Shrubland and Northern Upper Karoo) are classified as Least Threatened and also have a wide distribution and extent. The natural vegetation on the sites is therefore not considered to have high conservation status. The area is not within a Centre of Plant Endemism or in areas identified in Provincial Conservation Plans to be of concern, but it does occur within an area identified as part of the National Parks Area Expansion Strategy.</p> <p>Local factors that may lead to parts of the sites having elevated ecological sensitivity are the potential presence of the following:</p> <ul style="list-style-type: none"> ▪ Presence of natural vegetation on site, although of low conservation priority. ▪ Presence of a number of provincially protected plant species. ▪ Presence of a number of individuals of one protected tree species, <i>Boscia albitrunca</i>. ▪ Presence of drainage areas and pans. ▪ Presence of low, rocky hills with higher biodiversity than surrounding areas. ▪ Potential presence of the following animals of potential conservation concern: <ul style="list-style-type: none"> ○ Honey badger (NT) ○ Litledale’s Whistling Rat (NT) ○ Giant Bullfrog (NT/LC) ▪ Potential invasion of natural habitats by alien invasive plants, thus causing additional impacts on biodiversity features. <p>Cumulative impacts of this project in combination with similar projects is likely to be of low significance.</p> <p>The two (2) proposed sites for the combination of on-site substation and operation & maintenance (O&M) building were evaluated and both sites were found to be favourable. No significant features of concern were found at either site.</p>
Avifauna	<p>The proposed BioTherm Aletta (Copperton) Wind Farm will have a variety of impacts on avifauna which range from low to high. The impacts are (1) displacement of priority species due to disturbance during construction phase (2) displacement of priority species due to habitat destruction during construction phase (3) displacement of priority species due to disturbance during operational phase (4) and collisions of priority species with the turbines in the operational phase.</p>

Displacement of priority species due to disturbance during construction phase is likely to be a temporary medium negative impact, but can be reduced to low with the application of mitigation measures. Mitigation measures are the restriction of construction activities to the construction footprint area, no access to the remainder of the property during the construction period, measures to control noise and dust, maximum use of existing access roads, the implementation of a 3km no development buffer zone around a Verreaux's Eagle nest, and a 300m no development buffer zone around a Southern Pale Chanting Goshawk nest.

Displacement of priority species due to habitat destruction during construction phase is likely to be a medium negative impact and will remain so, despite the application of mitigation measures. Mitigation measures comprise strict adherence to the recommendations of the specialist ecological study and maximum use of existing access roads with the construction of new roads kept to a minimum.

Displacement of priority species due to disturbance during the operational phase is likely to be of low significance and it could be further reduced through the application of mitigation measures. Mitigation measures are the restriction of operational activities to the plant area, no access to other parts of the property unless it is necessary for wind farm related work, post-construction monitoring, and if densities of key priority species are proven to be significantly reduced due to the operation of the wind farm, engagement of the wind farm management to devise ways of reducing the impact on these species.

Collisions of priority species with the turbines in the operational phase are likely to be a high negative impact but it could be reduced to medium negative through the application of mitigation measures. Mitigation measures are the implementation of post-construction monitoring and, if actual collision rates indicate high mortality levels, curtailment of selective turbines. Lastly, the implementation of a 3km no development buffer zone around a Verreaux's Eagle nest, a 200m no turbine zone around water points and a 300m no development buffer zone around a Southern Pale Chanting Goshawk nest are recommended.

Finally, it is concluded that, after taking into account the expected impact of proposed renewable energy projects within a 35km radius around Kronos MTS, that the cumulative impact of the proposed Aletta WEF on priority avifauna, after appropriate mitigation has been implemented, will range from minor to insignificant.

The impacts of the proposed Aletta WEF on priority avifauna could be mitigated to acceptable levels, therefore the development could proceed provided that mitigation measures are strictly implemented.

<p>Bats</p>	<p>The site was first visited in July 2015 wherein two SM2BAT+ detectors were installed on one 10m mast, and one meteorological mast. The long-term monitoring study aims to identify bat species at risk of fatality to wind turbines, and patterns in their activity and distributions (temporal and spatial).</p> <p>A sensitivity map was drawn up indicating potential roosting and foraging habitat. The turbine layout is respective of the bat sensitivity map is deemed acceptable with regards to the bat monitoring study since no turbines are encroaching on any sensitive area.</p> <p>Four bat species were detected namely, <i>Tadarida aegyptiaca</i>, <i>Neoromicia capensis</i>, <i>Miniopterus natalensis</i>, and <i>Eptesicus hottentotus</i>. <i>Neoromicia capensis</i> and <i>Tadarida aegyptiaca</i> were most commonly detected across both of the monitoring systems. The migratory species, <i>Miniopterus natalensis</i>, was detected by all monitoring systems and is rather prevalent on site. The relative abundance of this species was highest, as detected by all monitoring systems, over the months of September - October 2015 and February - April 2016.</p>
<p>Surface Water</p>	<p>Ultimately, it was found that there were nine (9) watercourses (drainage lines) and twenty-two (22) depressions (depression wetlands). For the depression wetlands, these were sub-divided into two sub-categories for the fifteen (15) natural depression wetlands and the seven (7) artificial (man-made) depression wetlands identified. A buffer zone of 50m for watercourses and the natural depression wetlands have been applied in consideration of the factors above. No buffer zone was applied to the artificial depression wetlands as these were not identified to be of any major ecological significance. The artificial depression wetlands would however need to be avoided and should be viewed as exclusion zones.</p> <p>In the context of NEMA (1998) and the EIA Regulations (2014), considering the layout of the proposed development, no listed activities will be triggered based on the wind turbine, substation and operation and maintenance building facility layout since none of these structures are directly within or within close proximity (within 32m) to the identified surface water resources. However, it is presumed that internal access roads will be required which will need to route to the respective wind turbines locations and various buildings and infrastructure to be constructed. Since the drainage lines can extend for some kilometres and the distribution of the wetlands are amongst the wind turbine locations, there is a good chance the internal access roads and other associated infrastructure not shown on the current layout will need to cross or be within close proximity to the delineated surface water resources. Therefore, provisionally, Activities 12 and 19 of Government Notice 983 Listing Notice 1 are identified to potentially be triggered thereby requiring Environmental Authorisation.</p>

	<p>In the context of the NWA (1998) and the proposed development, a “water use” is required where construction activities will impact on a water resource. As such, for the proposed development, since there is no anticipated direct impact or any potential indirect impact based on the current wind turbine, substation and operation and building layout, it is anticipated that no water uses will be triggered. However, as stated in above, it is anticipated the internal roads and other associated infrastructure not displayed on the current layout may need to cross or be within 500m of the identified wetlands and / or watercourses thereby triggering water uses (c) and (i). The application of these water uses can however only be confirmed once the internal road layout is available.</p> <p>It was identified that several potential impacts may affect the surface water resources within the proposed development area during the pre-construction, construction, operation and decommissioning phases. It is not anticipated that the proposed development will need to be decommissioned. Should this need to take place, the same impacts as identified for the construction phase of the proposed development can be anticipated. Hence, the same impacts are expected to occur and the stipulated mitigation measures where relevant must be employed to minimise impacts.</p> <p>Potential cumulative impacts were assessed given that numerous proposed and currently constructed renewable energy developments can be found in the surrounding area. As such, the direct cumulative impact of loss of surface water resources and degradation was found not to be compounded by the proposed development as the wind turbine, substation and operation and maintenance buildings were not located in any surface water resources. However, provision for potential degradation of surface water resources due to associated infrastructure was noted. Should these potential impacts be avoided / reduced as per the mitigation measures stipulated, the cumulative impact will be negligible. From an indirect cumulative impact perspective, the proposed development as a whole was not expected to contribute to the cumulative impacts of increased run-off, sedimentation and erosion since the drainage lines flow in a southerly direction and will be contained on the proposed development area, and not into any adjacent proposed or current renewable energy developments being constructed. That being said, with the implementation of stipulated mitigation measures, the cumulative impact was again deemed to be negligible.</p>
<p>Soils and Agricultural Potential</p>	<p>The agricultural potential for this area corresponds with the initial findings in the scoping report. Thus, an overall low potential for irrigation for map units Cg1, Cg2, Py1 with a low to moderate irrigation potential for map unit Py2, consisting of gravelly Plooyburg and Hutton soils, with soil depth 300-800 mm onto rock.</p> <p>Virtually all of the study area comprises shallow, often calcareous soils with rock outcrops.</p>

	<p>Coupled with these shallow soils, the very low rainfall in the area means that the only means of cultivation would be by irrigation and the Google Earth image of the area shows absolutely no signs of any agricultural infrastructure and certainly none of irrigation.</p> <p>The climatic restrictions mean that this part of the Northern Cape is suited at best for grazing and here the grazing capacity is low, around 20 ha/large stock unit (ARC-ISCW, 2004).</p> <p>Two main impacts are possible. The first deals with the unavailability of land for agriculture due to the fact that a wind energy generating facility is to be established, while the second impact refers to the possibility that construction of such a facility will lead to disturbance of the topsoil and surface vegetation cover, so that erosion of topsoil by wind action will increase.</p> <p>There are a considerable number of other power generation projects proposed for the immediate area near Copperton and Prieska. The prevailing agricultural potential is low to very low, so there will be little or no cumulative impact in that regard. However, regarding wind erosion, there is a definite possible cumulative impact regarding potential topsoil removal by wind erosion on one site, which could then be blown for a considerable distance across other sites.</p> <p>Two potential sites were proposed regarding positions of the substation and other infrastructure. However, there are no sensitive areas in the study area and the natural resources are very similar, so there will be no specific difference between the two sites.</p> <p>Due to the occurrence of shallow soils, coupled with the extremely hot and dry nature of the climate, there are no significant impacts from the project.</p>
Noise	<p>The results of the investigation indicated that the predicted impact of noise during construction phase would be confined to residences within the WEF boundaries. There would be a temporary loss of “quiet” low residual noise level with a high intensity of noise impact on the residences at location L2 during daytime if the existing access farm road in close proximity to the residences were to be upgraded. Construction of a new road and site works at least 1 000 m from the residences would reduce the impact to Low.</p> <p>Based on the wind energy turbine noise emission data provided, assessment of the predicted noise during the operation phase in terms of SANS 10103:2008 indicated that the intensity of noise impact on land adjacent to the WEF boundaries would range from Very High close to the boundaries to Low at a distance of 2 600 m.</p>

	<p>The intensity of noise impact on residences within the WEF boundaries at location L2 would be High. At residences at locations L3 and L4, at a distance of 3 100 m beyond the WEF boundaries, the intensity of noise impact would be Low and Negligible, respectively.</p> <p>In terms of the National Noise Control Regulations (NCR), noise emanating from the wind energy turbines would be adjudicated as disturbing noise on land within 2 600 m from the northern, eastern and southern boundaries. Compliance with the legal requirements of the NCR would require all turbines to be set back 2 600 m from the WEF boundaries.</p> <p>In terms of SANS 10103:2008 the intensity of noise impact on adjacent land close to the boundaries would be Medium.</p>
Visual	<p>The impact assessment revealed that the proposed development would have a negative low visual impact during construction and a negative medium visual impact during operation, with several mitigation measures available to reduce the visual impact.</p> <p>The visual impacts are not significant enough to prevent the project from proceeding and an EA should be granted. From a visual impact perspective, only two (2) visually sensitive receptors with tourism significance have been identified within the study area, namely the Boesmansberg Guest Farm (VR 1) and the Nelspoortjie Karoo Guest Farm (VR 2). In addition, the existing electrical infrastructure and other linear elements already present within the study area have already altered the natural character of the surrounding environment to a degree and are expected to lower the visual contrast of the Aletta Wind Energy Facility slightly. The visual impact of the proposed development on most the potentially sensitive visual receptors identified within the study area was rated as being low or medium. In addition, the proposed development would have a negligible visual impact on one (1) potentially sensitive visual receptor, while a high visual impact will be experienced by three (3) potentially sensitive visual receptor locations. SiVEST is therefore of the opinion that the impacts associated with the construction and operation phases can be mitigated to acceptable levels provided the recommended mitigation measures are implemented.</p>
Heritage and Palaeontology (Desktop)	<p><u>Heritage Impact Assessment:</u></p> <p>The Heritage Scoping Report completed in February 2016 has shown that the proposed Aletta site to be developed as a Wind Energy Facility (WEF) may have heritage resources present on the property. This has been confirmed through archival research and evaluation of aerial photography of the sites.</p> <p>The subsequent field work completed for the HIA component in August 2016, has confirmed the presence of 3 archaeological find spots, 5 historical sites, 21</p>

archaeological sites or resources and 3 grave sites. The archaeological sites are associated with the Early Stone Age (ESA), Middle (MSA) and Later Stone Age (LSA) and are representative of archaeological sites with a medium to high significance.

The design process and methodology followed by the developer for this project enabled the heritage assessment to provide input into the proposed layouts before the impact assessment. This resulted in cognisance being taken of the positions of the heritage sites and thus the reduction of impacts at an early design phase.

The comparative assessment of the alternatives has shown that an overall low impact on heritage is foreseen, as all of the heritage sites identified fall outside the proposed alternative foot prints. The application site however holds a Negative Medium Impact.

Allowing for a 60m diameter construction foot print for on all turbine positions has shown that all the find spots and sites fall outside and in most case more than 100 meters away from any construction activities.

One archaeological resource occurs at the option 2 substation (Rated as having low heritage significance). Substation and O&M Building Option 1 is thus the preferred alternative from a heritage perspective as no heritage resources has been identified in the general area of the substation footprint.

It is the specialist's considered opinion that this additional load on the overall impact on heritage resources will be low. With a detailed and comprehensive regional dataset this rating could possibly be adjusted and more accurate.

It can clearly be noted that the area in general is abundant with Stone Age remains. I concur with Kaplan and Wiltshire 2011, "SAHRA must assess this application in the broader context of other present and future applications in the area in order to guide the Client and the Department of Environmental Affairs (DEA) towards an acceptable level of overall heritage impact on the area."

Palaeontological Desktop Assessment:

The Desktop Paleontological Survey Identified that the proposed development is allocated a Moderate Paleontological Sensitivity. Geological structures associated with groundwater were mapped as well as spring sites which are part of the Heritage of this area.

The study area is underlain by presumably Mokolian aged Uitdraai Formation of the Brulpan Group Olifantshoek Supergroup, Carboniferous to Permian aged Dwyka Group, Karoo Supergroup and Quaternary aged Gordonia Formation of the Kalahari Group.

	<p>The allocation of a Moderate sensitivity for Paleontological Heritage to the entire study area except the two historic spring sites, which indicate Very High point sources of Groundwater Heritage.</p> <p>Although the Uitdraai Formation can provide new information on micro-fossils of Mokolian age, these fossils are very difficult to identify and are more of academic interest. Both the Dwyka Group and Gordonia Formations are however known for some very significant fossil finds and although scarce, the fossils can contribute significantly to our understanding of depositional environments during the Carboniferous, Permian and Quaternary ages in South Africa.</p>
Socio-economic	<p>The economy of the Siyathemba LM is in need of investment and development and the establishment of the wind facility in the area will offer such an opportunity. Furthermore, if the other proposed projects are approved, this could contribute to the growth of this sector as well as stimulate economic development further. The project will have the potential to improve the standard of living of the communities located within a 50 km radius given the commitments towards socio-economic and enterprise development.</p> <p>The construction and operation of the facility will result in various positive economic impacts.</p> <ul style="list-style-type: none"> ▪ It is estimated that the capital expenditure on the 140 MW wind facility will be R2.6 billion. Approximately, 128 employment opportunities will be created during the construction phase at peak construction. About 40% of the employment opportunities, specifically for unskilled and semi-skilled individuals are likely to be available to local community members. Employment opportunities for skilled individuals are likely to be associated with contractors appointed during the construction phase. ▪ The annual revenue generated by the plant could amount to up to R1.3 billion. Furthermore, it is expected that 39 jobs per annum will be created at the plant. <p>Overall, the impacts discussion and evaluation revealed that no fatal flaws are present from a socio-economic perspective, preventing the proposed development from being approved and implemented. In fact, all of the expected negative socio-economic impacts are of low significance.</p>
Electromagnetic Interference Path Loss and Risk	<p>This risk assessment would enable one to estimate the maximum permissible radiated emissions from the equipment installed within the Aletta wind energy facility and will be compared to known radiated emission data from the Acciona AW125/3000 Wind Turbine Generator (WTG). Acciona AW125/3000 WTG is a large turbine type and was used to show the typical impacts of a similar technology and sized turbine. The assessment and Electromagnetic Control Plan addresses mitigation actions required to reduce the radiated emissions of the AW 125 TH 100A WTG to levels</p>

acceptable for installation within the declared Karoo Central Astronomy Advantage Area. The intent of this plan is thus to ensure that the proposed Aletta wind energy facility poses a low risk of detrimental impact on the SKA by describing specific mitigation measurements to be implemented in order to achieve 40 dB of attenuation, as agreed with SKA South Africa. In addition, this plan concerns itself with the goal of eliminating causes of electromagnetic interference (EMI), which can adversely affect the performance of the SKA Radio telescope.

The current Electromagnetic Compatibility (EMC) requirement is a 30dB reduction in radiated emissions to ensure the cumulative emission level of a wind farm is within the requirements of SKA. This requirement is based on measurements on the Acciona AW 125 TH100A WTG at the Gouda facility in South Africa and Barosoain windfarm, Navarra, Spain. Very similar design will be used for the Copperton / Garob facilities.

To prevent an impact on the SKA Project, Biotherm Energy has reviewed the facility lay-out to increase the distance from the closest turbine to the closest SKA infrastructure from 20km to 25km. The number of turbines has also been reduced from the initial 125 turbines to 60 turbines.

As mitigation techniques are source and coupling path specific, tests were done on a current WTG to confirm the suspected noise sources. The results indicated shielding required at frequencies in the FM Radio band as well as other controlled frequency bands, especially in the nacelle area.

With regards to the Converter Cabinet, test results obtained at the current installation including a 10dB safety margin shows no additional attenuation is required. Adding a 17.8dB requirement to accommodate cumulative effect highlighted a few frequencies that will require additional attenuation. Further analysis of the frequencies above the 0dB line proved that they are ambient frequencies in the FM, TV and cell phone band. The shielding effectiveness of the concrete tower was not taken into account. No additional shielding of the bottom converter cabinet would therefore be required.

With regards to the Bottom Control Cabinet, test results obtained at the current installation including a 10dB safety margin shows that no additional attenuation is required. Adding a 17.8dB requirement to accommodate cumulative effect, highlighted the frequencies that will require additional attenuation of 12dB maximum excluding the FM radio frequencies. Further analysis of these signals proved that they are ambient signals from intentional transmitters. No additional shielding of the bottom control cabinet would therefore be required.

	<p>With regards to the Top Control Cabinet, when taking cumulative effect into consideration, a significant amount of shielding is required. This is the combined effect of the cables entering and exiting the Top Control Cabinet and equipment mounted in the cabinet. Further analysis of the highest peaks revealed that they can be attributed to FM radio stations, TV and GSM intentional transmitters. However, not all signals that require attenuation could be attributed to intentional transmitters. Mitigation should include shielded cabinets, shielded cable trays and the use of absorptive cable sleeves.</p> <p>Laboratory tests will be done to narrow down the source possibilities.</p> <p>Although site measurements were done, there is always the risk of interference signals (A) being masked by a higher amplitude interference signal (B). Signal A will then only become apparent once signal B has been mitigated. As the wind turbine generator and control equipment is a matured design, mitigation will be limited to non-invasive techniques.</p>
<p>Traffic</p>	<p>As part of the traffic assessment haulage routes were compared. Route Alternative 1 and Route Alternative 4 were deemed to be the preferred options. Route Alternative 1 avoids the Van Rhyns Pass and the Piekenierskloof Pass, however, there is a railway bridge on the N7 (located approximately 42km southeast of the town of Nuwerus) which may be a possible obstruction. As such, Route Alternative 4 was deemed to be the preferred option as it doesn't have any gravel roads and is much shorter than the other alternatives.</p> <p>Based on the available information, it was calculated that the development will generate 6845 trips over an 18-month period. It was assumed that two (2) turbines will be delivered to site each week which roughly equates to three (3) deliveries per day. Fifteen normal heavy and light vehicles will also travel to and from site daily but, over a much shorter distance.</p> <p>Access to the site will be via an existing gravel track off the R357, which is currently the farmer's access road, approximately 34km from the N10 intersection. Sight distance at the access is more than adequate and the pavement structure seems to be sound and with little to no defects.</p> <p>It is expected that the community of Prieska will participate in the construction phase of this development. From a traffic point of view, the total daily construction traffic is deemed to be very low and will not significantly impact this community. The cumulative effect on the community was rated as a positive low impact.</p> <p>The impact of the construction traffic on the general traffic and the surrounding communities along the haulage route is considered to be low. The level of service on</p>

	<p>the roadways on which the components are transported may experience some additional delay.</p> <p>All the components will be transported by truck from Saldanha or Coega harbour to the site using the defined routes with possible minor deviations. These vehicles are classified as oversize vehicles and permits must be obtained in order to transport the turbine components.</p> <p>The access to the site is on road R357 which is a Provincial road and will necessitate the involvement of the Northern Cape provincial roads and transport department.</p> <p>The cumulative impact and significance of the development of the wind energy farm is considered to be low negative and low positive impacts when traffic and surrounding community parameters, respectively, are examined.</p>
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Following the conclusion of the EIA process, BioTherm was subsequently issued with an EA for the proposed development on 09 May 2017 (DEA Ref No.: **14/12/16/3/3/2/945**). As mentioned, the EIA process and associated specialist studies considered the impacts of turbines with maximum hub heights of 120m and with maximum rotor diameters of 150m. The DEA, however, reduced the authorised turbine specifications based on the provided Path Loss and Risk Assessment and ECP, which was based on the Acciona AW 125 TH 100A (Fouché, C., 2016). The turbine specifications set-out in the EA were intended to reduce the potential risk of adverse impacts of wind turbines on the SKA.

As mentioned above, the new proposed turbine specifications are still in-line with the specialist assessments undertaken for the WEF and findings set out in the FEIAR dated 20 January 2017. The proposed change in output of each turbine from 3MW to 3.465MW will have no bearing on the specialist findings or environmental impacts as the proposed number of turbines, hub height and a rotor diameter are still in-line with the assessed turbine specifications. The proposed amendments will not result in any additional negative environmental impacts, over-and-above those already assessed in the FEIAR and authorised in the EA, and will not change the nature or scope of the project from what was assessed.

Further assessments were however conducted by the Electromagnetic Compatibility specialists (namely a Path Loss and Electrical Design Change Evaluation) and it was subsequently determined that the proposed Acciona AW 140/3465 TH 120 turbine model will not result in increased risks of electromagnetic emissions from the WEF and that no new mitigation measures will be required. Acciona confirmed that the AW 140/3465 TH 120 turbine's emissions are similar as per the Acciona AW 125 TH 100A and thus there is no need to change the ECP. This was confirmed by ITC.

The findings of the Path Loss and Electrical Design Change Evaluation are summarised in **Table 5** below and a copy is provided in **Appendix D**.

Table 5: Summary of Path Loss and Electrical Design Change Evaluation of Acciona AW 140/3465 TH 120 Wind Turbine

Environmental Parameter	Summary of major findings
<p>Path Loss and Electrical Design Change Evaluation</p>	<p>Since drafting the Electromagnetic Control Plan (CP 6778/16) for the Aletta Wind farm in 2016, the turbine of choice for the development has changed from the Acciona Model AW3000/125 TH100 50Hz wind turbine to Acciona Model AW 140/3465 TH120.</p> <p>In order to confirm the validity of the proposed mitigation measures, the Acciona Engineering department issued a comparison between the two (2) turbine models to confirm the electrical similarity.</p> <p>The path loss calculations were repeated at a hub height of 100m and 120m to confirm the attenuation requirements and to ensure no discrepancy would arise due to location variations.</p> <p>Little impact on the path loss values was found due to the increase of the hub height from 100m to 120m except in the case of WTG 31 to SKA 1895 where the 20m height difference caused a 26dB reduction in path loss. The impact on the path loss values to the core is however less than 1.5dB.</p> <p>Although there is a 26 dB reduction in path loss due to the hub height change, the initial mitigation requirements in CP 6778/16 was based on a minimum path loss of 134dB @ 6GHz whereas the reduced path loss of WTG 31 to SKA 1895 is still 136dB (2dB more than the previous minimum).</p> <p>According to the design change statement from Acciona (Appendix A of Path Loss and Electrical Design Change Evaluation), there is no foreseen risk of increasing the electromagnetic emissions of the WEF that would require additional mitigation measures to be developed to fulfill the SKA requirements, notwithstanding that the Aletta WEF's control plan and path loss calculations be updated.</p> <p>In conclusion, the change in hub height and minor electrical differences between the AW125 TH100A and AW 140/3465 TH120 does not impact on the mitigation requirements as set out in the Path Loss and Risk Assessment Report for New Aletta WEF Layout Including Emission Control Plan for the AW125 TH 100A WTG (CP6778/16).</p>

It should be noted that BioTherm sent the above-mentioned Path Loss and Electrical Design Change Evaluation to the South African Radio Astronomy Observatory (SARAO) for final review and approval upon its completion. Having assessed the proposed amendments to the turbine specifications, SARAO stated that they do not anticipate any negative impact on the SKA and that the modifications to the Aletta WEF do

not impact on the previously agreed path loss mitigation measures. Accordingly, SARAO has raised no objection to the proposed amendments. A letter from SARAO which confirms this has been provided in **Appendix C4**.

In light of the above, no additional impacts will be associated with the proposed amendments and the environmental impacts identified in the FEIAr dated 20 January 2017 remain unchanged.

4 MITIGATION MEASURES

As mentioned, the new proposed specifications are still in-line with the specialist assessments undertaken for the WEF and findings set out in the FEIAr. The proposed change in output of each turbine from 3MW to 3.465MW will have no bearing on the specialist findings or environmental impacts as the proposed number of turbines, hub height and a rotor diameter are still in-line with the assessed turbine specifications. The proposed amendments will not result in any additional negative environmental impacts, over-and-above those already assessed in the FEIAr and authorised in the EA. As such, no new mitigation measures will be required.

In terms of the Path Loss and Electrical Design Change Evaluation (**Appendix D**) and the design change statement from Acciona (Appendix A of Path Loss and Electrical Design Change Evaluation), the change in hub height and minor electrical differences between the AW125 TH100A and AW 140/3465 TH120 does not impact on the mitigation requirements as set out in the Path Loss and Risk Assessment Report for the proposed Aletta WEF Layout Including Emission Control Plan for the AW125 TH 100A WTG (CP6778/16).

In light of the above, the mitigation measures provided by the various specialists as outlined in the FEIAr dated 20 January 2017 have not changed, and thus the EMPr which was submitted along with the FEIAr will not need to be amended and/or updated either.

5 NEED AND DESIRABILITY FOR THE PROPOSED AMENDMENT

As indicated in the FEIAr, the use of renewable energy technologies, as one (1) of a mix of technologies needed to meet future energy consumption requirements, is being investigated as part of South Africa's long-term strategic planning and research process. Wind energy is plentiful, renewable, widely distributed, clean and reduces greenhouse gas emissions when it displaces fossil-fuel derived from electricity. In this light, renewable wind energy can be seen as desirable.

The Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) and the competitiveness nature of the bidding process has resulted in significant lowering of solar and wind tariff prices since 2011. Further projects will increase the competitive nature of the REIPPPP and result in cost savings to South African consumers. BioTherm aim to have a tariff that is very competitive within the current economic environment having taken into consideration the current exchange rates and interest rate. BioTherm Energy is a leading South African renewable energy project developer, and was the only South

African developer to be operating three (2) projects from the first round of the REIPPPP, where it continues to meet its economic development obligations.

Socio-economic development and enterprise development provides undeniable value for money to Government as it helps to alleviate some of the pressure on State coffers in terms of what it can achieve at both a local and national level. BioTherm has committed to initiating its economic development activities upon the Project being selected as a Preferred Bidder.

Following the EA for the proposed development, and the proposed amendments being sought, the subsequent advantages and disadvantages are discussed in the sub-sections below.

5.1 Advantages of the Proposed Amendments

If the amendment is granted, the turbine specification conditions will allow BioTherm to take advantage of the latest, most suitable wind turbine technology available for the proposed Aletta WEF and will thus not affect the financial viability of the project nor decrease the chances of being awarded preferred bidder status in the future REIPPPP bid windows. Granting the amendment would therefore increase the possibility of the social benefits of the project being realised, such as contributing to corporate social investment, aiding the local economy and potentially creating employment opportunities in the area.

5.2 Disadvantages of the Proposed Amendments

As mentioned, the new proposed turbine specifications are still in-line with the specialist assessments undertaken for the WEF and findings set out in the FEIAr dated 20 January 2017. The proposed change in output of each turbine from 3MW to 3.465MW will have no bearing on the specialist findings or environmental impacts as the proposed number of turbines, hub height and a rotor diameter are still in-line with the assessed turbine specifications. The proposed amendments will not result in any additional negative environmental impacts, over-and-above those already assessed in the FEIAr and authorised in the EA, and will not change the nature or scope of the project from what was assessed. As such, there are no disadvantages associated with the proposed amendment, as all negative impact were already identified, considered and assessed in the EIA process which was undertaken for the Aletta WEF.

6 PUBLIC PARTICIPATION

The Public Participation Process has been undertaken in line with Chapter 6 of the EIA Regulations, 2014 (as amended).

The following process was undertaken as part of the Public Participation Process for the Part 2 Amendment Process:

6.1 Notification of Affected Landowners and Provincial Authority

All affected landowners, as well as the relevant provincial authority (namely the Northern Cape Department of Environment and Nature Conservation - NC DENC), were notified about the EA Amendment Application via email prior to the application being submitted to the DEA on 11 April 2019. Proof of these notifications is provided in **Appendix C6**.

6.2 Notification of Potential Interested and Affected Parties (I&AP's)

The advertising process was followed in terms of regulation 41 of the EIA Regulations, 2014 (as amended).

Advertisements (in English and Afrikaans) were placed in the "Gemsbok" local newspaper on Wednesday the 29th of May 2019. Proof of the above-mentioned advertisements that were placed is provided in **Appendix C2**.

In addition, site notices (in English and Afrikaans) were erected on the boundary of the application site (Portion 1, Portion 2, Portion 3 and the Remainder of Drielings Pan No.101) on Friday the 31st of May 2019. A copy of the site notices which were erected is provided in **Appendix C1**. Proof of the site notices (including GPS coordinates) which were erected will be included in the Final EA Amendment Motivation Report.

As I&APs and stakeholders responded to these advertisements, they were registered on the project database and sent all relevant information as the amendment process progressed.

6.3 Comment and Review of Draft EA Amendment Motivation Report

All I&APs and OoS / Authorities will be given 30 days to comment on this Draft EA Amendment Motivation Report, which has been compiled in terms of regulation 32(1)(a) of GN R. 982. The Draft EA Amendment Motivation Report is being made available to all I&APs, key stakeholders and OoS / Authorities for comment and review on SiVEST's website (<http://www.sivest.co.za/>, click on Downloads, then browse to the folder '15499 Aletta WEF Amendment') for a period of 30 days, from Monday 03 June 2019 to Friday 05 July 2019, excluding public holidays. It should be noted that all the key stakeholders / OoS / authorities will be sent electronic copies (on CD) of the Draft EA Amendment Motivation Report (including all appendices) during the 30-day comment and review period (see **Section 6.8**).

Written notice was given to all registered I&APs, key stakeholders and OoS / Authorities on the database that the Draft EA Amendment Motivation Report was available for comment and review (**Appendix C1**). Electronic copies (CD) of the report were also distributed on written request. All comments received throughout the EA amendment process (including comments received during the Draft EA Amendment Motivation Report's commenting period) will be incorporated into the Final EA Amendment Motivation Report, which will then be submitted to the competent authority (namely the DEA) for decision-making. Additionally, all comments received throughout the EA amendment process will also be included in the Comments and Response Report (C&RR) (**Appendix C5**).

6.4 Stakeholders and I&APs

In order to identify possible I&APs, key stakeholder and/or OoS / Authorities, use was made of:

- Email, sms, fax and post notifications to all I&APs key stakeholder and OoS / Authorities on the project database (Proofs included in **Appendix C1**).
- Referrals.

A full database list of registered I&APs, key stakeholder and OoS / Authorities was compiled and is included in **Appendix C3**.

6.5 Announcing the Opportunity to Participate

The opportunity for I&APs, key stakeholder and OoS / Authorities to participate in the EA amendment process have been undertaken as follows:

- All affected landowners, as well as the relevant provincial authority (namely the Northern Cape Department of Environment and Nature Conservation - NC DENC), were notified about the EA Amendment Application via email prior to the application being submitted to the DEA on 11 April 2019 (**Appendix C6**);
- Notification and distribution of notification letters (via email, fax, post and sms) of the EA amendment process and comment period distributed on the 3rd of June 2019 (Notification letter included in **Appendix C1**. Remaining notification proof to be included in Final EA Amendment Motivation Report); and
- Availability of the Draft EA Amendment Motivation Report to the public for review on SiVEST's website for a period of 30 days from Monday 03 June 2019 to Friday 05 July 2019 (Proof to be included in Final EA Amendment Motivation Report).

6.6 Proof of Notification

All proofs of notification to I&APs are included in **Appendix C**. More specifically, the types of proofs will be as follows:

- Proof of notification to affected landowners and relevant provincial authority (namely NC DENC) about the EA Amendment Application (**Appendix C6**);
- Site notice text (**Appendix C1**);
- Photographs and GPS Coordinates of site notices (Proof to be included in Final EA Amendment Motivation Report);
- Proof of advertisements (namely tear-sheets) in the "Gemsbok" local newspaper (**Appendix C2**); and
- Correspondence to and from registered I&APs and key stakeholders (**Appendix C4**).

6.7 Comments and Response Report (C&RR)

Issues, comments and concerns raised throughout the EA amendment process (including comments received during the Draft EA Amendment Motivation Report's commenting period) will be captured in the

Comments and Response Report (CRR) (**Appendix C5**), as and when they were received. The C&RR provides a summary of the issues raised, as well as responses which were provided to I&APs, key stakeholders and OoS / Authorities. This information was used to feed into the evaluation of environmental and social impacts and was also taken into consideration when compiling this report. All comments received to date have been included in the C&RR.

6.8 Distribution to Organs of State (OoS) / Authorities

Table 6 below includes all the key stakeholders / OoS / authorities who were sent electronic copies (on CD) of the Draft EA Amendment Motivation Report (including all appendices) during the 30-day comment and review period. A copy of the letter which accompanied the electronic copy (on CD) of the Draft EA Amendment Motivation Report which was sent to all the key stakeholders / OoS / authorities is included in **Appendix C7**. The remaining proofs of distribution (i.e. email notification) will be included in the Final EA Amendment Motivation Report.

All key stakeholders / OoS / authorities will be given 30 days to comment on the Draft EA Amendment Motivation Report. It should be noted that all key stakeholders / organs of state / authorities will be contacted near the end of the 30-day comment and review period and will be reminded to submit comments before this period closes. Comments received from key stakeholders / OoS / authorities during the 30-day comment and review period will be incorporated into the Final EA Amendment Motivation Report, which will then be submitted to the competent authority (namely the DEA) for decision-making.

As such, all key stakeholders / OoS / authorities which have jurisdiction in respect of any aspect of the relevant activity have been informed of the proposed amendments accordingly and will be given 30 days to comment on the Draft EA Amendment Motivation Report.

Table 6: Distribution of Draft EA Amendment Motivation Report to OoS

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) AND ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) FOR THE PROPOSED DEVELOPMENT OF THE ALETTA 140MW WIND ENERGY FACILITY (WEF) NEAR COPPERTON, NORTHERN CAPE PROVINCE						
DISTRIBUTION OF DRAFT ENVIRONMENTAL AUTHORISATION (EA) AMENDMENT MOTIVATION REPORT TO ORGANS OF STATE (OoS) FOR COMMENT						
TITLE	SURNAME	NAME	POSITION	POSTAL ADDRESS	EMAIL ADDRESS	DATE OF DISTRIBUTION
SIYATHEMBA LOCAL MUNICIPALITY						
Mr	Basson	Jakob	LED Manager	PO Box 16 PRIESKA 8940	jakob@siyathemba.gov.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.

Mr	Tshikela	Olwethu	Environmental Health Practitioner	PO Box 16 PRIESKA 8940	tshikelaolwethu@gmail.com	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
PIXLEY KA SEME DISTRICT MUNICIPALITY						
Mr	Nkondeshe	Sonwabile	Senior Environmental Officer	Private Bag X1012 DE AAR 7000	snkondeshe@environment.gov.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.

Mr	Madyo	Sindisile	LED Manager	Private Bag X1012 DE AAR 7000	excellentsolutions@live.co.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
DEPARTMENT OF ENVIRONMENTAL AFFAIRS: BIODIVERSITY CONSERVATION						
Mr	Lekota	Seoka		Private Bag X447 Pretoria 0001	slekota@environment.gov.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
Mr	Rabothata	Mmatlala		Private Bag X447 Pretoria 0001	slekotamrabothata@environment.gov.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same

						day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
AGRI SA-NORTHERN CAPE						
Mr	Myburg	Henning	General Manager	PO Box 1094 KIMBERLEY 8300	henning@agrink.co.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
DEPARTMENT OF WATER AND SANITATION (DWS)						
Ms	Mokhoantle	Lerato	Environmental Officer	28 Central road Beaconsfield KIMBERLEY 8300	Mokhoantle@dws.gov.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was

						received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
Mr	Mahunonyane	Moses	Director: Institutional Establishment	Private Bag X6101 KIMBERLEY 8300	MahunonyaneM@dws.gov.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
NORTHERN CAPE DEPARTMENT OF AGRICULTURE, LAND REFORM & RURAL DEVELOPMENT						
Mr	Cloete	Alexander		PO Box 65 CALVINIA 8190	acloete@ncpg.gov.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment

Motivation Report is included in **Appendix C7**. Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.

DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES (DAFF)

Northern Cape Department

Ms	Mans	Jacoline	Chief Forester	Koelenhof 306 Schroder Street UPINGTON 8800	jacolinema@daff.gov.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
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Provincial Department

Ms	Marubini	Mashudu	Delegate of the Minister	Private Bag X120 PRETORIA 0001	MashuduM@daff.gov.co.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is
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						included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
Mrs	Buthelezi	Thoko	Directorate Land Use and Soil Management	Private Bag X120 PRETORIA 0001	ThokoB@daff.gov.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
DEPARTMENT OF MINERAL RESOURCES (DMR)						
Mr	Ravhogoni	Ntsundeni	Regional Manager	Private Bag x6093 KIMBERLEY 8300	Ntsundeni.Ravhogoni@dmr.gov.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA

						Amendment Motivation Report.
NORTHERN CAPE DEPT OF ENVIRONMENT AND NATURE CONSERVATION						
Mr	Fisher	Brian	Director: Environmental Impact Management	Private Bag X86102 KIMBERLEY 8300	bfisher@ncpg.gov.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
Mr	Mthombeni	Thulani		Private Bag X86102 KIMBERLEY 8300	tmthombeni@ncpg.gov.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.

NORTHERN CAPE DEPT OF SPORT, ARTS & CULTURE: HERITAGE RESOURCES UNIT						
Mr	Lenyibi	Patrick	Manager: Heritage Resources	Private Bag X5004 KIMBERLEY 8300	plenyibi@ncpg.gov.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LTD (SANRAL)						
Ms	Abrahams	Nicole	Environmental Coordinator	Private Bag X19 BELLVILLE 7535	abrahamsn@nra.co.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
NORTHERN CAPE DEPARTMENT OF ROADS AND PUBLIC WORKS						

Mr	Roelofse	Jaco	Director: Planning & Design	PO Box 3132 Kimberley 8300	roelofse.j@vodamail.co.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
SOUTH AFRICAN HERITAGE RESOURCES AGENCY (SAHRA): HEAD OFFICE						
Ms	Higgitt	Natasha	Heritage Officer: Northern Cape	PO Box 4637 CAPE TOWN 8000	nhiggitt@sahra.org.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
ESKOM						

Mr	Geeringh	John	Chief Planner	PO Box 1091 JOHANNESBURG 2000	GeerinJH@eskom.co.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
SQUARE KILOMETRE ARRAY (SKA)						
Dr	Tiplady	Adriaan	Manager: Site Categorisation	PO Box 522 SAXONWOLD 2132	atiplady@ska.ac.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
SA CIVIL AVIATION AUTHORITY (SA CAA)						

Ms	Stroh	Lizell	Obstacle Specialist	Private Bag X73 HALFWAY HOUSE 1685	strohl@caa.co.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
AIR TRAFFIC AND NAVIGATION SERVICES (ATNS)						
Ms	Morobane	Johanna	Manager: Corporate Sustainability and Environment	Private Bag X15 KEMPTON PARK 1620	JohannaM@atns.co.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.

Ms	Masilela	Simphiwe	Obstacle Evaluator	Private Bag X15 KEMPTON PARK 1620	SimphiweM@atns.co.za obstacles@atns.co.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
TRANSNET FREIGHT RAIL						
Mr	Fiff	Sam	Environmental Manager: Freight Rail	PO Box 255 BLOEMFONTEIN 9300	sam.fiff@transnet.net	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
SENTECH						

Mr	Koegelenberg	Johan	Renewable Projects	Private Bag X06 Honeydew 2040	koegelenbergj@sentech.co.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
SOUTH AFRICAN RADIO ASTRONOMY OBSERVATORY (SARAO)						
Mr	Matlhane	Selaelo	Spectrum & Telecommunication Manager		smatlhane@ska.ac.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
TELKOM						

Ms	Spammer	Candice		10 Jan Smuts Drive Pinelands CAPE TOWN 7404	SpammerC1@telkom.co.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
Ms	Peters	Ihlaam		10 Jan Smuts Drive Pinelands CAPE TOWN 7404	ihlaamp@telkom.co.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.

ENDANGERED WILDLIFE TRUST (EWT)

Mr	Leeuwner	Lourens	Renewable Energy Project Manager	Private Bag X11 Modderfontein JOHANNESBURG 1609	lourensl@ewt.org.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
WILDLIFE & ENVIRONMENT SOCIETY OF SOUTH AFRICA (WESSA)						
Mr	Griffiths	Morgan	Environmental Governance Programme Manager	PO Box 12444 Centrahil PORT ELIZABETH 6006	morgan.griffiths@wessa.co.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
BIRDLIFE SOUTH AFRICA						

Ms	Ralston	Samantha	Birds and Renewable Energy Manager	PO Box 515 RANDBURG 2125	energy@birdlife.org.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.
Ms	Stevens	Candice	Policy Manager	PO Box 515 RANDBURG 2125	advocacy@birdlife.org.za	Electronic copy (On CD) posted on Monday 03 June 2019 and email notification sent same day. EAP to follow-up whether this was received. Copy of letter which accompanied electronic copy (on CD) of Draft EA Amendment Motivation Report is included in Appendix C7 . Remaining proofs of distribution will be included in Final EA Amendment Motivation Report.

7 CONCLUSION AND RECOMMENDATIONS

Although the new specifications are still in-line with the specialist assessments undertaken for the WEF and findings set out in the FEIAr dated 20 January 2017, the EA issued on 09 May 2017 will need to be amended to reflect the larger turbine specifications. It was however confirmed that the proposed amendments will not result in any additional negative environmental impacts, over-and-above those already assessed in the FEIAr and authorised in the EA issued on 09 May 2017, and will not change the nature or scope of the proposed development from what was assessed. As such, no additional impacts will be associated with the proposed amendments and the environmental impacts identified in the FEIAr dated 20 January 2017 would need to be considered and assessed. Additionally, there are no disadvantages associated with the proposed amendment, as all negative impact were already identified, considered and assessed in the EIA process which was undertaken for the Aletta WEF. As such, it is requested that the EA dated 09 May 2017 be amended to allow for increased turbine dimensions.

A Public Participation Process is being conducted as outlined in Chapter 6 of the EIA Regulations 2014 (as amended), to obtain comments from I&APs, key stakeholder and OoS / Authorities on the proposed amendments to the turbine specifications. The public review and comment period for the Draft EA Amendment Motivation Report will be undertaken from Monday 03 June 2019 to Friday 05 July 2019 over a 30-day period. All comments received throughout the EA amendment process (including comments received during the Draft EA Amendment Motivation Report's commenting period) will be incorporated into the Final Amendment Motivation Report, which will then be submitted to the competent authority (namely the DEA) for decision-making.

7.1 Environmental Impact Statement

SiVEST Environmental Division, as the EAP, is therefore of the opinion that:

- The new specifications are still in-line with the specialist assessments undertaken for the WEF and findings set out in the FEIAr dated 20 January 2017;
- The proposed amendments will not result in any additional negative environmental impacts, over-and-above those already assessed in the FEIAr and authorised in the EA issued on 09 May 2017;
- No additional and/or new mitigation measures need to be implemented as a result of the proposed amendments;
- The EMPr which was submitted along with the FEIAr dated 20 January 2017 will not need to be amended and/or updated; and
- The EA issued 09 May 2017 should be amended to allow for increased turbine dimensions.

It is trusted that this Draft EA Amendment Motivation Report provides the reviewing authority with adequate information to make an informed decision regarding the requested amendments.

8 REFERENCES

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- Taylor, S., 2016: Proposed Construction of the Aletta 140MW Wind Farm Facility near Copperton Northern Cape Province - Surface Water Impact Assessment Report. SiVEST. Rivonia.
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- Van Rooyen, C., 2016: Bird Impact Assessment Study: Proposed BioTherm Aletta Wind Energy Facility near Copperton in the Northern Cape Province, Chris van Rooyen Consulting.



Appendix A

ENVIRONMENTAL AUTHORISATION (EA)



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Private Bag X 447· PRETORIA · 0001· Environment House · 473 Steve Biko Road, Arcadia,· PRETORIA
Tel (+ 27 12) 399 9372

DEA Reference: 14/12/16/3/3/2/945

Enquiries: Ms Thabile Sangweni

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Telephone Number: (011) 367 4600
Email Address: eiaadmin@biothermenergy.com

PER E-MAIL / MAIL

Dear Ms Nyker

APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998: GN R. 983/984/985 FOR THE 140MW ALETTA WIND ENERGY FACILITY AND ITS ASSOCIATED INFRASTRUCTURE NEAR COPPERTON WITHIN THE SIYATHEMBA LOCAL MUNICIPALITY IN THE NORTHERN CAPE PROVINCE

With reference to the above application, please be advised that the Department has decided to grant authorisation. The environmental authorisation (EA) and reasons for the decision are attached herewith.

In terms of Regulation 4(2) of the Environmental Impact Assessment Regulations, 2014 (the Regulations), you are instructed to notify all registered interested and affected parties, in writing and within 14 (fourteen) days of the date of the Department's decision as well as the provisions regarding the submission of appeals that are contained in the Regulations.

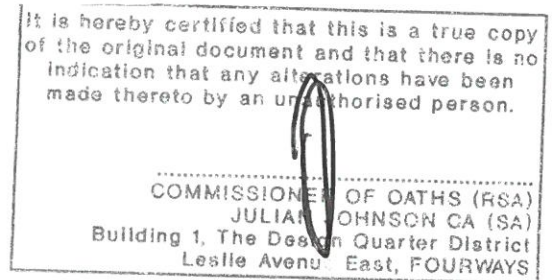
Your attention is drawn to Chapter 2 of Government Notice No. R.993, which prescribes the appeal procedure to be followed. Kindly include a copy of this document with the letter of notification to interested and affected parties.

Should any person wish to lodge an appeal against this decision, he/she must submit the appeal to the appeal administrator, and a copy of the appeal to the applicant, any registered interested and affected party, and any organ of state with interest in the matter within 20 days from the date that the notification of the decision was sent to the registered interested and affected parties by the applicant; or the date that the notification of the decision was sent to the applicant by the Department, whichever is applicable.

Appeals must be submitted in writing in the prescribed form to:

Mr Z Hassam, Director: Appeals and Legal Review of this Department at the below mentioned addresses.

By email: appealsdirector@environment.gov.za;



MS

By hand: Environment House
473 Steve Biko,
Arcadia,
Pretoria,
0083; or

12 MAR 2019

It is hereby certified that this is a true copy
of the original document and that there is no
indication that any alterations have been
made thereto by an unauthorised person.

.....
COMMISSIONER OF OATHS (RSA)
JULIAN JOHNSON CA (SA)
Building 1, The Design Quarter District
Leslie Avenue East, FOURWAYS

By post: Private Bag X447,
Pretoria,
0001;

Please note that in terms of section 43(7) of the National Environmental Management Act, 1998, the lodging of an appeal will suspend the environmental authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged, you may not commence with the activity until such time that the appeal is finalised.

To obtain the prescribed appeal form and for guidance on the submission of appeals, please visit the Department's website at https://www.environment.gov.za/documents/forms#legal_authorisations or request a copy of the documents at appealsdirector@environment.gov.za.

Yours faithfully


Mr Sabelo Malaza
Chief Director: Integrated Environmental Authorisations
Department of Environmental Affairs
Date: 09/05/2019

cc:	A Gibb	Sivest SA (Pty) Ltd	Email: andreag@sivest.co.za
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12 MAR 2019



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

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COMMISSIONER OF OATHS (RSA)
JULIAN JOHNSON CA (SA)
Building 1, The Design Quarter District
Leslie Avenue East, FOURWAYS

Environmental Authorisation

In terms of Regulation 25 of the Environmental Impact Assessment Regulations, 2014

The 140MW Aletta Wind Energy Facility (WEF) and its associated infrastructure near Copperton within the Siyathemba Local Municipality in the Northern Cape Province

Pixley ka Seme District Municipality

Authorisation register number:	14/12/16/3/3/2/945
Last amended:	First issue
Holder of authorisation:	Biotherm Energy (Pty) Ltd
Location of activity:	Portion 1 of Drielings Pan No. 101; Portion 2 of Drielings Pan No. 101; Portion 3 of Drielings Pan No. 101; Remainder of Drielings Pan No. 101; Siyathemba Local Municipality; Pixley ka Seme District Municipality; Northern Cape Province

This authorisation does not negate the holder of the authorisation's responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity.

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Decision

The Department is satisfied, on the basis of information available to it and subject to compliance with the conditions of this environmental authorisation, that the applicant should be authorised to undertake the activities specified below.

Non-compliance with a condition of this environmental authorisation may result in criminal prosecution or other actions provided for in the National Environmental Management Act, 1998 and the EIA regulations.

Details regarding the basis on which the Department reached this decision are set out in Annexure 1.

Activities authorised

By virtue of the powers conferred on it by the National Environmental Management Act, 1998 (Act No. 107 of 1998) and the Environmental Impact Assessment Regulations, 2014 the Department hereby authorises –

BIOTERM ENERGY (PTY) LTD

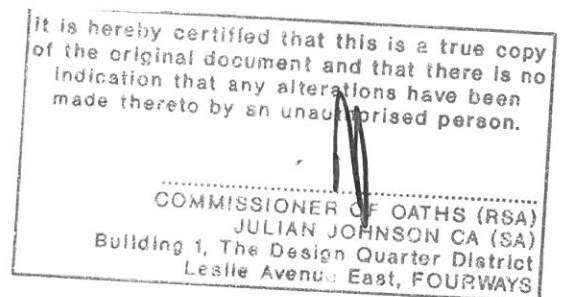
12 MAR 2019

(hereafter referred to as the **holder of the authorisation**)


with the following contact details –

Ms Jasandra Nyker
Biotherm Energy (Pty) Ltd
PO Box 69408
BRYANSTON
2021

Telephone Number: (011) 367 4600
Cell phone Number: (082) 467 6555
Fax Number: (011) 367 4601
Email Address: eiaadmin@biothermenergy.com



to undertake the following activities (hereafter referred to as "the activity") indicated in Listing Notice 1, Listing Notice 2 and Listing Notice 3 as amended (GN R. 983, 984 and 985 as amended):


Activity number	Activity description
<p><u>GN R. 983 Item 11:</u></p> <p><i>"Item 11: The development of facilities or infrastructure for the transmission and distribution of electricity-</i></p> <p><i>(i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts."</i></p>	<p>An onsite IPP substation will be constructed as part of the wind energy facility. The proposed IPP onsite substation will be located outside an urban area and will have a capacity of 132 kV</p>
<p><u>GN R. 983 Item 12:</u></p> <p><i>"The development of –</i></p> <p><i>(ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs-</i></p> <p><i>(a) within a watercourse;</i></p> <p><i>(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse."</i></p> <p style="text-align: center;">12 MAR 2019</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>It is hereby certified that this is a true copy of the original document and that there is no indication that any alterations have been made thereto by an unauthorised person.</p> <p style="text-align: center;">  COMMISSIONER OF OATHS (RSA) JULIAN JOHNSON CA (SA) Building 1, The Design Quarter District Leslie Avenue East, FOURWAYS </p> </div>	<p>The proposed project will entail the development of buildings and other infrastructure exceeding 100 square metres in size. This activity will not be triggered by the wind turbines, substation and O&M building since none of these structures are planned to be directly within or within close proximity (within 32m) to the identified surface water resources. However, internal access roads will be required which will need to route to the respective wind turbine locations and to the O&M building and infrastructure. Since the drainage lines can extend for some kilometres and the distribution of the wetlands are amongst the wind turbine locations, the internal access roads and other associated infrastructure will need to cross or be within close proximity to the delineated surface water resources.</p>
<p><u>GN R. 983 Item 19:</u></p> <p><i>"The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse..."</i></p>	<p>The impact phase surface water assessment revealed that there are surface water features located on the proposed development area. This listed activity will not be triggered by wind turbines, substation and O&M building since none of these</p>

<div data-bbox="183 358 726 638" style="border: 1px solid black; padding: 5px;"> <p>It is hereby certified that this is a true copy of the original document and that there is no indication that any alterations have been made thereto by an unauthorised person.</p> <p>..... COMMISSIONER OF OATHS (RSA) JULIAN JOHNSON SA (SA) Building 1, The Design Quarter District Leslie Avenue East, FOURWAYS</p> </div> <p style="text-align: center; margin-top: 20px;">12 MAR 2019</p>	<p>structures are planned to be within the identified surface water resources. However, internal access roads will be required which will need to route to the respective wind turbine locations, O&M building and infrastructure. Since the drainage lines can extend for some kilometres and the distribution of the wetlands are amongst the wind turbine locations, the internal access roads and other associated infrastructure may need to cross the delineated surface water resources. Should construction activities take place within a watercourse, soil will need to be removed.</p>
<p><u>GN R. 983 Item 24:</u></p> <p><i>"The development of a road</i></p> <p><i>(ii) with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres."</i></p>	<p>Onsite roads will be required for the proposed development. The width of these roads will be 4m to 6m, however road widths greater than 8 metres will be required for turning circles.</p>
<p><u>GN R. 983 Item 28:</u></p> <p><i>"Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development:</i></p> <p><i>(ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare;</i></p> <p><i>excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes."</i></p>	<p>The proposed project site is currently used for sheep farming, and the proposed project will result in an area greater than 1 hectare being transformed into an industrial land use.</p>
<p><u>GN R. 983 Item 56:</u></p> <p><i>"The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre—</i></p> <p><i>(ii) where no reserve exists, where the existing road is wider than 8 metres;</i></p>	<p>It is likely that existing access roads will need to be upgraded in order to access the site. The required width and length of the expansion will be determined during the design phase.</p>

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<p>excluding where widening or lengthening occur inside urban areas."</p>	
<p><u>GN R. 984 Item 1:</u> <i>"The development of facilities or infrastructure for the generation of electricity from a renewable resource where the electricity output is 20 megawatts or more, excluding where such development of facilities or infrastructure is for photovoltaic installations and occurs —</i> (a) <i>within an urban area; or</i> (b) <i>on existing infrastructure."</i></p>	<p>It is proposed that a wind energy facility with a maximum export capacity of 140MW will be constructed.</p> <div data-bbox="946 510 1489 790" style="border: 1px solid black; padding: 5px;"> <p>It is hereby certified that this is a true copy of the original document and that there is no indication that any alterations have been made thereto by an unauthorised person.</p> <p style="text-align: center;">12 MAR 2019</p> <p style="text-align: center;">COMMISSIONER OF OATHS (RSA) JULIAN JOHNSON CA (SA) Building 1, The Design Quarter District Leslie Avenue East, FOURWAYS</p> </div>
<p><u>GN R. 984 Item 15:</u> <i>"The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for—</i> (i) <i>the undertaking of a linear activity; or</i> (ii) <i>maintenance purposes undertaken in accordance with a maintenance management plan."</i></p>	<p>The proposed development will transform more than 20 hectares of indigenous vegetation. The area occupied by each wind turbine will be up to 0.5 hectares and there are proposed to be up to 60 turbines as well as associated infrastructure. Clearance will also be required for the proposed IPP substation, O&M building, internal access roads and other associated infrastructure.</p>
<p><u>GN R. 985 Item 4:</u> <i>"The development of a road wider than 4 metres with a reserve less than 13,5 metres.</i> (g) <i>Northern Cape</i> (ii) <i>Outside urban areas:</i> (bb) <i>National Protected Area Expansion Strategy Focus areas;</i> (cc) <i>Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority."</i></p>	<p>Internal roads will be constructed and these are planned to be more than 4m wide. According to the National Parks Area Expansion Strategy (NPAES), the central part of the proposed area has been identified as a priority area for inclusion in future protected areas. It should however, be noted that the area on site shown as being included in the NPAES includes a small portion of the hills as well as mostly plain areas.</p> <p>Based on the field assessment of this site the specific areas selected for inclusion in the NPAES are not unique to that specific location and could be</p>

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	<p>accommodated in adjacent areas. The hills on site were considered to all have equivalent biodiversity patterns. Some of the plains in the selected area were also considered to be slightly compromised by existing activities on site (farmhouse, roads and livestock impacts).</p>
<p><u>GN R. 985 Item 14:</u> <i>"The development of –</i> <i>(ii) infrastructure or structures with a physical footprint of 10 square metres or more;</i> <i>where such development occurs-</i> <i>(a) within a watercourse;</i> <i>(c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse</i> <i>(g) Northern Cape</i> <i>ii Outside urban areas:</i> <i>(bb) National Protected Area Expansion Strategy Focus areas;</i> <i>(dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority."</i></p> <p style="text-align: center;">12 MAR 2019</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>It is hereby certified that this is a true copy of the original document and that there is no indication that any alterations have been made thereto by an unauthorised person.</p> <p style="text-align: center;"></p> <p style="text-align: center;">COMMISSIONER OF OATHS (RSA) JULIAN JOHNSON CA (SA) Building 1, The Design Quarter District Leslie Avenue East, FOURWAYS</p> </div>	<p>The proposed project will entail the development of buildings and other infrastructure exceeding 10 square metres in size. This activity will not be triggered by the wind turbines, substation and O&M building since none of these structures are planned to be within the identified surface water resources. However, internal access roads will be required which will need to route to the respective wind turbine locations and to the O&M building and infrastructure. Since the drainage lines can extend for some kilometres and the distribution of the wetlands are amongst the wind turbine locations, the internal access roads and other associated infrastructure will need to cross or be within close proximity to the delineated surface water resources.</p> <p>According to the National Parks Area Expansion Strategy (NPAES), the central part of the proposed area has been identified as a priority area for inclusion in future protected areas. It should however, be noted that the area on site shown as being included in the NPAES includes a small portion of the hills as well as mostly plain areas.</p> <p>Based on the field assessment of this site the specific areas selected for inclusion in the NPAES are not unique to that specific location and could be</p>

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	<p>accommodated in adjacent areas. The hills on site were considered to all have equivalent biodiversity patterns.</p>
<p><u>GN R. 985 Item 18:</u> <i>"The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre.</i> <i>(g) Northern Cape</i> <i>ii Outside urban areas:</i> <i>(bb) National Protected Area Expansion Strategy</i> <i>Focus areas;</i> <i>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</i> <i>(ii) Areas within a watercourse or wetland; or within 100 metres from the edge of a watercourse or wetland."</i></p> <p style="text-align: center;">12 MAR 2019</p> <div data-bbox="172 1368 715 1646" style="border: 1px solid black; padding: 5px;"><p>It is hereby certified that this is a true copy of the original document and that there is no indication that any alterations have been made thereto by an unauthorised person.</p><p style="text-align: center;">COMMISSIONER OF OATHS (RSA) JULIAN JOHNSON CA (SA) Building 1, The Design Quarter District Leslie Avenue East, FOURWAYS</p></div>	<p>Existing access roads will need to be upgraded in order to access the site. According to the National Parks Area Expansion Strategy (NPAES), the central part of the proposed application site has been identified as a priority area for inclusion in future protected areas. It should however be noted that the area on site shown as being included in the NPAES includes a small portion of the hills as well as mostly plain areas.</p> <p>Based on the field assessment of this site, the site specific areas selected for inclusion in the NPAES are not unique to that specific location and could be accommodated in adjacent areas. The hills on site were considered to all have equivalent biodiversity patterns.</p> <p>Internal access roads will be required which will need to route to the respective wind turbine locations and to the O&M building and infrastructure. Since the drainage lines can extend for some kilometres and the distribution of the wetlands are amongst the wind turbine locations, the internal access roads and other associated infrastructure will need to cross or be within close proximity to the delineated surface water resources.</p>

as described in the Environmental Impact Assessment Report (EIAr) dated January 2017 at:

21 SG Codes:

C	0	6	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
C	0	6	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
C	0	6	3	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	3
C	0	6	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0

WEF (preferred site)	Latitude	Longitude
North-West	29° 55' 57.522"S	22° 28' 39.802"E
North-East	29° 52' 51.794"S	22° 32' 27.848"E
South-East	29° 59' 52.858"S	22° 35' 30.970"E
South-West	30° 00' 36.296"S	22° 34' 49.743"E
Centre	29° 56' 31.212"S	22° 32' 27.034"E
Substation	29° 57' 17.823"S	22° 32' 50.861"E
O&M Sites	29° 57' 20.921"S	22° 32' 54.174"E

- for the 140MW Aletta Wind Energy Facility and its associated infrastructure near Copperton within the Siyathemba Local Municipality, which falls under the jurisdiction of the Pixley ka Seme District Municipality in the Northern Cape Province, hereafter referred to as "the property".

The 140MW Aletta WEF will comprise the following:

- 60 wind turbines with a total output of 140MW. Turbines will have a hub height of 100m, a rotor diameter of 125m and a generation output of 3MW each;
- A 132kV onsite Aletta IPP substation;
- The turbines will be connected via medium voltage cables to the proposed 132kV onsite Aletta IPP substation;
- Internal access roads will be 4m to 6m wide;
- A temporary construction lay down area;
- A hard standing area/platform per turbine;

12 MAR 2019

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[Signature]

CO-MANAGING DIRECTOR OF EIA'S UNIT
JULIAN JOHANNES (CA)
Building 1, The Design Quarter District
Leslie Avenue East, FOURWAYS

- The operations and maintenance buildings, including on site spares storage building, a workshop and an operations building;
- Fencing (if required) will be up to 5m where required and will be either mesh or palisade; and,
- A permanent wind measurement mast.

Technical details of the proposed facility:

Component	Description / Dimensions
Location of the site	~ 20km east of the town of Copperton
Farm names	<ul style="list-style-type: none"> • Portion 1 of Drielings Pan No.101: C06000000000010100001 • Portion 2 of Drielings Pan No.101: C06000000000010100002 • Portion 3 of Drielings Pan No.101: C06000000000010100003 • Remainder of Drielings Pan No.101 C06000000000010100000
Site access	Site access will be via an existing gravel track off the R357 approximately 34km from the N10 intersection.
Export capacity	Up to 140 MW
Proposed technology	Wind turbines
Number of turbines	Up to 60 wind turbines
Hub height from ground level	100m
Rotor diameter	125m
Width of internal roads	Internal roads width: Between 4m to 6m

Conditions of this Environmental Authorisation

Scope of authorisation

1. The construction of the Aletta Wind Energy Facility and its associated infrastructure with a maximum output capacity of 140 MW as described above is hereby approved.
2. Only a wind turbine generator with the following specifications are authorised: An Acciona AW 125 TH 100A with a 100m hub height, 125m rotor diameter and a 3MW output.

3. Authorisation of the activity is subject to the conditions contained in this environmental authorisation, which form part of the environmental authorisation and are binding on the holder of the authorisation.
4. The holder of the authorisation is responsible for ensuring compliance with the conditions contained in this environmental authorisation. This includes any person acting on the holder's behalf, including but not limited to, an agent, servant, contractor, sub-contractor, employee, consultant or person rendering a service to the holder of the authorisation.
5. The activities authorised may only be carried out at the property as described above.
6. Any changes to, or deviations from, the project description set out in this environmental authorisation must be approved, in writing, by the Department before such changes or deviations may be effected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation to apply for further environmental authorisation in terms of the regulations.
7. The holder of an environmental authorisation must apply for an amendment of the environmental authorisation with the competent authority for any alienation, transfer or change of ownership rights in the property on which the activity is to take place.
8. This activity must commence within a period of five (05) years from the date of issue of this environmental authorisation. If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken.
9. Construction must be completed within five (05) years of the commencement of the activity on site.
10. Commencement with one activity listed in terms of this environmental authorisation constitutes commencement of all authorised activities.

Notification of authorisation and right to appeal

11. The holder of the authorisation must notify every registered interested and affected party, in writing and within 14 (fourteen) calendar days of the date of this environmental authorisation, of the decision to authorise the activity.
12. The notification referred to must –
 - 12.1. specify the date on which the authorisation was issued;
 - 12.2. inform the interested and affected party of the appeal procedure provided for in the National Appeal Regulations, 2014;

12 MARCH 2019

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COMMISSIONER OF OAHRS (ROA)
JULIAN JOHNSON CA (SA)
Building 1, The Design Quarter District
Leslie Avenue East, FOURWAYS

- 12.3. advise the interested and affected party that a copy of the authorisation will be furnished on request; and
- 12.4. give the reasons of the competent authority for the decision.
13. The holder of the authorisation must publish a notice –
- 13.1. informing interested and affected parties of the decision;
- 13.2. informing interested and affected parties where the decision can be accessed; and
- 13.3. drawing the attention of interested and affected parties to the fact that an appeal may be lodged against this decision in terms of the National Appeal Regulations, 2014.

COMMISSIONER OF OATHS (RSA)
JULIA JOHNSON CA (SA)
Building 1, The Design Quarter District
Leslie Avenue East, FOURWAYS

12 MAR 2019

Commencement of the activity

14. The authorised activity shall not commence until the period for the submission of appeals has lapsed as per the National Appeal Regulations, 2014. In terms of section 43(7), an appeal under section 43 of the National Environmental Management Act, 1998 will suspend the environmental authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged you may not commence with the activity until such time that the appeal has been finalised.

Management of the activity

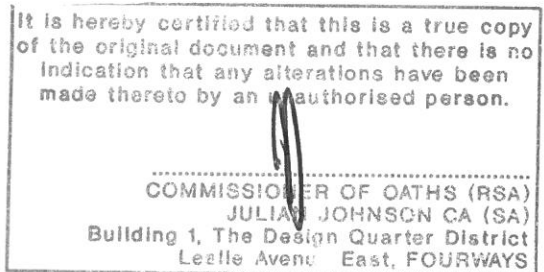
15. A copy of the final development layout map must be made available for comments by registered Interested and Affected Parties and the holder of this environmental authorisation must consider such comments. Once amended, the final development layout map must be submitted to the Department for written approval prior to commencement of the activity. All available biodiversity information must be used in the finalisation of the layout map. Existing infrastructure must be used as far as possible e.g. roads. The layout map must indicate the following:
- 15.1. Cable routes (where they are not along internal roads);
- 15.2. Position of wind turbines and associated infrastructure;
- 15.3. Internal roads indicating width;
- 15.4. Wetlands, drainage lines, rivers, stream and water crossing of roads and cables;
- 15.5. All sensitive features e.g. Critical Biodiversity Areas, Ecological Support Areas, heritage sites, wetlands, pans and drainage channels that will be affected by the facility and associated infrastructure;
- 15.6. Substation(s) inverters and/or transformer(s) sites including their entire footprint;
- 15.7. Connection routes (including pylon positions) to the distribution/transmission network;

- 15.8. All existing infrastructure on the site, such as roads;
 - 15.9. Soil heaps (temporary for topsoil and subsoil and permanently for excess material);
 - 15.10. Buildings, including accommodation; and,
 - 15.11. All "no-go" and buffer areas.
16. Furthermore, a shapefile of the approved development layout/footprint must be submitted to this Department within two months from the date of this decision. The shapefile must be created using the Hartebeesthoek 94 Datum and the data should be in Decimal Degree Format using the WGS 84 Spheroid. The shapefile must include at a minimum the following extensions i.e. .shp; .shx; .dbf; .prj; and, .xml (Metadata file). If specific symbology was assigned to the file, then the .avl and/or the .lyr file must also be included. Data must be mapped at a scale of 1:10 000 (please specify if an alternative scale was used). The metadata must include a description of the base data used for digitizing. The shapefile must be submitted in a zip file using the EIA application reference number as the title. The shape file must be submitted to:

Postal Address:

Department of Environmental Affairs
Private Bag X447
Pretoria
0001

1 2 MAR 2019



Physical address:

Department of Environmental Affairs
Environment House
473 Steve Biko
Arcadia
Pretoria

For Attention: Mr Muhammad Essop
Integrated Environmental Authorisations
Strategic Infrastructure Developments
Telephone Number: (012) 399 9406
Email Address: MEssop@environment.gov.za

17. The Environmental Management Programme (EMPr) submitted as part of the EIAr is not approved and must be amended to include measures as dictated by the final site lay-out map and micro-siting, and the provisions of this environmental authorisation. The EMPr must be made available for comments by registered interested and Affected Parties and the holder of this environmental authorisation must consider such comments. Once amended, the final EMPr must be submitted to the Department for written approval prior to commencement of the activity. Once approved the EMPr must be implemented and adhered to.
18. The EMPr amendment must include the following:
- 18.1. The requirements and conditions of this authorisation.
 - 18.2. All recommendations and mitigation measures recorded in the EIAr.
 - 18.3. All mitigation measures as listed in the specialist reports must be included in the EMPr and implemented.
 - 18.4. The final site layout map.
 - 18.5. An alien invasive management plan to be implemented during construction and operation of the facility. The plan must include mitigation measures to reduce the invasion of alien species and ensure that the continuous monitoring and removal of alien species is undertaken.
 - 18.6. A plant rescue and protection plan which allows for the maximum transplant of conservation important species from areas to be transformed. This plan must be compiled by a vegetation specialist familiar with the site in consultation with the ECO and be implemented prior to commencement of the construction phase.
 - 18.7. A re-vegetation and habitat rehabilitation plan to be implemented during the construction and operation of the facility. Restoration must be undertaken as soon as possible after completion of construction activities to reduce the amount of habitat converted at any one time and to speed up the recovery to natural habitats.
 - 18.8. A traffic management plan for the site access roads to ensure that no hazards would result from the increased truck traffic and that traffic flow would not be adversely impacted. This plan must include measures to minimize impacts on local commuters e.g. limiting construction vehicles travelling on public roadways during the morning and late afternoon commute time and avoid using roads through densely populated built-up areas so as not to disturb existing retail and commercial operations.
 - 18.9. A construction and operational avifauna and bat monitoring plan.
 - 18.10. A conservation management plan must be drafted and submitted to SAHRA for review and comment. The management plan, as recommended by SAHRA must be included in the final EMPr.

12 MAR 2019

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It is hereby certified that this is a true copy of the original document and that there is no indication that any alterations have been made thereto by an unauthorised person.

COMMISSIONER OF OATHS (RSA)

JULIAN JOHNSON C.S. (S)

Building 1, The Design Quarter District
Cape Area, East, FORT BEAR


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- 18.11. A storm water management plan to be implemented during the construction and operation of the facility. The plan must ensure compliance with applicable regulations and prevent off-site migration of contaminated storm water or increased soil erosion. The plan must include the construction of appropriate design measures that allow surface and subsurface movement of water along drainage lines so as not to impede natural surface and subsurface flows. Drainage measures must promote the dissipation of storm water run-off.
- 18.12. An erosion management plan for monitoring and rehabilitating erosion events associated with the facility. Appropriate erosion mitigation must form part of this plan to prevent and reduce the risk of any potential erosion.
- 18.13. An effective monitoring system to detect any leakage or spillage of all hazardous substances during their transportation, handling, use and storage. This must include precautionary measures to limit the possibility of oil and other toxic liquids from entering the soil or storm water systems.
- 18.14. A fire management plan to be implemented during the construction and operational phases.
- 18.15. Measures to protect hydrological features such as streams, rivers, pans, wetlands, dams and their catchments, and other environmental sensitive areas from construction impacts including the direct or indirect spillage of pollutants.
- 18.16. An environmental sensitivity map indicating environmental sensitive areas and features identified during the EIA process.
- 18.17. A map combining the final layout map superimposed (overlain) on the environmental sensitivity map. This map must reflect the proposed location of the turbine as stated in the EIA and this authorisation.
19. The final amended EMPr (once approved) must be implemented and strictly enforced during all phases of the project. It shall be seen as a dynamic document and shall be included in all contract documentation for all phases of the development when approved.
20. Changes to the EMPr must be submitted to this Department for approval before such changes could be effected.
21. The Department reserves the right to amend the approved EMPr should any impacts that were not anticipated or covered in the EIA be discovered.

Frequency and process of updating the EMPr

22. The EMPr must be updated where the findings of the environmental audit reports, contemplated in Condition 29 below, indicate insufficient mitigation of environmental impacts associated with the

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- undertaking of the activity, or insufficient levels of compliance with the environmental authorisation or EMPr.
23. The updated EMPr must contain recommendations to rectify the shortcomings identified in the environmental audit report.
 24. The updated EMPr must be submitted to the Department for approval together with the environmental audit report, as per Regulation 34 of GN R. 982. The updated EMPr must have been subjected to a public participation process, which process has been agreed to by the Department, prior to submission of the updated EMPr to the Department for approval.
 25. In assessing whether to grant approval of an EMPr which has been updated as a result of an audit, the Department will consider the processes prescribed in Regulation 35 of GN R.982. Prior to approving an amended EMPr, the Department may request such amendments to the EMPr as it deems appropriate to ensure that the EMPr sufficiently provides for avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity.
 26. The holder of the authorisation may apply for an amendment of an EMPr, if such amendment is required before an audit is required. The holder must notify the Department of its intention to amend the EMPr at least 60 days prior to submitting such amendments to the EMPr to the Department for approval. In assessing whether to grant such approval or not, the Department will consider the processes and requirements prescribed in Regulation 37 of GN R. 982.

Monitoring

27. The holder of the authorisation must appoint an experienced independent Environmental Control Officer (ECO) for the construction phase of the development that will have the responsibility to ensure that the mitigation/rehabilitation measures and recommendations referred to in this environmental authorisation are implemented and to ensure compliance with the provisions of the approved EMPr.
 - 27.1. The ECO must be appointed before commencement of any authorised activities.
 - 27.2. Once appointed, the name and contact details of the ECO must be submitted to the *Director: Compliance Monitoring* of the Department.
 - 27.3. The ECO must keep record of all activities on site, problems identified, transgressions noted and a task schedule of tasks undertaken by the ECO.
 - 27.4. The ECO must remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is ready for operation.

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Recording and reporting to the Department

28. All documentation e.g. audit/monitoring/compliance reports and notifications, required to be submitted to the Department in terms of this environmental authorisation, must be submitted to the *Director: Compliance Monitoring* of the Department.
29. The holder of the environmental authorisation must, for the period during which the environmental authorisation and EMPr remain valid, ensure that project compliance with the conditions of the environmental authorisation and the EMPr are audited, and that the audit reports are submitted to the *Director: Compliance Monitoring* of the Department.
30. The frequency of auditing and of submission of the environmental audit reports must be as per the frequency indicated in the EMPr, taking into account the processes for such auditing as prescribed in Regulation 34 of GN R. 982.
31. The holder of the authorisation must, in addition, submit environmental audit reports to the Department within 30 days of completion of the construction phase (i.e. within 30 days of site handover) and a final environmental audit report within 30 days of completion of rehabilitation activities.
32. The environmental audit reports must be compiled in accordance with Appendix 7 of the EIA Regulations, 2014 and must indicate the date of the audit, the name of the auditor and the outcome of the audit in terms of compliance with the environmental authorisation conditions as well as the requirements of the approved EMPr.
33. Records relating to monitoring and auditing must be kept on site and made available for inspection to any relevant and competent authority in respect of this development.

Notification to authorities

34. A written notification of commencement must be given to the Department no later than fourteen (14) days prior to the commencement of the activity. Commencement for the purposes of this condition includes site preparation. The notice must include a date on which it is anticipated that the activity will commence, as well as a reference number.

Operation of the activity

35. A written notification of operation must be given to the Department no later than fourteen (14) days prior to the commencement of the activity operational phase.

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Site closure and decommissioning

36. Should the activity ever cease or become redundant, the holder of the authorisation must undertake the required actions as prescribed by legislation at the time and comply with all relevant legal requirements administered by any relevant and competent authority at that time.

Specific conditions

Turbines position

37. Only a wind turbine generator with the following specifications are authorised: An Acciona AW 125 TH 100A with a 100m hub height, 125m rotor diameter and a 3MW output.
38. Should a different turbine generator be selected, the applicant is advised to apply for an amendment to the EA in terms of the EIA Regulations, relevant at the time, as well as undertake a new path loss and risk assessment (including a revised EMC control plan) to the satisfaction of SKA-SA.
39. All wind turbines must avoid all areas designated as "no-go" areas as well as their buffers.
40. The final placement of turbines must follow a micro siting procedure involving a walk-through and identification of any sensitive areas by botanical, avifaunal, bats and heritage specialists.
41. Exclusion of sensitive ecological, heritage and paleontological areas from construction activities must inform micro siting of all development activities.
42. Should any occupied farm buildings be affected by shadow flicker, the holder of this Environmental Authorisation must provide mitigation measures to reduce the impact to an acceptable level as advised by a suitably qualified specialist.

Avifauna and bats

43. A 3km buffer must be applied to the Verreux's Eagle nest.
44. A 300m buffer must be applied to the Southern Pale Chanting Goshawk nest.
45. A 200m buffer must be applied to all identified water points.
46. A 250m buffer must be applied to high bat sensitivity areas.
47. If elevated bat mortalities are found during the operational monitoring, mitigation measures as outlined in Table 144 on page 428 of the EIA dated January 2017 for turbines 18, 28, 33, 34, 38, 41, 48 and 49 must be applied.

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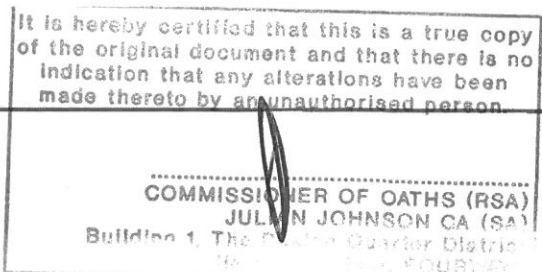
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M.S

48. All turbines must be feathered below manufactures cut in speed so as to not allow for free-wheeling from 01 November to 31 March.
49. A construction and operational avifauna and bat monitoring plan must be developed and implemented according to the latest BirdLife South Africa/Endangered Wildlife Trust: Best practice guidelines for avian monitoring and impact mitigation at proposed wind energy development sites in Southern Africa and the latest South African Bat Assessment Advisory Panel's (SABAAP) guidelines.
50. As an absolute minimum, bird and bat monitoring, must occur during the construction period and continue for at least three years during the operation of the facility. The results of this monitoring must be made available to the DEA, Birdlife South Africa (BLSA) and the South African Bat Assessment Advisory Panel (SABAAP) and must further advise the EMPr where necessary.
51. The results of the pre-construction bird monitoring assessment including all recommendations proposed by the report dated January 2017, must inform the final layout and the construction schedule of the facility.
52. The holder must ensure the implementation of an operational monitoring plan to survey impacts resulting from the infrastructure on the bird communities with focus on assessing the displacement and disturbance effects of the development on the bird communities, as well as bird collisions and continue to gather information on the bird communities present in the area and monitor the effectiveness of the mitigation measures for a minimum duration of at least three years.
53. The facility must be designed in a manner that prevents infrastructure components from being used as perching or roosting substrates by birds and bats, as such is prohibited.
54. The holder of this environmental authorisation must restrict the construction activities to the footprint area. No access to the remainder of the property is allowed.
55. Anti-collision devices such as bird flappers must be installed where powerlines cross avifaunal corridors (e.g. grasslands, rivers, wetlands, and dams). The input of an avifaunal specialist must be obtained for the fitting of the anti-collision devices onto specific sections of the line once the exact positions of the towers have been surveyed and pegged. Additional areas of high sensitivity along the preferred alignment must also be identified by the avifaunal specialist for the fitment of anti-collision devices. These devices must be according to Eskom's Transmission and EWT's Guidelines.
56. A pre-construction walk through of the approved powerline alignment and turbine positions by a bat specialist, avifaunal specialist and ecologist, must be conducted to ensure that the micro-siting of the turbines, pylons and powerline alignments have the least possible impact, there are no nest sites of priority species on or close to the construction corridor and all protected plant species impacted are identified.

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Vegetation, wetlands and water resources

57. Areas identified as having medium-high sensitivity in the final biodiversity layout must be regarded as 'no-go' areas and must be avoided.
58. The 'no-go' areas of the development property must be clearly demarcated and must be excluded from the final layout plan.
59. All watercourses are regarded as sensitive. All developments within 500m of watercourses must comply with the National Water Act.
60. Relevant permits must be obtained from relevant authorities for any removal or destruction of Threatened or Protected Species (TOPs).
61. Before the clearing of the site, the appropriate permits must be obtained from the Department of Agriculture, Forestry and Fisheries (DAFF) for the removal of plants listed in the National Forest Act and from the relevant provincial department for the destruction of species protected in terms of the specific provincial legislation. Copies of the permits must be kept by the ECO.
62. Construction activities must be restricted to demarcated areas to restrict the impact on sensitive environmental features.
63. All areas of disturbed soil must be reclaimed using only indigenous grass and shrubs. Reclamation activities shall be undertaken according to the rehabilitation plan to be included in the final EMPr.
64. Topsoil from all excavations and construction activities must be salvaged and reapplied during reclamation.
65. No exotic plants must be used for rehabilitation purposes; only indigenous plants of the area must be utilised.
66. No activities will be allowed to encroach into a water resource without a Water Use License being in place from the Department of Water and Sanitation.
67. Cleared alien vegetation must not be dumped on adjacent intact vegetation during clearing but must be temporarily stored in a demarcated area.
68. Removal of alien invasive species or other vegetation and follow-up procedures must be in accordance with the Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983).
69. Contractors and construction workers must be clearly informed of the no-go areas.
70. Where roads pass right next to major water bodies, provisions must be made for fauna such as toads to pass under the roads by using culverts or similar structures.
71. Bridge design must be such that it minimises impact to riparian areas with minimal alterations to water flow and must allow the movement of fauna and flora.

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72. The final development area should be surveyed for species suitable for search and rescue, which should be trans-located prior to the commencement of construction.
73. The 'no-go' areas of the development property must be clearly demarcated and must be avoided.
74. Electric fencing should not have any strands within 30cm of the ground, which should be sufficient to allow smaller mammals, reptiles and tortoises to pass through, but still remain effective as a security barrier.
75. Disturbed areas must be rehabilitated as soon as possible after construction with locally indigenous plants to enhance the conservation of existing natural vegetation on site.
76. Wetlands, rivers and river riparian areas must be treated as "no-go" areas and demarcated as such. No vehicles, machinery, personnel, construction material, fuel, oil, bitumen or waste must be allowed into these areas without the express permission of and supervision of the ECO, except for rehabilitation work in these areas.
77. Workers must be made aware of the importance of not destroying or damaging the vegetation along rivers and wetland areas and this awareness must be promoted throughout the construction phase.
78. Freshwater ecosystems located in close proximity to the construction areas must be inspected on a regular basis by the ECO for signs of disturbance from construction activities. If signs of disturbance are noted, immediate action must be taken to remedy the situation and, if necessary, a freshwater ecologist must be consulted for advice on the most suitable remediation measures.
79. No discharge of effluents or polluted water must be allowed into any rivers or wetland areas.
80. If construction areas are to be pumped of water (e.g. after rains), this water must be pumped into an appropriate settlement area, and not allowed to flow into any rivers or wetland areas.
81. Workers must be made aware of the importance of not polluting rivers or wetlands and of not undertaking activities that could result in such pollution, and this awareness must be promoted throughout the construction phase.
82. Freshwater ecosystems located in close proximity to the site must be inspected on a regular basis (but especially after rainfall) by the ECO for signs of sedimentation and pollution. If signs of sedimentation or pollution are noted, immediate action must be taken to remedy the situation and, if necessary, a freshwater ecologist must be consulted for advice on the most suitable remediation measures.

Roads and transportation

83. Existing road infrastructure must be used as far as possible for providing access to the proposed turbine positions. Where no road infrastructure exists, new roads must be placed within existing disturbed areas

or environmental conditions must be taken into account to ensure that minimum amount of damage is caused to natural habitats.

84. Signs must be placed along construction roads to identify speed limits, travel restrictions, and other standard traffic control information. To minimize impacts on local commuters, consideration must be given to limiting construction vehicles travelling on public roadways during the morning and late afternoon commute time.
85. Internal access roads must be located to minimize stream crossings. All structures crossing streams must be located and constructed such that they do not decrease channel stability or increase water velocity.
86. A designated access to the site must be created and clearly marked to ensure safe entry and exit.
87. Signage must be erected at appropriate points warning of turning traffic and the construction site.
88. Necessary permits must be obtained for the oversized construction vehicles to transport turbine components.
89. Construction vehicles carrying materials to the site must avoid using roads through densely populated built-up areas so as not to disturb existing retail and commercial operations.
90. Signs must be placed along construction roads to identify speed limits, travel restrictions, and other standard traffic control information to minimize impacts on possible faunal species.
91. Road borders must be regularly maintained to ensure that vegetation remains short and that they therefore serve as an effective firebreak.
92. Roads must be designed such that changes to surface water runoff are avoided and erosion is not initiated.
93. All construction vehicles must adhere to a low speed limit to avoid collisions with susceptible species such as snakes and tortoises.

Noise

94. A 1,4km buffer must be applied between the residence and the wind turbines.
95. The potential noise impact must be re-evaluated should the layout be changed such that any wind turbines are located closer than 1,000m from a confirmed noise sensitive area.
96. Routine noise measurements must be conducted during the operation of the facility and a complaints register must be opened and made available to affected parties and to the Department on request.
97. The holder of this authorisation must ensure that the construction staff working in areas where the 8-hour ambient noise levels exceed 75dBA wear ear protection equipment.

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98. The holder of this authorisation must ensure that all equipment and machinery are well maintained and equipped with silencers.
99. The holder of this authorisation must provide a prior warning to the community when a noisy activity e.g. blasting is to take place.
100. Positions of turbines jeopardizing compliance with accepted noise levels must be revised during the micro-siting of the units in question and predicted noise levels re-modelled by the noise specialist, in order to ensure that the predicted noise levels are less than 45dB(A).
101. Construction staff must be trained in actions to minimise noise impacts.
102. The holder of this authorisation must ensure that the National Noise Control Regulations and SANS10103:2008 are adhered to and measures to limit noise from the work site are implemented.

Visual resources

103. The holder of this authorisation must reduce visual impacts during construction by minimising areas of surface disturbance, controlling erosion, using dust suppression techniques and restoring exposed soil as closely as possible to their original contour and vegetation.
104. A lighting engineer must be consulted to assist in the planning and placement of light fixtures in order to reduce visual impacts associated with glare and light trespass.
105. Lighting of main structures (turbines) and ancillary buildings must be designed to minimise light pollution without compromising safety, and turbines must be lit according to Civil Aviation Regulations.
106. Signage on or near wind turbines must be avoided unless they serve to inform the public about wind turbines and their function.
107. Commercial messages and graffiti on turbines are prohibited.

Human health and safety

108. A health and safety programme must be developed to protect both workers and the general public during construction, operation and decommissioning of the energy facility. The programme must establish a safety zone for wind turbines from residences and occupied buildings, roads, right-of-ways and other public access areas that is sufficient to prevent accidents resulting from the operation of the wind turbines.
109. Potential interference with public safety communication systems (e.g. radio traffic related to emergency activities) must be avoided.

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110. The holder of this authorisation must obtain approval from the South Africa Civil Aviation Authority that the wind facility will not interfere with the performance of aerodrome radio Communication, Navigation and Surveillance (CNS) equipment, especially the radar, prior to commencement of the activity. A copy of the approval must be kept on site by the ECO.
111. The holder of this authorisation must ensure that the operation of the wind facility complies with the relevant communication regulations or guidelines relating to electromagnetic interference, e.g. microwave, radio and television transmissions.
112. The holder of this authorisation must obtain approval from the South Africa Weather Services (WeatherSA) that the energy facility will not interfere with the performance of their equipment, especially radar, prior to commencement of the activity. A copy of the approval must be kept on site by the ECO.
113. The holder of this authorisation must train safety representatives, managers and workers in workplace safety. The construction process must be compliant with all safety and health measures as prescribed by the relevant act.
114. Liaison with land owners/farm managers must be done prior to construction in order to provide sufficient time for them to plan agricultural activities.
115. No unsupervised open fires for cooking or heating must be allowed on site.

Hazardous materials and waste management

116. Areas around fuel tanks must be bunded or contained in an appropriate manner as per the requirements of SABS 089:1999 Part 1.
117. Leakage of fuel must be avoided at all times and if spillage occurs, it must be remedied immediately.
118. Hazardous waste such as bitumen, oils, oily rags, paint tins etc. must be disposed of at an approved waste landfill site licensed to accept such waste.
119. No dumping or temporary storage of any materials may take place outside designated and demarcated laydown areas, and these must all be located within areas of low environmental sensitivity.
120. Hazardous substances must not be stored where there could be accidental leakage into surface or subterranean water.
121. Hazardous and flammable substances must be stored and used in compliance to the applicable regulations and safety instructions. Furthermore, no chemicals must be stored nor may any vehicle maintenance occur within 350m of the temporal zone of wetlands, a drainage line with or without an extensive floodplain or hillside wetlands.
122. Temporary bunds must be constructed around chemical storage to contain possible spills.
123. Spill kits must be made available on-site for the clean-up of spills.

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124. An integrated waste management approach must be implemented that is based on waste minimisation and must incorporate reduction, recycling and re-use options where appropriate. Where solid waste is disposed of, such disposal shall only occur at a landfill licensed in terms of section 20(b) of the National Environment Management Waste Act, 2008 (Act 59 of 2008).
125. The holder of this authorisation must provide sanitation facilities within the construction camps and along the road so that workers do not pollute the surrounding environment. These facilities must be removed from the site when the construction phase is completed as well as associated waste to be disposed of at a registered waste disposal site.
126. The holder of this authorisation must take note that no temporary site camps will be allowed outside the footprint of the development area as the establishment of such structures might trigger a listed activity as defined in the Environmental Impact Assessment Regulations, 2014.
127. The holder of this authorisation must provide sanitation facilities for the operation staff.

Excavation and blasting activities

128. Underground cables and internal access roads must be aligned as much as possible along existing infrastructure to limit damage to vegetation and watercourses.
129. Foundations and trenches must be backfilled with originally excavated materials as much as possible. Excess excavation materials must be disposed of only in approved areas or, if suitable, stockpiled for use in reclamation activities.
130. Borrow materials must be obtained only from authorised and permitted sites. Permits must be kept on site by the ECO.
131. Anti-erosion measures such as silt fences must be installed in disturbed areas.

Air emissions

132. Dust abatement techniques must be used before and during surface clearing, excavation, or blasting activities.
133. Appropriate dust suppression techniques must be implemented on all exposed surfaces during periods of high wind. Such measures may include wet suppression, chemical stabilisation, the use of a wind fence, covering surfaces with straw chippings and re-vegetation of open areas.

Historical / cultural / paleontological resources

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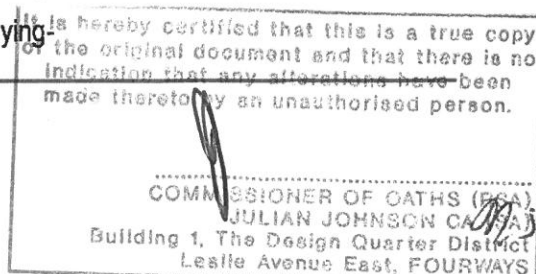
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134. As the shale of the Dwyka Group can contain significant fossils, at the start of construction in areas underlain by this group, a Palaeontologist must be appointed to ensure that no significant fossils are damaged.
135. A 500m no-go buffer must be maintained around the two historic sites indicated on the Paleontological sensitivity map and database.
136. Sites ALE 4 and ALE 36 must be monitored during construction as they are close to turbine construction activities. Monitoring reports thereto must be submitted to SAHRA upon completion of construction activities.
137. Should construction activities be within 100 metres from archaeological sites and historical sites, the sites must be demarcated and fenced off.
138. A 30m no-go buffer must be applied around identified burial grounds. Should it not be possible to retain the burial grounds in situ, a consultation process in terms of Section 36 of the NHRA and Chapter XI of the NHRA Regulations be undertaken.
139. If concentrations of archaeological heritage material, fossils and human remains are uncovered during construction, all work must cease immediately and be reported to the South African Heritage Resources Agency (SAHRA) so that a systematic and professional investigation / excavation can be undertaken.
140. Construction managers/foremen must be informed before construction starts of the possible types of heritage sites and cultural material that may be encountered and the procedures to follow when they find sites.
141. All buffers and no-go areas stipulated in the EIAr must be adhered to for both the facilities and all roads and powerlines.
142. All construction and maintenance crew and vehicles (except small vehicles which may use existing farm tracks) must be kept out of the buffer zones.
143. The final layout must be shown to the appointed archaeologist before implementation to confirm that all significant heritage resources have been adequately protected.

General

144. The recommendations of the EAP in the EIAr dated January 2017 and the specialist studies attached must be adhered to. In the event of any conflicting mitigation measures and conditions of the Environmental Authorisation, the specific condition of this Environmental Authorisation will take preference.
145. A copy of this environmental authorisation, the audit and compliance monitoring reports, and the approved EMPr, must be made available for inspection and copying.



- 145.1. at the site of the authorised activity;
 - 145.2. to anyone on request; and
 - 145.3. where the holder of the environmental authorisation has a website, on such publicly accessible website.
146. National government, provincial government, local authorities or committees appointed in terms of the conditions of this authorisation or any other public authority shall not be held responsible for any damages or losses suffered by the holder of the authorisation or his/her successor in title in any instance where construction or operation subsequent to construction be temporarily or permanently stopped for reasons of non-compliance by the holder of the authorisation with the conditions of authorisation as set out in this document or any other subsequent document emanating from these conditions of authorisation.

Date of environmental authorisation: 09/05/2017

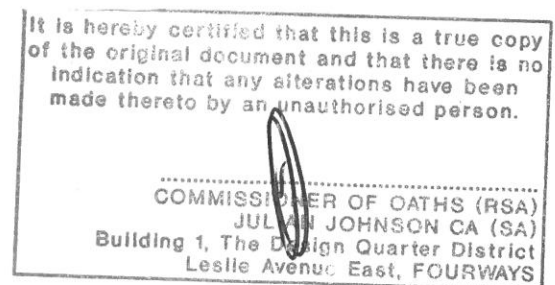


Mr Sabelo Malaza

Chief Director: Integrated Environmental Authorisations

Department of Environmental Affairs

12 MAR 2019



Annexure 1: Reasons for Decision

1. Information considered in making the decision

In reaching its decision, the Department took, *inter alia*, the following into consideration -

- a) The listed activities as applied for in the amended application form received on 27 January 2017.
- b) The information contained in the EIAr dated January 2017.
- c) The comments received from SKA-SA, Air Traffic Navigation Services (ATNS), Eskom, SANRAL, SENTECH, SAHRA, Birdlife SA, the Department of Agriculture, Forestry and Fisheries, the Department of Water and Sanitation, Siyathemba Local Municipality, Endangered Wildlife Trust, Telkom-SA and Interested and Affected Parties as included in the EIAr dated January 2017.
- d) Mitigation measures as proposed in the EIAr and the EMPr.
- e) The information contained in the specialist studies contained within the appendices of the EIAr dated January 2017 and as appears below:

Title	Prepared by	Date
Ecological Impact Assessment	David Hoare Consulting	January 2017
Avifaunal Impact Assessment	Chris Van Rooyen Consulting	August 2016
Bat Impact Assessment	Animalia Zoological & Ecological Consultation	November 2016
Surface Water Assessment	Sivest Environmental Division, peer reviewed by Kyllinga Consulting	January 2017
Soils and Agricultural assessment	ARC	January 2017
Noise Impact assessment	Jongens Keet Associates	September 2016
Visual Impact Assessment	Sivest Environmental Division, peer reviewed by SRK Consulting	October 2017
Heritage Impact Assessment	PGS Heritage	November 2016
Social Impact Assessment	Urban-Econ Development Economists	January 2017
Traffic Assessment	BVI Consulting Engineers	September 2016
Path Loss and Risk Assessment Report (including Emission Control Plan)	Interference Testing and Consultancy Services	September 2016

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2. Key factors considered in making the decision

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All information presented to the Department was taken into account in the Department's consideration of the application. A summary of the issues which, in the Department's view, were of the most significance is set out below.

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- a) The findings of all the specialist studies conducted and their recommended mitigation measures.
- b) The need for the proposed project stems from the provision of electricity to the national grid.
- c) The EIA dated January 2017 identified all legislation and guidelines that have been considered in the preparation of the EIA dated January 2017.
- d) The location of turbines as presented in the final EIA.
- e) The location of the proposed development within the Karoo Central Astronomy Area and the significance of identified impacts to the Square Kilometre Array South Africa (SKA-SA).
- f) Concerns raised and comments provided by the SKA-SA on the findings of the Path Loss and Risk Assessment Report (including Emission Control Plan) study dated September 2016 and submitted as part of the EIA dated January 2017.
- g) The methodology used in assessing the potential impacts identified in the EIA dated January 2017 and the specialist studies have been adequately indicated.
- h) A sufficient public participation process was undertaken and the applicant has satisfied the minimum requirements as prescribed in the EIA Regulations, 2014 for public involvement.

3. Findings

After consideration of the information and factors listed above, the Department made the following findings -

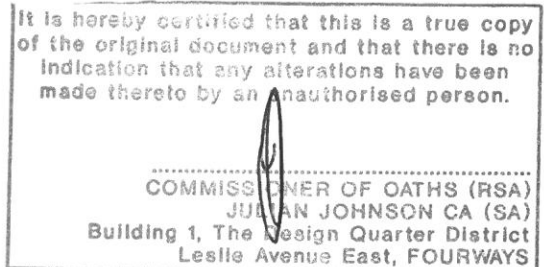
- a) The identification and assessment of impacts are detailed in the EIA dated January 2017 and sufficient assessment of the key identified issues and impacts have been completed.
- b) The procedure followed for impact assessment is adequate for the decision-making process.
- c) The information contained in the EIA dated January 2017 is deemed to be accurate and credible.
- d) The findings of the site inspection held on 30 March 2017.
- e) Only a wind turbine generator with the following specifications is authorised: An Acciona AW 125 TH 100A with a 100m hub height, 125m rotor diameter and a 3MW output.
- f) Should a different turbine generator be selected, the applicant is advised to apply for an amendment to the EA in terms of the EIA Regulations, relevant at the time, as well as undertake

a new path loss and risk assessment (including a revised EMC control plan) to the satisfaction of SKA-SA.

- g) The proposed mitigation of impacts identified and assessed adequately curtails the identified impacts.
- h) EMPr measures for the pre-construction, construction and rehabilitation phases of the development were proposed and included in the EIAr and will be implemented to manage the identified environmental impacts during the construction phase.

In view of the above, the Department is satisfied that, subject to compliance with the conditions contained in the environmental authorisation, the authorised activities will not conflict with the general objectives of integrated environmental management laid down in Chapter 5 of the National Environmental Management Act, 1998 and that any potentially detrimental environmental impacts resulting from the authorised activities can be mitigated to acceptable levels. The environmental authorisation is accordingly granted.

12 MAR 2019





Appendix B

AUTHORITY CONSULTATION



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Private Bag X 447 · PRETORIA · 0001 · Environment House · 473 Steve Biko Road, Arcadia · PRETORIA

DEA Reference: 14/12/16/3/3/2/945/AM1

Enquiries: Ms Azrah Essop

Telephone: (012) 399 8529 **E-mail:** AEssop@environment.gov.za

Andrea Gibb
SIVEST SA (Pty) Ltd
P.O. Box 2921
RIVONIA
2128

Telephone Number: (011) 798 0600
Email Address: andreag@sivest.co.za

PER EMAIL / MAIL

Dear Ms Gibb

ACKNOWLEDGEMENT OF RECEIPT OF APPLICATION FOR AMENDMENT OF ENVIRONMENTAL AUTHORISATION ISSUED ON 09 MAY 2017 FOR THE ALETTA WIND ENERGY FACILITY AND ITS ASSOCIATED INFRASTRUCTURE NEAR COPPERTON WITHIN THE SIYATHEMBA LOCAL MUNICIPALITY IN THE NORTHERN CAPE PROVINCE

The Department confirms having received your application for amendment of the environmental authorisation (EA) on the 11 April 2019.

Following further review of your application for amendment of EA, the Department has come to the conclusion that your application for amendment of EA falls within the ambit of amendments to be applied for in terms of Part 2 of Chapter 5 of the Environmental Impact Assessment (EIA) Regulations, 2014, as amended. The reason for the above is:

Regulation 31 (Part 2 Amendments) of the EIA regulations states that *"An environmental authorisation may be amended by following the process prescribed in this Part if the amendment will result in a change to the scope of a valid environmental authorisation where such change will result in an increased level or nature of impact where such level or nature of impact was not-*

- (a) assessed and included in the initial application for environmental authorisation; or*
- (b) taken into consideration in the initial environmental authorisation;"*

Based on the information provided in the submitted application for amendment, the proposed application for amendment seeks to include, as part of the EA with DEA Ref No. 14/12/16/3/3/2/945 the following:

- The change in the turbine specification- Amendment to the authorised hub height, rotor diameter and generation capacity for the wind turbine.

Having reviewed the submitted documents and taking the above-mentioned into consideration, the Department hereby notifies you that the proposed changes to EA 14/12/16/3/3/2/945 are therefore considered a change of scope.

As such, you are therefore referred to regulation 32 of GN R. 982. You are requested to submit the following documents within 90 days of the receipt of this application by the competent authority, as per regulation 32(1)(a) of GN R. 982:

- a report, reflecting:
 - (i) an assessment of all impacts related to the proposed change;
 - (ii) advantages and disadvantages associated with the proposed change; and
 - (iii) measures to ensure avoidance, management and mitigation of impacts associated with such proposed change; and
 - (iv) any changes to the EMPr.

In addition to the abovementioned, you are required to inform all potential and registered interested and affected parties, including organs of state which have jurisdiction in respect of any aspect of the relevant activity, of the required amendments. Interested and affected parties and relevant organs of state must be given 30 days to comment on the draft report compiled in terms of regulation 32(1)(a) of GN R. 982. Comments received during the commenting period must be incorporated into a final report to be submitted to the competent authority for decision-making.

Should there be significant changes or new information that has been added to the report after the initial commenting period, you are therefore required to comply with regulation 32(1)(b) of GN R. 982 which states:

"The applicant must within 90 days of receipt by the competent authority of the application made in terms of regulation 31, submit to the competent authority—a notification in writing that the report will be submitted within 140 days of receipt of the application by the competent authority, as significant changes have been made or significant new information has been added to the report, which changes or information was not contained in the report consulted on during the initial public participation process contemplated in subregulation (1)(a) and that the revised report will be subjected to another public participation process of at least 30 days."

In the event where regulation 32(1)(b) of GN R. 982 applies, the report, which reflects the incorporation of comments received, including any comments of the competent authority, must be submitted to the competent authority within 140 days of receipt of the application by the competent authority.

You are also advised that the Public Participation Process must be conducted as outlined in Chapter 6 of the EIA Regulations, 2014, as amended.

Should you fail to meet any of the timeframes stipulated in regulation 32 of Part 2 of Chapter 5 of the Environmental Impact Assessment Regulations, 2014, as amended, your application will lapse.

Yours sincerely



Mr Sabelo Malaza

Chief Director: Integrated Environmental Authorisations

Department of Environmental Affairs:

Letter signed by: Ms Azrah Essop

Designation: Environmental Officer Specialised Production: Strategic Infrastructure Developments

Date: 23/4/2019

CC: Jasandra Nyker	BioTherm Energy (Pty) Ltd	Email: eiaadmin@biothermenergy.com
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Appendix C
PUBLIC PARTICIPATION



Appendix C1

PROOF OF WRITTEN NOTIFICATION

NOTIFICATION OF AN APPLICATION TO AMEND AN ENVIRONMENTAL AUTHORISATION

PROPOSED DEVELOPMENT OF THE ALETTA 140MW WIND ENERGY FACILITY (WEF) AND ASSOCIATED INFRASTRUCTURE NEAR COPPERTON, NORTHERN CAPE PROVINCE

DEA Ref. No.:14/12/16/3/3/2/945/AM1

PROJECT INFORMATION

In terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) (as amended) and the Environmental Impact Assessment (EIA) Regulations, 2014 (as amended) notice is hereby given that BioTherm Energy (Pty) Ltd (hereafter referred to as BioTherm) have appointed SiVEST SA (Pty) Ltd, as the independent Environmental Assessment Practitioner (EAP), to apply for an Amendment of the Environmental Authorisation (EA) for the above mentioned project.

BioTherm was issued with an EA for the proposed development of the 140MW Aletta Wind Energy Facility (WEF) and its associated infrastructure near Copperton in the Northern Cape Province on 9 May 2017 (DEA Ref. No.: 14/12/16/3/3/2/945).

The amendment to the EA is required to increase the authorised turbine dimensions to have a hub height of 120m, a rotor diameter of 140m and a generation output of 3.465MW each. The proposed turbine dimensions are within the specifications assessed during the EIA process. The application for the amendment of the EA was received by the Department of Environmental Affairs (DEA) on 11 April 2019. Following a review of the application for an amendment for the EA, the DEA concluded that the application falls within the ambit of amendments applied for in terms of Part 2 of Chapter 5 of the EIA Regulations, 2014 (as amended) and therefore a report needs to be made available to all interested and affected parties (I&APs) and relevant organs of state.

PROJECT LOCATION

The proposed project is located within the Northern Cape Province. It falls within the Siyathemba Local Municipality of the Pixley ka Seme District Municipality. The proposed project is located approximately 20km east of Copperton. The WEF project includes the following farms:

- Portion 1 of Drielings Pan No.101
- Portion 2 of Drielings Pan No.101
- Portion 3 of Drielings Pan No.101
- Remainder of Drielings Pan No.101

AVAILABILITY OF THE DRAFT MOTIVATION AMENDMENT REPORT FOR REVIEW

The Draft Motivation Amendment Report for the WEF will be made available for public review as from Monday 03 June 2019 until Friday 05 July 2019 (end of business day) on the SiVEST website (<http://www.sivest.co.za/>), click on Downloads, then browse to the folder '15499 Aletta WEF Amendment'. Should you wish to receive an electronic copy of the Draft Motivation Amendment Report (on CD) please forward your request in writing to the Consultants below.

To register as an I&AP and / or to obtain additional information please submit your name, contact details and the interest which you have in the application to SiVEST as per the details below:

Stephan Jacobs or Hlengiwe Ntuli	
SiVEST Environmental	
P O Box 2921	Tel: (011) 798 0600
RIVONIA	Fax: (011) 803 7272
2128	E-mail: sivest_ppp@sivest.co.za
	Website: www.sivest.co.za

KENNISGEWING VAN 'N AANSOEK OM WYSIGING VAN 'N OMGEWINGSMAGTIGING

BEOOGDE ONTWIKKELING VAN DIE ALETTA 140 MW WINDKRAGANLEG (WEF) EN GEPAARDGAANDE INFRASTRUKTUUR NABY COPPERTON, NOORD-KAAPROVINSIE

DO-verw. No.: 14/12/16/3/3/2/945/AM1

PROJEKINLIGTING

Ingevolge die Nasionale Wet op Omgewingsbestuur, 1998 (Wet 107 van 1998) (NEMA) (soos gewysig) en die Regulasies op Omgewingsimpakevaluerings (OIE-regulasies), 2014 (soos gewysig), geskied kennisgewing hiermee dat BioTherm Energy (Edms.) Bpk. (hierna BioTherm genoem) SiVEST SA (Edms.) Bpk. aangestel het as die onafhanklike Omgewingsevalueringspraktisyn (OEP) om aansoek te doen om 'n Wysiging van die Omgewingsmagtiging (OM) vir die bogenoemde projek.

Op 9 Mei 2017 is 'n OM aan BioTherm uitgereik vir die beoogde ontwikkeling van die 140 MW Aletta Windkragaanleg (WEF) en gepaardgaande infrastruktuur naby Copperton in die Noord-Kaapprovinsie (DO-verw. No.: 14/12/16/3/3/2/945).

Die wysiging van die OM word benodig om die goedgekeurde turbine-afmetings te vergroot om 'n naafhoogte van 120 m, 'n rotordeursnee van 140 m en 'n opwekkingsuitset van 3,465 MW elk te hê. Die beoogde turbine-afmetings val in die spesifikasies wat tydens die OIE-proses geëvalueer is. Die Departement van Omgewingsake (DO) het die aansoek om die wysiging van die OM op 11 April 2019 ontvang. Na 'n oorsig van die aansoek om wysiging vir die OM, het die DO tot die slotsom gekom dat die aansoek in die bestek van wysigings val waarvoor aansoek gedoen word ingevolge Deel 2 van Hoofstuk 5 van die OIE-regulasies, 2014 (soos gewysig) en derhalwe moet 'n verslag aan alle belangstellende en geaffekteerde partye (B&GP's) en tersaaklike staatsinstansies beskikbaar gestel word.

PROJEKLIIGING

Die beoogde projek is in die Noord-Kaapprovinsie geleë. Dit val in die Siyathemba Plaaslike Munisipaliteit van die Pixley ka Seme Distrikmunisipaliteit. Die beoogde projek is sowat 20 km oos van Copperton geleë. Die WEF-projek sluit die volgende plase in:

- Gedeelte 1 van Drielings Pan No. 101;
- Gedeelte 2 van Drielings Pan No. 101;
- Gedeelte 3 van Drielings Pan No. 101; en
- die Restant van Drielings Pan No. 101.

BESKIKBAARHEID VAN DIE KONSEP MOTIVERINGSVERSLAG VIR WYSIGING VIR INSAE

Die Konsep Motiveringsverslag vir Wysiging vir die WEF sal vanaf Maandag 03 Junie 2019 tot Vrydag 05 Julie 2019 (teen sluitingstyd) op SiVEST se webwerf (<http://www.sivest.co.za/>, klik op *Downloads* en soek dan vir die legger '15499 Aletta WEF Amendment') beskikbaar gestel word vir openbare insae. As u 'n elektroniese kopie van die Konsep Motiveringsverslag vir Wysiging (op CD) wil ontvang, moet u u versoek asseblief skriftelik aan die onderstaande Konsultante rig.

Om as 'n B&GP te registreer en/of om meer inligting te bekom, moet u asseblief u naam, kontakbesonderhede en die belang wat u by die aansoek het by SiVEST indien by die kontakbesonderhede hieronder:

Stephan Jacobs of Hlengiwe Ntuli

SiVEST Environmental
Posbus 2921
RIVONIA
2128

Tel: 011 798 0600
Faks: 011 803 7272
E-pos: sivest_ppp@sivest.co.za
Webwerf: www.sivest.co.za

Your reference: 14/12/16/3/3/2/945/AM1
Our reference: 15499 - Aletta
Date: 03 June 2019

Dear Interested and/or Affected Party,

APPLICATION TO AMEND AN ENVIRONMENTAL AUTHORISATION FOR THE PROPOSED DEVELOPMENT OF THE ALETTA 140MW WIND ENERGY FACILITY (WEF) NEAR COPPERTON, NORTHERN CAPE PROVINCE

- **DEA Ref. No.:14/12/16/3/3/2/945/AM1**

Please note that SiVEST SA (Pty) Ltd has been appointed by BioTherm Energy (Pty) Ltd (hereafter referred to as BioTherm) as the independent Environmental Assessment Practitioner (EAP) for the abovementioned project to apply for an Amendment of the Environmental Authorisation (EA) (Reference: 14/12/16/3/3/2/945/AM1).

BioTherm was issued with an EA for the proposed development of the 140MW Aletta Wind Energy Facility (WEF) and its associated infrastructure near Copperton in the Northern Cape Province on 9 May 2017 (DEA Reference 14/12/16/3/3/2/945).

The amendment to the EA is required to increase the authorised turbine dimensions to have a hub height of 120m, a rotor diameter of 140m and a generation output of 3.465MW each. The proposed turbine dimensions are within the specifications assessed during the EIA process. The application for an amendment of the EA was received by the Department of Environmental Affairs (DEA) on 11 April 2019. Following a review of the application for amendment for the EA, the DEA concluded that the application falls within the ambit of amendments applied for in terms of Part 2 of Chapter 5 of the EIA Regulations, 2014 (as amended) and therefore a Draft EA Amendment Motivation report needs to be made available to all interested and affected parties (I&APs) and relevant organs of state.

We would like to take this opportunity to inform you that, in accordance with the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) (as amended) and the Environmental Impact Assessment (EIA) Regulations, 2014 (as amended) the Draft EA Amendment Motivation Report will be available for public review as from **Monday 3 June 2019 to Friday 5 July 2019** (end of business day). The report will be available on the SiVEST website (<http://www.sivest.co.za/>, click on Downloads, then browse to the folder '15499 Aletta WEF Amendment'. Should you wish to receive an electronic copy of the Draft EA Amendment Motivation Report (on CD) or have any enquiries please forward your request in writing to the Consultants below.

Stephan Jacobs or Hlengiwe Ntuli

PO BOX 2921, Rivonia, 2128
Tel – (011) 798 0600
Fax – (011) 803 7272
Email – sivest_ppp@sivest.co.za

We would like to thank you in anticipation of your active and meaningful contribution to the Amendment and Public Participation process.

Kind Regards,



Andrea Gibb
Divisional Manager
SiVEST Environmental



U verwysing: 14/12/16/3/3/2/945/AM1
Ons verwysing: 15499 – Aletta
Datum: 3 Junie 2019

Geagte Belangstellende en/of Geaffekteerde Party

AANSOEK OM WYSIGING VAN 'N OMGEWINGSMAGTIGING VIR DIE BEOOGDE ONTWIKKELING VAN DIE ALETTA 140 MW WINDKRAGAAANLEG (WEF) NABY COPPERTON, NOORD-KAAPPROVINSIE

▪ **DO-verw. No.: 14/12/16/3/3/2/945/AM1**

Neem asseblief kennis dat SiVEST SA (Edms.) Bpk. deur BioTherm Energy (Edms.) Bpk. (hierna BioTherm genoem) aangestel is as die onafhanklike Omgewingsevalueringspraktisyn (OEP) vir die bogenoemde projek om aansoek te doen om 'n Wysiging van die Omgewingsmagtiging (OM) (Verwysing: 14/12/16/3/3/2/945/AM1).

Op 9 Mei 2017 is 'n OM aan BioTherm uitgereik vir die beoogde ontwikkeling van die 140 MW Aletta Windkragaanleg (WEF) en gepaardgaande infrastruktuur naby Copperton in die Noord-Kaapprovinsie (DO-verwysing 14/12/16/3/3/2/945).

Die wysiging van die OM word benodig om die goedgekeurde turbine-afmetings te vergroot om 'n naafhoogte van 120 m, 'n rotordeursnee van 140 m en 'n opwekkingsuitset van 3,465 MW elk te hê. Die beoogde turbine-afmetings val in die spesifikasies wat tydens die OIE-proses geëvalueer is. Die Departement van Omgewingsake (DO) het die aansoek om die wysiging van die OM op 11 April 2019 ontvang. Na 'n oorsig van die aansoek om wysiging vir die OM, het die DO tot die slotsom gekom dat die aansoek in die bestek van wysigings val waarvoor aansoek gedoen word ingevolge Deel 2 van Hoofstuk 5 van die OIE-regulasies, 2014 (soos gewysig) en derhalwe moet 'n verslag aan alle belangstellende en geaffekteerde partye (B&GP's) en tersaaklike staatsinstansies beskikbaar gestel word.

Ons maak graag van hierdie geleentheid gebruik om u in te lig dat die Konsep Motiveringsverslag vir Wysiging ingevolge die Nasionale Wet op Omgewingsbestuur, 1998 (Wet 107 van 1998) (NEMA) (soos gewysig) en die Regulasies op Omgewingsimpakevaluerings (OIE-regulasies), 2014 (soos gewysig), vanaf **Maandag 3 Junie 2019 tot Vrydag 5 Julie 2019** (teen sluitingstyd) beskikbaar sal wees vir openbare insae. Die verslag sal beskikbaar wees op SiVEST se webwerf (<http://www.sivest.co.za/>, klik op *Downloads* en soek dan vir die legger '15499 Aletta WEF Amendment'.) As u 'n elektroniese kopie van die Konsep Motiveringsverslag vir Wysiging (op CD) wil ontvang, of as u enige navrae het, moet u u versoek asseblief skriftelik aan die onderstaande Konsultante rig.

Stephan Jacobs of Hlengiwe Ntuli

POSBUS 2921, Rivonia, 2128
Tel: 011 798 0600
Faks: 011 803 7272
E-pos: sivest_ppp@sivest.co.za

Ons dank u by voorbaat vir u aktiewe en waardevolle bydrae tot die Wysigings- en Openbare Deelnameproses.

Vriendelike groete

Andrea Gibb
Afdelingsbestuurder
SiVEST Environmental



Appendix C2

PROOF OF ADVERTISEMENTS

Kalahari Wes Boerevereniging hou weer brandsiek blokbespuitings

UPINGTON: Skaap brandsiek blokbespuitings word vir die afgelope ses jaar toegedien en dit het tot groot sukses gelei.

Kalahari Wes Boerevereniging wil 'n beroep doen op die boere om weereens tydens Mei-maand hul vee vir brandsiek te spuit.

Kalahari Wes Boerevereniging het weereens besluit om in hulle gebied 'n blokbespuiting te doen, waar alle boere hul kleinvee twee maal binne 10 dae met 'n geregistreerde brandsiek middel moet behandel.

Kalahari Wes nou ander boereverenigings uit om deel te wees van die inisiatief om sodoende hul brandsiek bespuitings te sinchroniseer dat soveel as moontlik kleinvee in die bepaal-

de tyd behandel word. Hierdie projek word gesteun deur die Staats Veeartsenydiens, die NKRPO en ook deur verskeie diere gesondheidsmaatskappye.

Sommige maatskappye sal spuitstowwe teen afslagpryse beskikbaar stel. Vir die boere wat so gelukkig was met reën moet inwendige parasiete behandel word.

U kan dus net seker maak dat die produk wat u gaan gebruik vir inwendige parasiete sowel as vir brandsiek geskik



sal wees. Dit is tot almal se voordeel. Vir meer inligting skakel die Kalahari Wes Boerevereniging se voorsitter Japie Steyn 0789583136



690m² stoor + 288m² afdak te huur in Soutpanstraat, Upington:
2 kantore, 1 ontvangsarea, 2 stoor areas
4 toilette, 1 stort, 1 kombuis
Kontak Eleanor du Plessis: 082 789 9798

PfP Besigheidsleiers besoek skool

Die besigheidsleiers wat deel is van Partners for Possibilities, het onlangs 'n graad 6 oueraand van Likhanyiso Primêr bygewoon. Die skoolhoof, me Princess May en Elsa Jones, redakteur van die Gembok, is PfP vennote. Op die foto is Princess May saam met Freek Muller, Aletta Pretorius en Elsa Jones. Almal is deel van die Sirkel 1 Upington PfP groep. Die doel van PfP-lede se besoek aan die skool was om die hoof by te staan met die vergadering. Aletta het aan die ouers verduidelik waarom PfP gaan, Freek het gepraat oor hoe ouers kinders moet bystaan en bemoedig en Elsa het genoem dat daar verskillende aksies beplan word om ouerbetrokkenheid by die skool aan te moedig.



'n Graad 6 oueraand is by Likhanyiso Primêr gehou. Die doel van die aand was om ouers bewus te maak oor die vordering van die graad sesse, asook om ouers in te lig oor die probleme wat die skool met leerders ondervind. Die skoolhoof, me Princess May het die ouers, asook leerders wat die geleentheid bygewoon het, bedank vir hul opkoms.

Die skoolhoof, me Princess May aan die woord, terwyl me Pheliswa Poni (HOD) as tolk optree, sodat al die ouers kan verstaan wat gesê word. Me Poni het die PfP besoekers bedank vir die opbouwende gesprekke wat die aand met die ouers gevoer is.



JUBILEE LIFE MINISTRIES
presents **IMPACT YOUTH CONFERENCE**
14 - 16 JUNE 2019
UPINGTON

FRI 19:00
SAT 10:00 & SAT 18:00
SUN 10:00 & SUN 18:00

2 GRANAAT STREET, PROGRESS

DAVID JANTJIES
(CAPE TOWN)

Gospel Artist With band

EVANGELIST PROSE
PASTOR DSAMUELS
EVANGELIST RJ ADAMS
PASTOR CFARMER

CONTACT | PS C FARMER | +27 64 651 5272

SIVEST Environmental Division

SIVEST
Established in 1952

NOTIFICATION OF AN APPLICATION TO AMEND AN ENVIRONMENTAL AUTHORISATION

PROPOSED DEVELOPMENT OF THE ALETTA 140MW WIND ENERGY FACILITY (WEF) AND ASSOCIATED INFRASTRUCTURE NEAR COPPERTON, NORTHERN CAPE PROVINCE

DEA Ref. No.: 14/12/16/3/3/2/945/ AM1

PROJECT INFORMATION

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- Portion 2 of Drielings Pan No.101
- Portion 3 of Drielings Pan No.101
- Remainder of Drielings Pan No.101

AVAILABILITY OF THE DRAFT MOTIVATION AMENDMENT REPORT FOR REVIEW

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To register as an I&AP and / or to obtain additional information please submit your name, contact details and the interest which you have in the application to SiVEST as per the details below:

STEPHAN JACOBS OR HLENGIWE NTULI

SiVEST Environmental
P O Box 2921
RIVONIA
2128

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Fax: (011) 803 7272
E-mail: sivest_ppp@sivest.co.za
Website: www.sivest.co.za

SIVEST Environmental Division

SIVEST
Gestig in 1952

KENNISGEWING VAN 'N AANSOEK OM WYSIGING VAN 'N OMGEWINGSMAGTIGING

BEOOGDEONTWIKKELING VAN DIE ALETTA 140 MW WINDKRAGANLEG (WEF) EN GEPAARDGAANDE INFRASTRUKTUUR NABY COPPERTON, NOORD KAAPROVINSIE

DO verw. No.: 14/12/16/3/3/2/945/AM1

PROJEKINLIGTING

Ingevolge die Nasionale Wet op Omgewingsbestuur, 1998 (Wet 107 van 1998) (NEMA) (soos gewysig) en die Regulasies op Omgewingsimpakevaluering (OIE-regulasies), 2014 (soos gewysig), geskied kennisgewing hiermee dat BioTherm Energy (Edms.) Bpk. (hierna BioTherm genoem) SiVEST SA (Edms.) Bpk. aangestel het as die onafhanklike Omgewingsbeoordelingspraktisyn (OEP) om aansoek te doen om 'n Wysiging van die Omgewingsmagtiging (OM) vir die bogenoemde projek.

Op 9 Mei 2017 is 'n OM aan BioTherm uitgereik vir die beoogde ontwikkeling van die 140 MW Aletta Windkragaanleg (WEF) en gepaardgaande infrastruktuur naby Copperton in die Noord-Kaapprovinsie (DO-verw. No.: 14/12/16/3/3/2/945).

Die wysiging van die OM word benodig om die goedgekeurde turbine-afmetings te vergroot om 'n naafhoogte van 120 m, 'n rotordeursnee van 140 m en 'n opwekkingsuitset van 3,465 MW elk te hê. Die beoogde turbine-afmetings val in die spesifikasies wat tydens die OIE-proses geëvalueer is. Die Departement van Omgewingsake (DO) het die aansoek om die wysiging van die OM op 11 April 2019 ontvang. Na 'n oorsig van die aansoek om wysiging vir die OM, het die DO tot die slotsom gekom dat die aansoek in die bestek van wysigings val waarvoor aansoek gedoen word ingevolge Deel 2 van Hoofstuk 5 van die OIE-regulasies, 2014 (soos gewysig) en derhalwe moet 'n verslag aan alle belangstellende en geaffekteerde partye (B&GPs) en tersaaklike staatsinstansies beskikbaar gestel word.

PROJEKLIIGTING

Die beoogde projek is in die Noord-Kaapprovinsie geleë. Dit val in die Siyathemba Plaaslike Munisipaliteit van die Pixley ka Seme Distrikmunisipaliteit. Die beoogde projek is sowat 20 km oos van Copperton geleë. Die WEF-projek sluit die volgende fase in:

- Gedeelte 1 van Drielings Pan No. 101;
- Gedeelte 2 van Drielings Pan No. 101;
- Gedeelte 3 van Drielings Pan No. 101; en
- die Restant van Drielings Pan No. 101.

BESKIKBAARHEID VAN DIE KONSEP MOTIVERINGSVERSLAG VIR WYSIGING VIR INSAE

Die Konsep Motiveringsverslag vir Wysiging vir die WEF sal vanaf Maandag 03 Junie 2019 tot Vrydag 05 Julie 2019 (teen sluitingstyd) op SiVEST se webwerf (<http://www.sivest.co.za>), klik op Downloads en soek dan vir die legger '15499 Aletta WEF Amendment' beskikbaar gestel word vir openbare insae. As u 'n elektroniese kopie van die Konsep Motiveringsverslag vir Wysiging (op CD) wil ontvang, moet u u versoek asseblief skriftelik aan die onderstaande Konsultante rig.

Om as 'n B&GP te registreer en/of om meer inligting te bekom, moet u asseblief u naam, kontakbesonderhede en die belang wat u by die aansoek het by SiVEST indien by die kontakbesonderhede hieronder:

STEPHAN JACOBS OF HLENGIWE NTULI

SiVEST Environmental
Posbus 2921
RIVONIA
2128

Tel: (011) 798 0600
Faks: (011) 803 7272
E-pos: sivest_ppp@sivest.co.za
Webwerf: www.sivest.co.za

SIVEST



Appendix C3

I&AP DATABASE

**PROPOSED DEVELOPMENT OF THE ALETTA 140MW WIND ENERGY FACILITY (WEF), NEAR COPPERTON, NORTHERN
CAPE PROVINCE**

EA Amendment Motivation Report I&AP Database

May-19

First Name	Last Name	Company
Collen	Aaps	
Abe	Abrahams	DWA
Nicole	Abrahams	SANRAL
Leotasha	Adams	
Cecimac	Adams	
Denwin	Adams	
Noklaas	Adams	
B.N	Adams	
Shadrack	Adams	
Eva	Adams	Siyathemba Local Municipality
Carolyn	Ah Shene-Verdoorn	Birdlife South Africa
Vivian	Algomenew	
Kholiwe	Ana-Miah	
Chantell	Andrea	
Donavin	Andreas	
Frank	Andreas	Siyathemba Local Municipality
Norman	Andries	
Ronald	Augose	
Johan	Badenhorst	Siyathemba Local Municipality
G	Bams	Department of Military Veterans
Jan Johannes	Basie	Siyathemba Local Municipality
Saul	Basson	Siyathemba Local Municipality
Jakob	Basson	Siyathemba Local Municipality
Jessica	Bell	
M	Berends	
Danie & Jomima	Bernard	FARM: KLIPGATS PAN
Amanda	Bester	Telkom (SA) Ltd
Chon	Beukes	
Marizan	Beukes	
Eugene	Block	
Japie	Booisen	
Corney	Booyesen	
	Booyesen	
Katriena	Booyesen	Siyathemba Local Municipality
Leeutjie	Bosman	
Wilson	Bosman	
N	Bosman	
Felicity	Bostander	Siyathemba Local Municipality
Elmary	Botha	
Michelle	Botha	
Evert	Burger	Plase: Witfontein & Blaauwbosch Poortje
Thoko	Buthlezi	Dept of Agriculture, Forestry & Fisheries
Hettie	Buys	Department of Agriculture, Forestry and Fisheries
Ronny	Cahi	Farm: Witfontein (Erfdeel)
Toni	Cahi	Farm: Witfontein (Erfdeel)
Alexander	Cloete	NC Department of Agriculture, Land Reform and Rural Development
Alicia	Coetzee	
Chaderick	Daniel	
George	Danste	
Justina	De Jager	Plaas: Drielings Pan

Sanda	De Jager	Plase: Drielings Pan & Uitzigt
Aletta	De Jager	Remainder of Drielings Pan No 101
Sanda	de Joofer	
Rene	De Kock	SANRAL: Western Region
Reinette	Devos	
Emarentia	Devos	
Joseph	Devos	
Sam	Diokpala	Pixley Ka Seme District Municipality
Albert Basin	Druwie	
Shaun	Dyers	SANRAL Western Region
	Efraim	
Sam	Fiff	Transnet Freight Rail (Jhb)
Brian	Fisher	Dept of Environment and Nature Conservation
Florence	Florence	
Nico	Fourie	Department of Roads & Public Works: Northern Cape Province
Pieter	Fourie	Plaas: Nelspoortje
Hilary	Franse	
Willeeia	Franse	
John	Geeringh	Eskom: Transmission
Clement	George	
Quinton	George	
Hannie	George	
.	George	
Chantel	George	
Jan	Goeieman	
D	Gouws	
Anthony	Gouws	
Billy	Greieman	
Bushin	Greinhoudt	
Kennedy	Greinhout	
Benson	Gries	
Morgan	Griffiths	WESSA: National
Vivian	Groenewald	Telkom SA SOC Ltd
Nozuko	Gwentsha	
Isaac	Gwija	NC Dept of Environment and Nature Conservation
Billy	Haai	
Charles	Hector	
Natasha	Higgitt	South African Heritage Resources Agency
Phillip	Hine	SAHRA
Alexia	Hlengani	Department of Water and Sanitation
Felicia	Horing	
Edwin	Horn	
HG	Human	
Susanna	Human	
Deon	Human	
Wynand	Human	Farm: Plat Sjambok
Rosilia	Jaars	
Leowellin	Jaars	
Ellios	Jacobs	
Deon	Jacobs	
Magrieta	Jacobs	
M	Janjies	
A	Janjies	
Christelane	Jantjies	
Lee-Ann	Jantjies	
Whinson	Jochem	

Hilton	Jokers	
Wilson	Joko	Siyathemba Local Municipality
RC	Jonas	
Suzen	Jonkers	
T	Jooste	M&S Consulting
Katrina	Julies	
Imelda	Julies	SANRAL
Garth	Julius	SANRAL
L	Kakora	Masakane Constructing & Projects
Kate	Katane	SANParks
Isaac	Keeyepitse	
BH	Kenneth	
Elliot	Khethelo	
Miriam	Kibi	Pixley Ka Seme District Municipality
Romano	Kivido	
Hambakazi	Klaas	
Thobeka	Klaas	
Katriena	Klaaste	
Justice	Klaaste	
Nzima	Klaaste	Jonke Water Plaas
RAndell	Klaasten	
Cerlourty	Klaasten	
Carlo	Klaasto	
Zuritha	Kock	
Sam	Kock	Siyathemba Local Municipality
Johan	Koegelenberg	SENTECH
DJ	Kriegel	
Patricia	Kubashe	
Ernest	Kubayi	Department of Water and Sanitation (Upington)
Samuel	Leche	
Lourens	Leeuwner	EWT
Seoka	Lekota	Department of Environmental Affairs
Patrick	Lenyibi	DEPARTMENT OF SPORT, ARTS & CULTURE
Cindy	Links	
Zaida	Lottering	
Jennifer	Lottering	
Jack	Louw	
Jacob	Louw	
Pieter	Louw	
Ernstine	Louw	
Liena	Louw	Siyathemba Local Municipality
Dawid	Louw	Siyathemba Local Municipality
IJ	Lubbe	
Iva	Lubbe	
Ruben	Lubbe	
	Lucky	
Joseph	Ludidi	
Jason	Lukas	
Jack	Maccollan	Pixley Ka Seme District Municipality
Julio	Macdonald	
Giel	MacDonald	Siyathemba Local Municipality
Ryno	Macka	
Gregory	MacKay	Siyathemba Local Municipality
Sindisile	Madyo	Pixley Ka Seme District Municipality
E	Maegody	
Moses	Mahunonyane	Department of Water & Sanitation

Killek	Majebe	
Gelowi	Majets	
Elrico	Majico	
Neelsie	Majiet	
Efraim	Majiet	
Elsabie	Male	
Tiro	Malebo	
J	Malgas	
Jason	Malgas	
Danni Boy	Malgas	
Victor	Malgas	
Felicity	Malgas	
Lorenthia	Malgas	Siyathemba Local Municipality
Malizo	Maliwa	
Armand	Malo	
Mias	Malo	
Jacoline	Mans	Department of Agriculture, Forestry & Fisheries
Dencil	Maritz	
Sean	Maritz	
Pareda	Maritz	
Edwin	Maritz	
Christopher	Maritz	
Andrew	Maritz	
Vivian	Maritz	Siyathemba Local Municipality
Elizabeth	Martin	Siyathemba Local Municipality
Mashudu	Marubini	DAFF Provincial Department
Simpfiwe	Masilela	Air Traffic Navigation Services
Clement	Matiti	
Selaelo	Matlhane	South African Radio Astronomy Observatory (SARAO)
Irene	May	
Timothy	Mbatha	
Alleta	Mclean	
Hendrich	Mei	
Hester	Meyer	Eienaar: Copperton
Pieter	Meyer	Plase: Nelspoortje & Vogelstruis Bult
Moses	Mfihlo	
Constance	Mgedezi	
Melanie	Miles	Leads 2 Business
Kruno	Miletic	A.J.M. Engineering
Sonia	Miszczak	Atlantic Renewable Energy Partners (Pty) Ltd
Lerato	Mokhoantle	Department of Water & Sanitation
David	Mokris	
A	Molan	
Richard	Molepo	
Jane	Molepo	Siyathemba Local Municipality
O	Mondindii	
Graham	Mondzinger	Air Traffic Navigation Services
Beatrice	Mondzinger	Siyathemba Local Municipality
Lucian	Monyora	
Johanna	Morobane	Air Traffic Navigation Services
Hettie	Morobisi	Siyathemba Local Municipality
Marius	Mowers	
Malibongwe	Mozigagqa	
Thulani	Mthombeni	NC Dept of Environment and Nature Conservation
Danster	Muggel	Siyathemba Local Municipality
Mashudu	Mukoma	Pixley Ka Seme District Municipality

Kevin	Mutheiwana	Department of Mineral Resources
Henning	Myburg	Agri SA: Northern Cape
Onwabile	Ndzumo	NC Dept of Environment and Nature Conservation
P.H	Ngogo	
Nontuthuzelo	Ngxande	
Jim	Nieuwhout	
Sonwabile	Nkondeshe	Dept of Environmental Affairs
Sonwabile	Nkondeshe	Pixley Ka Seme District Municipality
Lorraine	Nobela	Department of Water and Sanitation
Andile	Nombida	
N	Nontloko	
Kingsley	Nsia	
Thandile	Ntambula	
S	Ntshovulane	
Cyril	Nuwegold	
F	October	
Hester	Olyn	
Paul	Palm	
Weedis	Papier	
Piet	Papier	
B	Paulis	
Ihlaam	Peters	Telkom SA (Ltd)
Jethro	Phetlo	
Nandipha	Phike	
Constance	Phike	
David	Phike	Siyathemba Local Municipality
Vuyiswa	Phillips	
Justine	Phillipus	
Isaac	Phooko	CBZ Trading
Klaas	Pieterse	
Marius	Pieterse	
Lionel	Pieterse	
Paulina	Pieterse	
Rayno	Pieterse	
Nomonde	Pieterse	Siyathemba Local Municipality
Steven	Plaatjies	
S	Plaatjies	
George	Plaatjies	Siyathemba Local Municipality
Dawid	Poya	
Esiwool	Prens	
Anna	Pretorius	Siyathemba Local Municipality
PE	Pule	
Booi	Raats	
Leonardo	Raats	
Mmatlala	Rabothata	Department of Environmental Affairs
Samantha	Ralston-Paton	BirdLife South Africa
Ntsundeni	Ravhogoni	Department of Mineral Resources (DMR)
Piet	Reid	
Jaco	Roelofse	NC Department of Roads & Public Works
Ben Lehlohonolo	Roestof	Mvelaphanda Trading
Florence	Roman	
Ricardo	Rygard	
E	Scott	
ET	Segwabe	
Anina	Selemog	
Cherine	Serwin	

Sia	Shahleda	
Magdaline	Shimane	
JF	Sizingile	
Vivian	Skethers	Future Making Construction
Kevin	Slinger	
Abrie	Smit	
Rosinia	Smit	Siyathemba Local Municipality
Quinton	Smith	
Syanda	SObhuzza	
Thokozani	Somazi	
Nonzwakazi	Sononza	
Candice	Spammer	Telkom Wayleave
Gloria	Speelman	Siyathemba Local Municipality
AV	Staden	
IWJ	Stadhouer	Siyathemba Local Municipality
Fundise	Steenkamp	
Likas	Steenkamp	Plaas: Jackals Water
Candice	Stevens	Birdlife South Africa, Biodiversity Conservation
Lizell	Stroh	SA Civil Aviation Authority
Thamsanqa	Swangazi	
Merillyn	Taaibos	
Neliswa	Takatayo	
Ertjies	Taljaart	Eskom: Distribution (Prieska)
Bos	Tander	
Johannes	Thys	
Andrew	Timothy	SAHRA (Northern Cape)
Adriaan	Tiplady	Square Kilometre Array
Betty	Titus	Siyathemba Local Municipality
Themba	Tobais	
Olwethu	Tshekela	Siyathemba Local Municipality
Jiyana	Tsheye	
Howard	Tsume	Siyathemba Local Municipality
WP	Tyhala	
A	v Schalkwyk	
Heleen	van den Heever	Telkom (SA) Ltd
Thys	van der Hout	Solek
Berend	van Deventer	Agama Exploration and Mining
TD	Van Rooyen	
Dennien	Van Schalkwyk	
Ralph	Van Schalkwyk	
Rudolf	Van Schalkwyk	
Johannes	Van Schalkwyk	Siyathemba Occupational Health Care
Carlos	Van Staden	
William	van Staden	Siyathemba Local Municipality
Stanford	Van Wyk	
Grandwill	Van Wyk	
Danster	Van Wyk	
Igwatens	Van Wyk	
Frans	van Wyk	Gemeend Trust
Dirk	van Wyk	Loretha Trust
Johannes	Van Wyk	Plaas: Uitzigt
Gerhard	Van Wyk	Plaas: Bosjesmansberg & Blaauwbosch Poortje
F M	Van Wyk	Siyathemba Local Municipality
F.M.	Van Wyk	Siyathemba Local Municipality
BG	Van Zyl	
Solman	Van Zyl	Plaas: Doonies Pan

Lu-Whelin	Vass	
Elvis	Vayeka	
Nicolene	Venter	Imaginative Africa (Pty) Ltd
Albertus	Vermeulen	Jonkerwater Plaas
Irvan	Visagie	
P	Visagie	
Heinrich	Visser	
Valentia	Visser	
Gert	Visser	
Ricardo	Vlem	
Haward	Vries	
Ferlicia	Ward	Air Traffic Navigation Services
Nathan	Webb	
Heinrich	Wildt	
Andry	Willemse	
Benito	Williams	
Ragel	Williams	
Nasem	Wisen	
Colin	Witbooi	
Julleen	Witbooi	
Johannes	Wolmarans	Solek
Frank	Wylbach	
Qiuntun	Wylbacht	
Mandisa	Yawa	Pixley Ka Seme District Municipality
Thandeka	Yawa	Siyathemba Local Municipality
Collin	Zee	
RW	Zongula	
Roslin	Zziwa	Siyathemba Local Municipality



Appendix C4
CORRESPONDENCE



Appendix C5

COMMENTS AND RESPONSE REPORT (C&RR)

PART 2 AMENDMENT

**COMMENTS AND RESPONSE REPORT (C&RR) – DRAFT ENVIRONMENTAL AUTHORISATION
(EA) AMENDMENT MOTIVATION REPORT**

**PROPOSED DEVELOPMENT OF THE ALETTA 140MW WIND ENERGY FACILITY (WEF) AND
ASSOCIATED INFRASTRUCTURE NEAR COPPERTON, NORTHERN CAPE PROVINCE**

**SUMMARY OF ENVIRONMENTAL ISSUES/CONCERNS AND SUGGESTIONS RAISED BY INTERESTED
AND/OR AFFECTED PARTIES (I&APS), STAKEHOLDERS AND ORGANS OF STATE (OoS) / AUTHORITIES**

DECEMBER 2018 – MAY 2019

Interested and/or Affected Parties (I&APs), stakeholders and Organs of State (OoS) / Authorities who contributed issues ranging across all sectors of society are recorded in this Comments and Response Report (C&RR). Full record of every issue raised is available from the public participation office and is also included in **Appendix C5** of the Draft Environmental Authorisation (EA) Amendment Motivation Report. Similar issues raised have been grouped together. The name, affiliation and date of the commentator are also indicated. Technical comments made by the project team are not included in the C&RR.

INDEX TO ISSUES IN THIS TABLE

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ABBREVIATIONS

C&RR	Comments and Response Report
DEA	Department of Environmental Affairs
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
FEIAr	Final Environmental Impact Assessment Report
GN	Government Notice
OoS	Organs of State
SARAO	South African Radio Astronomy Observatory
SKA	Square Kilometre Array
WEF	Wind Energy Facility

Issue/Comment	Raised By	Response
1. Project Related Comments/Issues		
<p><u>ACKNOWLEDGEMENT OF RECEIPT OF APPLICATION FOR AMENDMENT OF ENVIRONMENTAL AUTHORISATION ISSUED ON 09 MAY 2017 FOR THE ALETTA WIND ENERGY FACILITY AND ITS ASSOCIATED INFRASTRUCTURE NEAR COPPERTON WITHIN THE SIYATHEMBA LOCAL MUNICIPALITY IN THE NORTHERN CAPE PROVINCE</u></p> <p>The Department confirms having received your application for amendment of the environmental authorisation (EA) on the 11 April 2019.</p> <p>Following further review of your application for amendment of EA, the Department has come to the conclusion that your application for amendment of EA falls within the ambit of amendments to be applied for in terms of Part 2 of Chapter 5 of the Environmental Impact Assessment (EIA) Regulations, 2014, as amended. The reason for the above is:</p> <p><i>Regulation 31 (Part 2 Amendments) of the EIA regulations states that "An environmental authorisation may be amended by following the process prescribed in this Part if the amendment will result in a change to the scope of a valid environmental authorisation where such change will result in an increased level or nature of impact where such level or nature of impact was not-</i></p> <p><i>(a) assessed and included in the initial application for environmental authorisation; or</i></p> <p><i>(b) taken into consideration in the initial environmental authorisation;</i></p> <p>Based on the information provided in the submitted application for amendment, the proposed application for amendment seeks to include, as part of the EA with DEA Ref No. 14/12/16/3/3/2/945 the following:</p>	<p>Sabelo Malaza Chief Director: Integrated Environmental Authorisations: Department of Environmental Affairs (DEA) Letter via email: 23 April 2019</p>	<p>In light of the DEA's response, an amendment process in terms of Part 2 of Chapter 5 of the Environmental Impact Assessment (EIA) Regulations 2014, as amended, is being followed accordingly. As such, an Environmental Authorisation (EA) Amendment Motivation Report which meets all of the requirements as stipulated in the DEA's acknowledgment letter (refer to Table 1 in Section 1 of the Draft EA Amendment Motivation Report) is being compiled to assess the impacts and implications of the proposed amendments and will be submitted to the competent authority (namely the DEA) for decision-making purposes. An assessment of all impacts related to the proposed amendments is provided in Section 3 of the Draft EA Amendment Motivation Report. It should however be noted that that the proposed amendments will not result in any additional negative environmental impacts, over-and-above those already assessed in the FEIAr and authorised in the EA issued on 09 May 2017, and will not change the nature or scope of the proposed development from what was assessed. No additional impacts will therefore be associated with the proposed amendments and the environmental impacts identified in the FEIAr dated 20 January 2017 are still applicable.</p> <p>The advantages and disadvantages associated with the proposed amendments are discussed in Section 5.1 and Section 5.2 of the Draft EA Amendment Motivation Report respectively.</p> <p>In terms of the measures to ensure avoidance, management and mitigation of impacts associated with such proposed amendments, no new mitigation measures will be required as the proposed amendments will not result in any additional negative environmental impacts, over-and-above those already assessed. The mitigation measures provided by the various specialists as outlined in the FEIAr dated 20 January 2017 would therefore need to be considered and implement. In light of this, no changes are required to the</p>

<ul style="list-style-type: none"> • The change in the turbine specification- Amendment to the authorised hub height, rotor diameter and generation capacity for the wind turbine. <p>Having reviewed the submitted documents and taking the above-mentioned into consideration, the Department hereby notifies you that the proposed changes to EA 14/12/16/3/3/2/945 are therefore considered a change of scope.</p> <p>As such, you are therefore referred to regulation 32 of GN R. 982. You are requested to submit the following documents within 90 days of the receipt of this application by the competent authority, as per regulation 32(1) (a) of GN R. 982: a report, reflecting:</p> <ol style="list-style-type: none"> i. An assessment of all impacts related to the proposed change; ii. advantages and disadvantages associated with the proposed change; and iii. measures to ensure avoidance, management and mitigation of impacts associated with such proposed change; and iv. any changes to the EMPr. <p>In addition to the abovementioned, you are required to inform all potential and registered interested and affected parties, including organs of state which have jurisdiction in respect of any aspect of the relevant activity, of the required amendments. Interested and affected parties and relevant organs of state must be given 30 days to comment on the draft report compiled in terms of regulation 32(1)(a) of GN R. 982. Comments received during the commenting period must be incorporated into a final report to be submitted to the competent authority for decision-making.</p> <p>Should there be significant changes or new information that has been added to the report after the initial commenting period, you are</p>		<p>Environmental Management Programme (EMPr) which was submitted along with the FEIAr dated 20 January 2017.</p> <p>In addition, the Public Participation Process is being conducted as outlined in Chapter 6 of the EIA Regulation 2014 (as amended) as was requested by the DEA. All affected landowners, as well as the relevant provincial authority, were notified about the application to amend the EA via email prior to the application being submitted to the DEA on 11 April 2019 (Proof of these notifications is provided in Appendix C6 of Draft EA Amendment Motivation Report). Advertisements (English and Afrikaans) were placed in the “Gemsbok” local newspaper on Wednesday the 29th of May 2019 (Appendix C2 of Draft EA Amendment Motivation Report). Accordingly, site notices were also placed on the boundary of the application site on Friday the 31st of May 2019 (Appendix C1 of Draft EA Amendment Motivation Report. Photos and GPS coordinates of the site notices which were erected will be included in the Final EA Amendment Motivation Report). Where stakeholders responded (see Appendix C4 of Draft EA Amendment Motivation Report for project PPP correspondence) to advertisements, they were registered on the project database. It should be noted that all Interested and/or Affected Parties (I&APs), stakeholders and Organs of State (OoS) / Authorities will be given 30 days to comment on the Draft EA Amendment Motivation Report, which has been compiled in terms of regulation 32(1)(a) of GN R. 982 (as amended). The Draft EA Amendment Motivation Report has subsequently been made available to the public for review on SiVEST’s website (http://www.sivest.co.za/, click on Downloads, then browse to the folder ‘15499 Aletta WEF Amendment’) for a period of 30 days from Monday 03 June 2019 to Friday 05 July 2019. It should be noted that all the key stakeholders / OoS / authorities were sent electronic copies (on CD) of the Draft EA Amendment Motivation Report (including all appendices) during the 30-day comment and review period (see</p>
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<p>therefore required to comply with regulation 32(1)(b) of GN R. 982 which states:</p> <p><i>"The applicant must within 90 days of receipt by the competent authority of the application made in terms of regulation 31, submit to the competent authority-a notification in writing that the report will be submitted within 140 days of receipt of the application by the competent authority, as significant changes have been made or significant new information has been added to the report, which changes or information was not contained in the report consulted on during the initial public participation process contemplated in sub regulation (1)(a) and that the revised report will be subjected to another public participation process of at least 30 days."</i></p> <p>In the event where regulation 32(1)(b) of GN R. 982 applies, the report, which reflects the incorporation of comments received, including any comments of the competent authority, must be submitted to the competent authority within 140 days of receipt of the application by the competent authority.</p> <p>You are also advised that the Public Participation Process must be conducted as outlined in Chapter 6 of the EIA Regulation, 2014 as amended.</p> <p>Should you fail to meet any of the timeframes stipulated in regulation 32 of Part 2 of Chapter 5 of Environmental Impact Assessment Regulations, 2014, as amended, your application will lapse.</p>		<p>Section 6.8 of Draft EA Amendment Motivation Report). All comments received throughout the EA amendment process (including comments received during the Draft EA Amendment Motivation Report's commenting period) will be incorporated into the Final EA Amendment Motivation Report, which will then be submitted to the competent authority (namely the DEA) for decision-making. Additionally, all comments received throughout the EA amendment process will also be included in the Comments and Response Report (C&RR).</p> <p>Should there be significant changes or new information that has been added to the Draft EA Amendment Motivation Report after the initial commenting period, the EAP confirms that regulation 32(1)(b) of GN R. 982 will be complied with.</p> <p>In the event where regulation 32(1)(b) of GN R. 982 applies, the report, which reflects the incorporation of comments received, including any comments of the competent authority, will be submitted to the competent authority within 140 days of receipt of the application by the competent authority. As this stage it can be confirmed that regulation 32(1)(b) of GN R. 982 does not apply.</p> <p>As mentioned above, the Public Participation Process is being conducted as outlined in Chapter 6 of the EIA Regulation 2014, as amended. Details regarding the Public Participation activities that has been undertaken to date, as well as those that will still be undertaken, is detailed in Section 6 of the Draft EA Amendment Motivation Report.</p> <p>The Department's comment regarding the adherence to the timeframes stipulated in regulation 32 of Part 2 of Chapter 5 of the EIA Regulations 2014, as amended, is duly noted. The EAP will ensure that the timeframes stipulated in regulation 32 of Part 2 of Chapter 5 of the EIA Regulations 2014, as amended, are adhered to.</p>
<p>2. SKA Related Comments/Issues</p>		

<p>This letter is in response to your request to consider the proposed amendments to the hub height and the turbine model for the Aletta WEF and the potential impact on the SKA project. We have considered the proposed development, and conducted a basic high level assessment to determine the potential impact. We have concluded as follows:</p> <ol style="list-style-type: none"> I. Based on your technical studies and noting the conclusions made in the report that you have made available, we do not anticipate any negative impact on the SKA; II. Based on our understanding of the proposed project, the proposed modifications do not impact on the previously agreed path loss mitigation requirements and Emission Control for the AW125 TH 100A WTG and we therefore, have no objections to the project at this stage. <p>Any radio communication services and equipment located within the declared Karoo Central Astronomy Advantage Area shall be required to comply with the relevant regulations as promulgated.</p>	<p>Selaelo Matlhane Square Kilometre Array (SKA) SA Letter: 11 December 2018</p>	<p>This letter was in response to the Path Loss and Electrical Design Change Evaluation (Appendix D of Draft EA Amendment Motivation Report) which was sent to the South African Radio Astronomy Observatory (SARAO) for review and approval by BioTherm upon its completion.</p> <p>Since SARAO has raised no objection to the proposed amendments, do not anticipate any negative impact on the SKA and the proposed amendments do not impact on the previously agreed path loss mitigation measures, the above-mentioned Path Loss and Electrical Design Change Evaluation is deemed to be adequate and no further assessments are required. In addition, as mentioned, the new specifications are still in-line with the specialist assessments undertaken for the WEF and findings set out in the FEIAR dated 20 January 2017 and will not result in any additional negative environmental impacts, over-and-above those already assessed in the FEIAR and authorised in the EA issued on 09 May 2017.</p> <p>SARAO will however be included in all project related correspondence and will also be provided an opportunity to comment on the Draft EA Amendment Motivation Report.</p>
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Appendix C6

LANDOWNER AND AUTHORITY NOTIFICATIONS

APPENDIX 4
LIST OF LAND OWNERS / NOTIFICATIONS

PORTION 1 AND 3 OF DRIELINGS PAN 101

Landowner:	Cornelius Jansen de Jager, Executer of Estate Mrs Aletta de Jager		
Contact person:	Sandra De Jager		
Postal address:	P O BOX 233, PRIESKA		
Postal code:	8940	Cell:	072 484 7131
Telephone:	053 353 2546	Fax:	053 353 2546
E-mail:	sandadej@gmail.com		

PORTION 2 AND THE REMAINDER OF DRIELINGS PAN 101

Landowner:	Aletta de Jager		
Contact person:	Sandra De Jager		
Postal address:	P O BOX 233, PRIESKA		
Postal code:	8940	Cell:	072 484 7131
Telephone:	053 353 2546	Fax:	053 353 2546
E-mail:	sandadej@gmail.com		

From: sivest_PPP
Sent: 08 April 2019 11:54 AM
To: 'sandadej@gmail.com'
Cc: Andrea Gibb
Subject: 15499 Aletta Wind Energy Facility: EA Amendment Application Notification - LO

Importance: High

Tracking:	Recipient	Delivery
	'sandadej@gmail.com'	
	Andrea Gibb	Delivered: 2019/04/08 11:54 AM

Dear Mrs Sandra De Jager,

APPLICATION FOR AMENDMENT OF AN ENVIRONMENTAL AUTHORISATION (EA): PROPOSED CONSTRUCTION OF THE 140MW ALETTA WIND ENERGY FACILITY AND ASSOCIATED INFRASTRUCTURE NEAR COPPERTON, NORTHERN CAPE PROVINCE ORIGINAL
▪ **DEA Reference Number: 14/12/16/3/3/2/945**

The environmental authorisation (EA) issued by the Department of Environmental Affairs (DEA) on the 09th of May 2017, for the above mentioned project refer.

Biotherm Energy (Pty) Ltd, (hereafter referred to as 'Biotherm') are applying for a Part 1 Amendment of the EA (Reference: 14/12/16/3/3/2/945) for the above mentioned project to increase the authorised turbine dimensions to have a hub height of 120m and a rotor diameter of 140m. The proposed turbine dimensions are within the specifications assessed during the EIA process.

In light of the above, an application for the amendment of the EA will be submitted.

As an affected landowner (Portion 1 and 3 of Drielings Pan 101 and Portion 2 and the remainder of Drielings Pan 101) we would like to inform you that the application for amendment of the EA will be submitted to the Department of Environmental Affairs (DEA) in accordance with the National Environmental Management Act, 1998 (NEMA) (Act No 107 of 1998) – EIA Regulations 2014 (as amended).

Please be advised that an electronic copy of the application for an amendment of the EA will be forwarded to you once it has been submitted to the DEA.

For further information, please contact SIVEST as follows:

Hlengiwe Ntuli
PO BOX 2921, Rivonia, 2128
Tel – (011) 798 0600
Fax – (011) 803 7272
Email – hlengiwen@sivest.co.za

Kind Regards
Andrea Gibb
Senior Manager
SIVEST Environmental Division



SIVEST is a Level 3 BBBEE Contributor

D +27 11 798 0638 | **T** +27 11 798 0600 | **E** andreas@sivest.co.za | **W** www.sivest.co.za

Engineering Consulting | Project Management | Environmental Consulting | Town & Regional Planning | Management Systems Consulting
Durban | Johannesburg | Pretoria | Pietermaritzburg | Richards Bay | Port Louis (Mauritius)

sivest_PPP

From: Microsoft Outlook
To: 'sandadej@gmail.com'
Sent: 08 April 2019 11:54 AM
Subject: Relayed: 15499 Aletta Wind Energy Facility: EA Amendment Application Notification - LO

Delivery to these recipients or groups is complete, but no delivery notification was sent by the destination server:

'sandadej@gmail.com' (sandadej@gmail.com) <mailto:sandadej@gmail.com>

Subject: 15499 Aletta Wind Energy Facility: EA Amendment Application Notification - LO

From: sivest_PPP
Sent: 08 April 2019 11:45 AM
To: 'Thulani Mthombeni'
Cc: Andrea Gibb
Subject: 15499 Aletta Wind Energy Facility: EA Amendment Application Notification - PA

Importance: High

Tracking:	Recipient	Delivery
	'Thulani Mthombeni'	
	Andrea Gibb	Delivered: 2019/04/08 11:45 AM

Dear Mr Thulani Mthombeni,

APPLICATION FOR AMENDMENT OF AN ENVIRONMENTAL AUTHORISATION (EA): PROPOSED CONSTRUCTION OF THE 140MW ALETTA WIND ENERGY FACILITY AND ASSOCIATED INFRASTRUCTURE NEAR COPPERTON, NORTHERN CAPE PROVINCE
▪ ORIGINAL DEA Reference Number: 14/12/16/3/3/2/945

The environmental authorisation (EA) issued by the Department of Environmental Affairs (DEA) on the 09th of May 2017, for the above mentioned project refer.

Biotherm Energy (Pty) Ltd, (hereafter referred to as 'Biotherm') are applying for a Part 1 Amendment of the EA (Reference: 14/12/16/3/3/2/945) for the above mentioned project to increase the authorised turbine dimensions to have a hub height of 120m and a rotor diameter of 140m. The proposed turbine dimensions are within the specifications assessed during the EIA process.

In light of the above, an application for the amendment of the EA will be submitted.

As the provincial commenting authority (Northern Cape Department of Environment and Nature Conservation (NC DENC) we would like to inform you that the application for amendment of the EA will be submitted to the Department of Environmental Affairs (DEA) in accordance with the National Environmental Management Act, 1998 (NEMA) (Act No 107 of 1998) – EIA Regulations 2014 (as amended).

Please be advised that an electronic copy of the application for an amendment of the EA will be forwarded to you once it has been submitted to the DEA.

For further information, please contact SiVEST as follows:

Hlengiwe Ntuli
PO BOX 2921, Rivonia, 2128
Tel – (011) 798 0600
Fax – (011) 803 7272
Email – hlengiwen@sivest.co.za

Kind Regards
Andrea Gibb
Senior Manager
SiVEST Environmental Division



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sivest_PPP

From: Microsoft Outlook
To: 'Thulani Mthombeni'
Sent: 08 April 2019 11:45 AM
Subject: Relayed: 15499 Aletta Wind Energy Facility: EA Amendment Application Notification - PA

Delivery to these recipients or groups is complete, but no delivery notification was sent by the destination server:

'Thulani Mthombeni' (TMthombeni@ncpg.gov.za) <mailto:TMthombeni@ncpg.gov.za>

Subject: 15499 Aletta Wind Energy Facility: EA Amendment Application Notification - PA

sivest_PPP

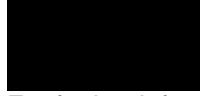
From: sivest_PPP
Sent: 12 April 2019 09:32 AM
To: 'sandadej@gmail.com'
Cc: Andrea Gibb
Subject: RE: 15499 Aletta Wind Energy Facility: EA Amendment Application Notification - LO

Importance: High

Tracking:	Recipient	Delivery
	'sandadej@gmail.com' Andrea Gibb	Delivered: 2019/04/12 09:32 AM

Dear Mrs Sandra De Jager,

Please find attached copy of the EA Amendment Application form that was delivered to the DEA on the 11th April 2019.



For further information, please contact SiVEST as follows:

Hlengiwe Ntuli
PO BOX 2921, Rivonia, 2128
Tel – (011) 798 0600
Fax – (011) 803 7272
Email – hlengiwen@sivest.co.za

Kind Regards
Andrea Gibb
Senior Manager
SiVEST Environmental Division



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Durban | Johannesburg | Pretoria | Pietermaritzburg | Richards Bay | Port Louis (Mauritius)

From: sivest_PPP
Sent: 08 April 2019 11:54 AM
To: 'sandadej@gmail.com' <sandadej@gmail.com>
Cc: Andrea Gibb <AndreaG@sivest.co.za>
Subject: 15499 Aletta Wind Energy Facility: EA Amendment Application Notification - LO
Importance: High

Dear Mrs Sandra De Jager,

APPLICATION FOR AMENDMENT OF AN ENVIRONMENTAL AUTHORISATION (EA): PROPOSED CONSTRUCTION OF THE 140MW ALETTA WIND ENERGY FACILITY AND ASSOCIATED INFRASTRUCTURE NEAR COPPERTON, NORTHERN CAPE PROVINCE ORIGINAL
▪ **DEA Reference Number: 14/12/16/3/3/2/945**

The environmental authorisation (EA) issued by the Department of Environmental Affairs (DEA) on the 09th of May 2017, for the above mentioned project refer.

Biotherm Energy (Pty) Ltd, (hereafter referred to as 'Biotherm') are applying for a Part 1 Amendment of the EA (Reference: 14/12/16/3/3/2/945) for the above mentioned project to increase the authorised turbine dimensions to have a hub height of 120m and a rotor diameter of 140m. The proposed turbine dimensions are within the specifications assessed during the EIA process.

In light of the above, an application for the amendment of the EA will be submitted.

As an affected landowner (Portion 1 and 3 of Drielings Pan 101 and Portion 2 and the remainder of Drielings Pan 101) we would like to inform you that the application for amendment of the EA will be submitted to the Department of Environmental Affairs (DEA) in accordance with the National Environmental Management Act, 1998 (NEMA) (Act No 107 of 1998) – EIA Regulations 2014 (as amended).

Please be advised that an electronic copy of the application for an amendment of the EA will be forwarded to you once it has been submitted to the DEA.

For further information, please contact SiVEST as follows:

Hlengiwe Ntuli
PO BOX 2921, Rivonia, 2128
Tel – (011) 798 0600
Fax – (011) 803 7272
Email – hlengiwen@sivest.co.za

Kind Regards
Andrea Gibb

Senior Manager

SiVEST Environmental Division

<< OLE Object: Picture (Device Independent Bitmap) >>

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sivest_PPP

From: sivest_PPP
Sent: 12 April 2019 09:31 AM
To: 'Thulani Mthombeni'
Cc: Andrea Gibb
Subject: RE: 15499 Aletta Wind Energy Facility: EA Amendment Application Notification - PA

Importance: High

Tracking:	Recipient	Delivery
	'Thulani Mthombeni' Andrea Gibb	Delivered: 2019/04/12 09:31 AM

Dear Mr Thulani Mthombeni,

Please find attached copy of the EA Amendment Application form that was delivered to the DEA on the 11th April 2019.



For further information, please contact SiVEST as follows:

Hlengiwe Ntuli
PO BOX 2921, Rivonia, 2128
Tel – (011) 798 0600
Fax – (011) 803 7272
Email – hlengiwen@sivest.co.za

From: sivest_PPP
Sent: 08 April 2019 11:45 AM
To: 'Thulani Mthombeni' <TMthombeni@ncpg.gov.za>
Cc: Andrea Gibb <AndreaG@sivest.co.za>
Subject: 15499 Aletta Wind Energy Facility: EA Amendment Application Notification - PA
Importance: High

Dear Mr Thulani Mthombeni,

APPLICATION FOR AMENDMENT OF AN ENVIRONMENTAL AUTHORISATION (EA): PROPOSED CONSTRUCTION OF THE 140MW ALETTA WIND ENERGY FACILITY AND ASSOCIATED INFRASTRUCTURE NEAR COPPERTON, NORTHERN CAPE PROVINCE
▪ ORIGINAL DEA Reference Number: 14/12/16/3/3/2/945

The environmental authorisation (EA) issued by the Department of Environmental Affairs (DEA) on the 09th of May 2017, for the above mentioned project refer.

Biotherm Energy (Pty) Ltd, (hereafter referred to as 'Biotherm') are applying for a Part 1 Amendment of the EA (Reference: 14/12/16/3/3/2/945) for the above mentioned project to increase the authorised turbine dimensions to have a hub height of 120m and a rotor diameter of 140m. The proposed turbine dimensions are within the specifications assessed during the EIA process.

In light of the above, an application for the amendment of the EA will be submitted.

As the provincial commenting authority (Northern Cape Department of Environment and Nature Conservation (NC DENC) we would like to inform you that the application for amendment of the EA will be submitted to the Department of Environmental Affairs (DEA) in accordance with the National Environmental Management Act, 1998 (NEMA) (Act No 107 of 1998) – EIA Regulations 2014 (as amended).

Please be advised that an electronic copy of the application for an amendment of the EA will be forwarded to you once it has been submitted to the DEA.

For further information, please contact SiVEST as follows:

Hlengiwe Ntuli
PO BOX 2921, Rivonia, 2128
Tel – (011) 798 0600
Fax – (011) 803 7272
Email – hlengiwen@sivest.co.za

Kind Regards
Andrea Gibb
Senior Manager

SiVEST Environmental Division

<< OLE Object: Picture (Device Independent Bitmap) >>
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Appendix C7

DISTRIBUTION TO ORGANS OF STATE (OoS)

PROPOSED DEVELOPMENT OF THE ALETTA 140MW WIND ENERGY FACILITY (WEF), NEAR COPPERTON NORTHERN CAPE PROVINCE

DISTRIBUTION OF THE DRAFT EA AMENDMENT MOTIVATION REPORT TO ORGANS OF STATE FOR COMMENT

TITLE	SURNAME	NAME	POSITION	POSTAL ADDRESS	EMAIL ADDRESS
SIYATHEMBA LOCAL MUNICIPALITY					
Mr	Basson	Jakob	LED Manager	PO Box 16 PRIESKA 8940	jakob@siyathemba.gov.za
Mr	Tshikela	Olwethu	Environmental Health Practitioner	PO Box 16 PRIESKA 8940	tshikelaolwethu@gmail.com
PIXLEY KA SEME DISTRICT MUNICIPALITY					
Mr	Nkondeshe	Sonwabile	Senior Environmental Officer	Private Bag X1012 DE AAR 7000	snkondeshe@environment.gov.za
Mr	Madyo	Sindisile	LED Manager	Private Bag X1012 DE AAR 7000	excellentsolutions@live.co.za
DEPARTMENT OF ENVIRONMENTAL AFFAIRS BIODIVERSITY					
Mr	Lekota	Seoka		Private Bag X447 Pretoria 0001	slekota@environment.gov.za
Mr	Rabothata	Mmatlala		Private Bag X447 Pretoria 0001	slekotamrabothata@environment.gov.za
AGRI SA-NORTHERN CAPE					
Mr	Myburg	Henning	General Manager	PO Box 1094 KIMBERLEY 8300	henning@agrink.co.za
DEPARTMENT OF WATER AND SANITATION					
Ms	Mokhoantle	Lerato	Environmental Officer	28 Central road Beaconsfield Kimberley 8300	Mokhoantle@dws.gov.za
Mr	Mahunonyane	Moses	Director: Institutional Establishment	Private Bag X6101 KIMBERLEY 8300	MahunonyaneM@dws.gov.za
NORTHERN CAPE DEPARTMENT OF AGRICULTURE, LAND REFORM & RURAL DEVELOPMENT					
Mr	Cloete	Alexander		P.O.Box 65 Calvinia 8190	acloete@ncpg.gov.za
DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES					
<i>Northern Cape Department</i>					
Ms	Mans	Jacoline	Chief Forester	Koelenhof 306 Schroder Street UPINGTON 8800	jacolinema@daff.gov.za
<i>Provincial Department</i>					
Ms	Marubini	Mashudu	Delegate of the Minister	Private Bag X120 PRETORIA 0001	MashuduM@daff.gov.co.za
Mrs	Buthelezi	Thoko	Directorate Land Use and Soil Management	Private Bag X120 PRETORIA 0001	ThokoB@daff.gov.za
DEPARTMENT OF MINERAL RESOURCES (DMR)					
Mr	Ravhogoni	Ntsundeni	Regional Manager	Private Bag x6093 KIMBERLEY 8300	Ntsundeni.Ravhogoni@dmr.gov.za
NORTHERN CAPE DEPT OF ENVIRONMENT AND NATURE CONSERVATION					
Mr	Fisher	Brian	Director Environmental Impact Management	Private Bag X86102 KIMBERLEY 8300	bfisher@ncpg.gov.za
Mr	Mthombeni	Thulani		Private Bag X86102 KIMBERLEY 8300	tmthombeni@ncpg.gov.za
NORTHERN CAPE DEPT OF SPORT, ARTS & CULTURE: Heritage Resources Unit					
Mr	Lenyibi	Patrick	Manager: Heritage Resources	Private Bag X5004 KIMBERLEY 8300	plenyibi@ncpg.gov.za
SANRAL					
Ms	Abrahams	Nicole	Environmental Coordinator	Private Bag X19 BELLVILLE 7535	abrahamsn@nra.co.za

PROPOSED DEVELOPMENT OF THE ALETTA 140MW WIND ENERGY FACILITY (WEF), NEAR COPPERTON NORTHERN CAPE PROVINCE

DISTRIBUTION OF THE DRAFT EA AMENDMENT MOTIVATION REPORT TO ORGANS OF STATE FOR COMMENT

TITLE	SURNAME	NAME	POSITION	POSTAL ADDRESS	EMAIL ADDRESS
NORTHERN CAPE DEPARTMENT OF ROADS AND PUBLIC WORKS					
Mr	Roelofse	Jaco	Director: Planning & Design	PO Box 3132 Kimberley 8300	roelofse.j@vodamail.co.za
SAHRA: HEAD OFFICE					
Ms	Higgitt	Natasha	Heritage Officer: Northern Cape	PO Box 4637 CAPE TOWN 8000	nhiggitt@sahra.org.za
ESKOM					
Mr	Geeringh	John	Chief Planner	PO Box 1091 JOHANNESBURG 2000	GeerinJH@eskom.co.za
SQUARE KILOMETRE ARRAY					
Dr	Tiplady	Adriaan	Manager: Site Categorisation	PO Box 522 SAXONWOLD 2132	atiplady@ska.ac.za
SA CIVIL AVIATION AUTHORITY (SA CAA)					
Ms	Stroh	Lizell	Obstacle Specialist	Private Bag X73 HALFWAY HOUSE 1685	strohl@caa.co.za
AIR TRAFFIC AND NAVIGATION SERVICES (ATNS)					
Ms	Morobane	Johanna	Manager: Corporate Sustainability and Environment	Private Bag X15 KEMPTON PARK 1620	JohannaM@atns.co.za
Ms	Masilela	Simphiwe	Obstacle Evaluator	Private Bag X15 KEMPTON PARK 1620	obstacles@atns.co.za SimphiweM@atns.co.za
TRANSNET FREIGHT RAIL					
Mr	Fiff	Sam	Environmental Manager: Freight Rail	PO Box 255 BLOEMFONTEIN 9300	sam.fiff@transnet.net
SENTECH					
Mr	Koegelenberg	Johan	Renewable Projects	Private Bag X06 Honeydew 2040	koegelenbergj@sentech.co.za
SARAO					
Mr	Matlhane	Selaelo	Spectrum & Telecommunication Manager		smatlhane@ska.ac.za
TELKOM					
Ms	Spammer	Candice		10 Jan Smuts Drive Pinelands CAPE TOWN 7404	SpammerC1@telkom.co.za
Ms	Peters	Ihlaam		10 Jan Smuts Drive Pinelands CAPE TOWN 7404	ihlaamp@telkom.co.za
ENDANGERED WILDLIFE TRUST					
Mr	Leeuwner	Lourens	Renewable Energy Project Manager	Private Bag X11, Modderfontein, 1609, Johannesburg	lourensl@ewt.org.za
WESSA					
Mr	Griffiths	Morgan	Environmental Governance Programme Manager	PO Box 12444, Centrahil, Port Elizabeth, 6006, South Africa	morgan.griffiths@wessa.co.za
BIRDLIFE SOUTH AFRICA					
Ms	Ralston	Samantha	Birds and Renewable Energy Manager	PO Box 515 RANDBURG 2125	energy@birdlife.org.za
Ms	Stevens	Candice	Policy Manager	PO Box 515 RANDBURG 2125	advocacy@birdlife.org.za

Your reference: 14/12/16/3/3/2/945/AM1
Our reference: 15499 - Aletta
Date: 03 June 2019

Dear Stakeholder,

APPLICATION TO AMEND AN ENVIRONMENTAL AUTHORISATION FOR THE PROPOSED DEVELOPMENT OF THE ALETTA 140MW WIND ENERGY FACILITY (WEF) NEAR COPPERTON, NORTHERN CAPE PROVINCE
▪ **DEA Ref. No.:14/12/16/3/3/2/945/AM1**

Please note that SiVEST SA (Pty) Ltd has been appointed by BioTherm Energy (Pty) Ltd (hereafter referred to as BioTherm) as the independent Environmental Assessment Practitioner (EAP) for the abovementioned project to apply for an Amendment of the Environmental Authorisation (EA) (Reference: 14/12/16/3/3/2/945/AM1).

BioTherm was issued with an EA for the proposed development of the 140MW Aletta Wind Energy Facility (WEF) and its associated infrastructure near Copperton in the Northern Cape Province on 9 May 2017 (DEA Reference 14/12/16/3/3/2/945).

The amendment to the EA is required to increase the authorised turbine dimensions to have a hub height of 120m, a rotor diameter of 140m and a generation output of 3.465MW each. The proposed turbine dimensions are within the specifications assessed during the EIA process. The application for an amendment of the EA was received by the Department of Environmental Affairs (DEA) on 11 April 2019. Following a review of the application for an amendment of the EA, the DEA concluded that the application falls within the ambit of amendments applied for in terms of Part 2 of Chapter 5 of the EIA Regulations, 2014 (as amended) and therefore a report needs to be made available to all interested and affected parties (I&APs) and relevant organs of state.

We would like to take this opportunity to inform you that, in accordance with the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) (as amended) and the Environmental Impact Assessment (EIA) Regulations, 2014 (as amended) the Draft EA Amendment Motivation Report will be available for public review as from **Monday 3 June 2019 to Friday 5 July 2019** (end of business day).

Please find herewith enclosed an electronic copy (on CD) of the Draft EA Amendment Motivation Report. We kindly request that you submit your comments to the Public Participation Office at the below details, on or before Friday the 05th of July 2019 (before end of business day).

Stephan Jacobs or Hlengiwe Ntuli

PO BOX 2921, Rivonia, 2128
Tel – (011) 798 0600
Fax – (011) 803 7272
Email – sivist_ppp@sivest.co.za

We would like to thank you in anticipation of your active and meaningful contribution to the Amendment and Public Participation process.

Kind Regards,



Andrea Gibb
Divisional Manager
SiVEST Environmental

Encl: 1 x Electronic copy (on CD) of the Draft EA Amendment Motivation Report (Incl. Appendices)



Appendix D

**PATH LOSS AND ELECTRICAL DESIGN CHANGE
EVALUATION OF ACCIONA AW125 TH100A WIND
TURBINE**



ITC SERVICES (PTY) LTD Reg 88/02032/07
 Kameeldrift East, Pretoria
 Private Bag X13 Lynn East 0039

Tel: (012) 808 1730 Int + 27 12 808 1730
 Fax (012) 808 0744 Plot 44
 Cell: 082 5559551
 E-mail: callie@itc-services.com

6556DOCUMENT NUMBER	ISSUE	SYSTEM
WP 7787/18	1.1	Renewable Energy
SUBJECT		
Path loss and electrical design change evaluation of the Acciona AW125 TH100A wind turbine for Aletta Windfarm		
KEYWORDS		
Measurements, predictions, radio telescope, receivers, renewable energies, RFI, SKA		
DISTRIBUTION		
Biotherm Energy (Pty) Ltd		
CONCLUSIONS		
The change in hub height and minor electrical differences between the AW125 TH100A and AW 140/3465 TH120 does not impact on the mitigation requirements as set out in the Path Loss and Risk Assessment Report for New Aletta Windfarm Layout Including Emission Control Plan for the AW125 TH 100A WTG (CP6778/16)		
AUTHOR	SIGNATURE	
CFH Fouche		
DATE	19 February 2019	
APPROVED	SIGNATURE	
S Joubert		
DATE	19 February 2019	

1. BACKGROUND

Since drafting the Electromagnetic Control Plan (CP 6778/16) for the Aletta Windfarm in 2016, the turbine of choice for the development has changed from the Acciona Model AW3000/125 TH100 50Hz wind turbine to Acciona Model AW 140/3465 TH120.

In order to confirm the validity of the proposed mitigation measures, the Acciona Engineering department issued a comparison between the two turbine models to confirm the electrical similarity.

The path loss calculations were repeated at a hub height of 100m and 120m to confirm the attenuation requirements and to ensure no discrepancy would arise due to location variations.

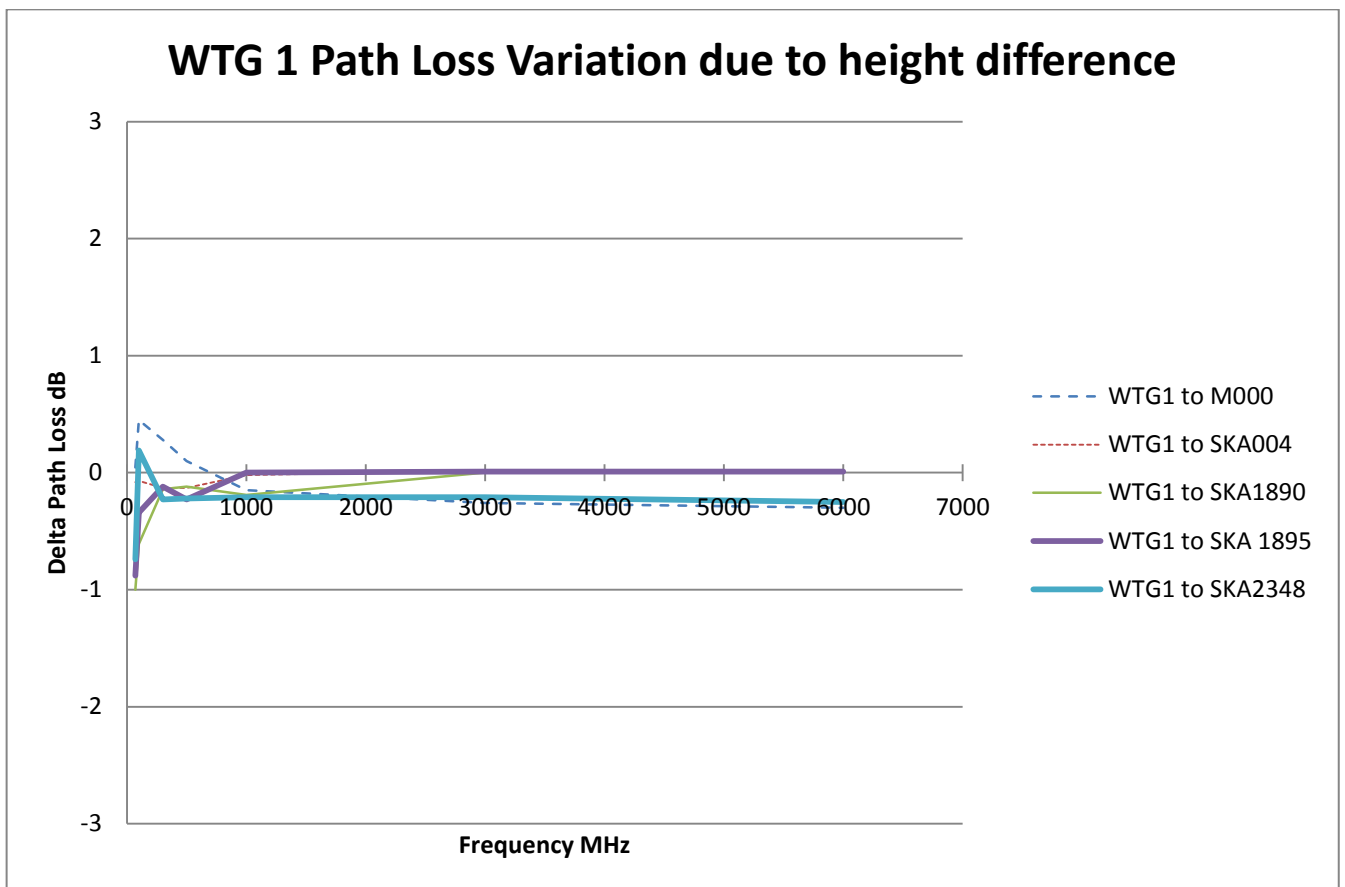
2. AIM

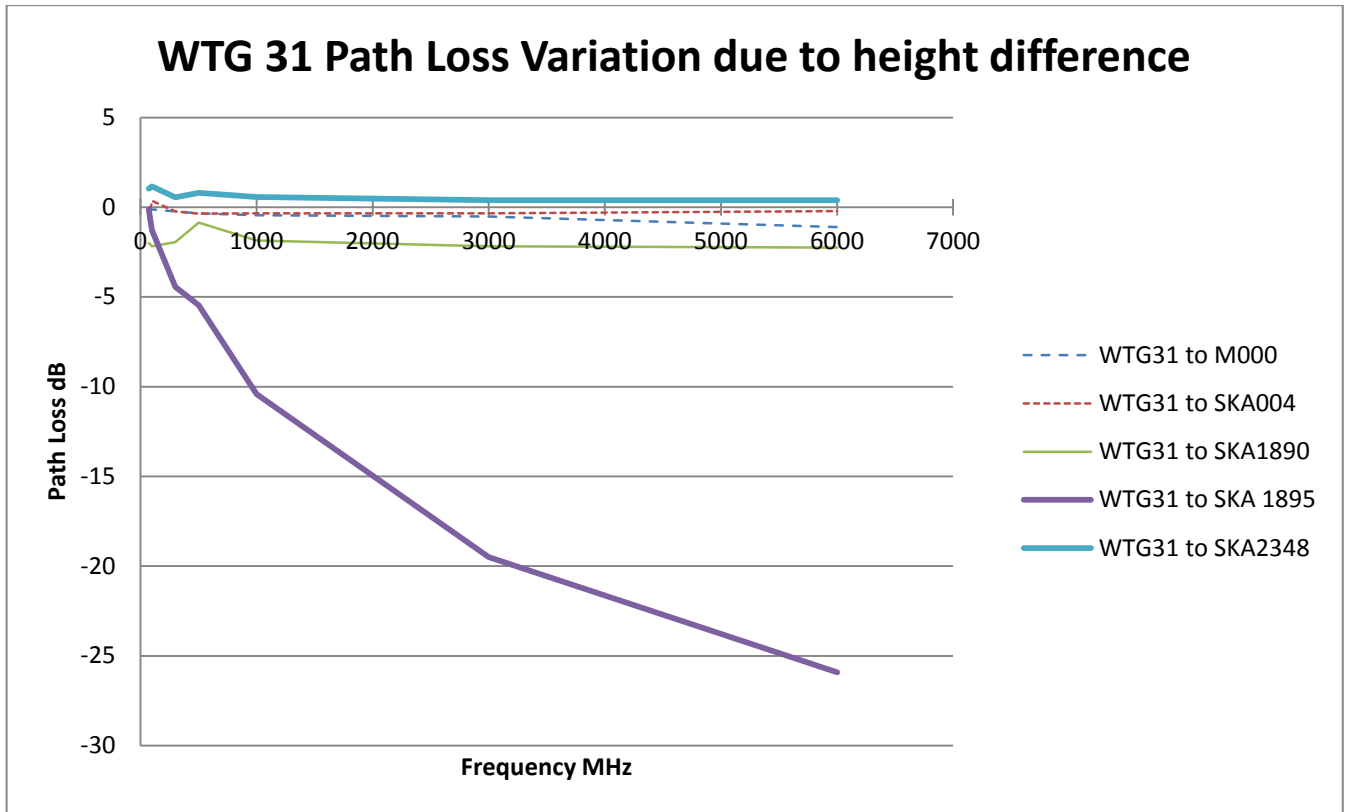
The aim of this work package is to confirm the mitigation requirements for the Aletta Windfarm when the new Acciona Model is used.

3. PATH LOSS COMPARISON

Little impact on the path loss values was found due to the increase of the hub height from 100m to 120m except in the case of WTG 31 to SKA 1895 where the 20m height difference caused a 26dB reduction in path loss.

The impact on the path loss values to the core is however less than 1.5dB.





Although there is a 26 dB reduction in path loss due to the hub height change, the initial mitigation requirements in CP 6778/16 was based on a minimum path loss of 134dB @ 6GHz whereas the reduced path loss of WTG 31 to SKA 1895 is still 136dB (2dB more than the previous minimum).

4. ELECTRICAL PARAMETER COMPARISON

The design change statement from Acciona (manufacturer) is attached as Appendix A.

5. CONCLUSION

The change in hub height and minor electrical differences between the AW125 TH100A and AW 140/3465 TH120 does not impact on the mitigation requirements as set out in the Path Loss and Risk Assessment Report for New Aletta Windfarm Layout Including Emission Control Plan for the AW125 TH 100A WTG (CP6778/16).

6. APPENDIX A: DESIGN CHANGE STATEMENT



Nordex Energy South Africa (RF) Proprietary Ltd
80 McKenzie Street, Gardens,
Cape Town, 8001

BioTherm Energy (Pty) Ltd
Building 1, Ground Floor Design Quarter District
Leslie Ave East, Fourways,
Johannesburg, 2055

Aletta Windfarm AW125/3000 TH100 & AW140/3000 TH120 & AW140/3465 TH120

Attn: Mr. Michael Barnes

Pamplona, February 19, 2019

Attending to the request of BioTherm, Nordex informs that the turbines AW125/3000 TH100, AW140/3000 TH120 and AW140/3465 TH120 have similar electrical capabilities and that the main changes among them are only structural. These three turbines share the same components that were previously identified as the main electromagnetic emitters being the main difference that the tower height of the AW140 is 20m higher than the AW125, all as more particularly described in the Annex 1.

According to Nordex experience, notwithstanding that Aletta's control plan and path loss calculation shall be updated, we don't foresee risk of increasing the electromagnetic emissions of the windfarm or that additional mitigation measures shall be developed to fulfill the SKA requirements.

Kind regards
on behalf and in the name of Nordex Energy South Africa (RF) (PTY) Ltd



Núñez Polo, Miguel
2019.02.19 15:30:48
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Miguel Núñez Polo
R&D&i Director

ANNEX 1: AW125, AW140 TECHNICAL REVIEW

		AW 125/3000 CLASS IEC Ib TH100	AW 140/3000 CLASS IEC S TH120	AW 140/3465 CLASS IEC S TH120
ROTOR	Number of blades	3	3	3
	Orientation	Upwind	Upwind	Upwind
	Diameter	125 m	140 m	140 m
	Swept area	12395 m ²	15431 m ²	15431 m ²
	Rotational direction	Clockwise	Clockwise	Clockwise
	Rotational speed	Variable - 9.2 ... 13.6 rpm	Variable - 9.6 ... 13.2 rpm	TBD
	Hub height	100 m	120 m	120 m
	Power regulation	Full span blade pitch	Full span blade pitch	Full span blade pitch
	Overspeed control	Full span blade pitch	Full span blade pitch	Full span blade pitch
	Rotor shaft tilt angle	0°	0°	0°
	Nominal tip speed	86.5 m/s	86.5 m/s	TBD
	Cone angle	0°	0°	0°
BLADES	Material	GFR	GFR	GFR
	Total length	61.2 m	66.7 m	66.7 m
	Weight range	13600 kg ± 3% / blade	13600 kg ± 3% / blade	TBD
	Pitch	Full span	Full span	Full span
	Aerodynamic brake	Full feathering	Full feathering	Full feathering
HUB	Hub type	Cast iron	Cast iron	Cast iron
	Protection	Epoxy	Epoxy	Epoxy
PITCH SYSTEM	Pitch bearings	Double row four point contact bearing	Double row four point contact bearing	Double row four point contact bearing
	Actuation	Hydraulic	Hydraulic	Hydraulic
	Linkage	Through hydraulic cylinders	Through hydraulic cylinders	Through hydraulic cylinders
	Fail-safes	Accumulators on hub	Accumulators on hub	Accumulators on hub
DRIVE TRAIN	Gearbox	3 stages, 2 planetary / 1 parallel	3 stages, 2 planetary / 1 parallel	3 stages, 2 planetary / 1 parallel
	Gearbox nominal power	3300 kW	3300 kW	3613kW
	Gearbox ratio	1:103 (50 Hz) / 1:100 (60 Hz)	1:103 (50 Hz) / 1:112:4 (60 Hz)	TBD
	Input speed	Variable - 9.2 ... 13.6 rpm	Variable - 9.6 ... 13.2 rpm	TBD
	Output speed	Variable - 775 - 1300 rpm (50 Hz) Variable - 820 ... 1560 rpm (60 Hz)	Variable - 680 ... 1365 rpm (50 Hz) Variable - 816 ... 1638 rpm (60 Hz)	TBD TBD
	Lubrication	Pressure and splash with oil cooler / oil filter	Pressure and splash with oil cooler / oil filter	Pressure and splash with oil cooler / oil filter
ROTOR SHAFT	Type	Forged hollow shaft	Forged hollow shaft	Forged hollow shaft
	Supporting	2 bearings	2 bearings	2 bearings
DRIVETRAIN BEARINGS	Type	Double spherical roller bearings	Double spherical roller bearings	Double spherical roller bearings
PARKING BRAKE	Type	Single disk	Single disk	Single disk
	Location	High speed shaft	High speed shaft	High speed shaft
YAW SYSTEM	Type	Double row four point contact bearing	Double row four point contact bearing	Double row four point contact bearing
	Steering gear	external	external	external
	Steering gear / yaw drive pinion ratio	11.2:1	11.2:1	11.2:1
	Braking system	Hydraulic Callipers	Hydraulic Callipers	Hydraulic Callipers
	Yaw drive system	Electrical motor/gears	Electrical motor/gears	Electrical motor/gears
YAW GEARS AND MOTORS	Type	Planetary 4-5 stages	Planetary 4-5 stages	Planetary 4-5 stages
	Ratio	1:1430	1:1430	1:1430
	Yaw rate	0.29 rpm	0.29 rpm @ 50 Hz / 0.11 rpm @ 60 Hz	0.29 rpm @ 50 Hz / 0.11 rpm @ 60 Hz
	Motor types	Asynchronous 4 poles	Asynchronous 4 poles	Asynchronous 4 poles
	Voltage / Frequency	230/400 V - 50-60 Hz.	230/400 V - 50-60 Hz.	230/400 V - 50-60 Hz.
	Power rating / Motor speed	2.2 kW 775 - 1300 rpm (50 Hz) 820 - 1560 rpm (60 Hz)	2.5 kW / 1450 rpm @ 50 Hz 3.5 kW / 1740 rpm @ 60 Hz	TBD TBD
HYDRAULIC POWER UNIT	Oil pump capacity	70 l/min	70 l/min	70 l/min
	Motor type	37 kW	37 kW	37 kW
	Voltage/frequency	380 V / 50-60 Hz	380 V / 50-60 Hz	380 V / 50-60 Hz
	Blade accumulator	2 x 20 l	2 x 20 l	2 x 20 l
	Principal accumulator	20 l	20 l	20 l
GENERATOR	Type	6 poles, double feeding	6 poles, double feeding	6 poles, double feeding
	Rated Power	3050 kW	3050 kW	3555 kW
	Degree of protection	IP 54	IP 54	IP 54
	Frequency	50-60 Hz	50-60 Hz	50-60 Hz
	Voltage	12000 V	12000 V	12000 V
	Power factor (short-circuited star)	0.93	0.93	0.93
	Speed range	775 - 1300 rpm (50 Hz) 820 - 1560 rpm (60 Hz)	680 - 1365 rpm (50 Hz) 816 - 1638 rpm (60 Hz)	TBD TBD
CONTROL SYSTEM	Power control	Converter Control Unit	Converter Control Unit	Converter Control Unit
	Master processor	Programmable Logical Controller	Programmable Logical Controller	Programmable Logical Controller
	Interface	Scada	Scada	Scada
	Power factor correction	Programmable by software	Programmable by software	Programmable by software
TOWER	Type	Tubular Concrete	Tubular concrete	Tubular concrete
	Tower height	98 m	118 m	118 m
	Material	Post-tensioned pre-cast Concrete	Post-tensioned pre-cast concrete	Post-tensioned pre-cast concrete
	Access to the tower	Door with lock system	Door with lock system	Door with lock system
	Access to nacelle cabin	Ladder or elevator	Ladder or elevator	Ladder or elevator
	Weight	925 T	1176 T	1176 T
	Foundation connection	One stud rack embedded in concrete	One stud rack embedded in concrete	One stud rack embedded in concrete
OPERATING DATA	Cut-in wind speed	3 m/s	3 m/s	3 m/s
	Cut-out wind speed	25 m/s	20 m/s	TBD
	Nominal power	3000 kW	3000 kW	3465 kW
	Operation temperature range	-10°C to +40°C	-10°C to +40°C	-10°C to +40°C
	Survival temperature range	-30°C to +50°C	-20°C to +50°C	-20°C to +50°C



Appendix E

MAPS



Appendix F
PROJECT TEAM CV'S

CURRICULUM VITAE

Callie Fouché

24 May 2018

CONTACT DETAILS

Office Address:

Private Bag x13
Lynn East
Pretoria
0039

Contact Number:

012 8081730 (W)
082 5559551 (Cell)

Email Address:

callie@itc-services.com

EMPLOYER DETAILS

Employer : ITC Services
Plot 44
Nieshout Street
Kameeldrift-East

Position : Technical Director

PROFILE

I was born on the 3rd of January 1964 in Coligny, matriculated in 1981 from Hoërskool Dirkie Uys in Durban. I have completed National Service during 1982 and 1983 at 2 Special Service Battalion in Zeerust. Completed National Diploma T1 and T2 at Pretoria Technicon during 1984. I joined Armscor Quality engineering in 1985 and completed T3 and T4 in the period 1986 – 1987. In my term at Armscor, I worked in the EMC division from 1986 to 1989 under the supervision of Sarel van der Merwe. I have joined PMP Electronics R&D division beginning of 1989 and ITC Services as EMC Test Technician later that same year. I was promoted to Senior Test Engineer in 1994 and was appointed as Technical Director (current position) in 1997.

EDUCATION

Qualification	Topic	Education Institute	Duration
National Higher Diploma Electrical Engineering	Electronics and electrical engineering.	Pretoria Technicon	1984 - 1987
Electrician	Electrical	Services sector education and training authority	30/07/2012

SHORT COURSE ATTENDANCE

Some courses attended that are considered relevant in this context, include:

Continuing Engineering Education and Short Courses	Presented by	Date
Quality A	Arm Scor	1985
Practical EMI Fixes	Violette Engineering	1989
RF Metrology	Technicon Pretoria	1992
EMC Management and Design for a Project	ICT	1994
EMC Testing	ERA	1995
EMC In Telecommunications	Parker EMC engineering and ITC Services	1996
Electrical Earth Design and Earth Measurements	Exoweld	1997
Lightning Protection and Earthing of Electronic Systems	Wits University	1998
EMC and Cosmic Radiation	SAAB Avionics (Sweden)	2002
Technical Assessor Course	SANAS	2014

PROFESSIONAL STATUS

Professional Body	Nature of Involvement	Duration
IEC Technical Committee for EMC	Member of the IEC TC73	1992 – present.
EMC Specialist Technical Committee	Member SANAS STC	2002 – present.
IEC Technical Committee TC106	Mirror committee chairman	2010 - present
SANAS	Technical Assessor	2014 - present

WORK EXPERIENCE

Position held and Department	Duration	Primary Responsibilities	Major Achievements
Armcor Quality Engineering Technician in Training – Electrical Division.	Jan 1984 to Dec 1985	Testing of various military equipment against electrical and environmental specifications	<ul style="list-style-type: none"> • Successful completed T1 and T2
Armcor Quality Engineering Test Technician - EMC Division	Jan 1986 to Jun 1989	EMC testing of military equipment and interpretation of results under the supervision of Sarel van der Merwe	<ul style="list-style-type: none"> • Successful completed T3 and T4
PMP Electronics R&D division Technician	June 1989 to Aug 1989	Member of development of the intelligent ammunition project team	<ul style="list-style-type: none"> •
ITC Services Test Technician	Sept 1989 to Nov 1994	Establish and expand the EMC test laboratory and perform EMC testing of military and commercial equipment, interpretation of results and consult clients on corrective actions under the supervision of Sarel van der Merwe	<ul style="list-style-type: none"> • Successful completion of several projects.
ITC Services Senior Test Engineer	Dec 1994 to Nov 1997	EMC Field Testing, Interference problem investigations. Consulting and Theoretical EMC analysis of equipment and facility performance.	<ul style="list-style-type: none"> • Investigations into plant interference and problem solving for Ashanti Goldfields in Ghana • Designed the power line filters used by SAAF in the SAAF HQ • Integrated COMSEC automated Tests system for SACSA
ITC Services Technical Director	Dec 1997 to present.	EMC Field Testing, Interference problem investigations. Consulting and Theoretical EMC analysis of equipment and facility performance. Design and compilation of EMC Control plans. Power quality investigations Shielded enclosure design	<ul style="list-style-type: none"> • Design quality plan and achieve ISO/IEC 17025 for the laboratory • Power analysis and implementation of corrective actions for Siemens and Vodacom in African countries • Power filter design and manage manufacturing for UAV program. • Responsible for EMC management for the Euro fighter helmet tracker system. (EMC Control Plan, EMC Design Reviews, EMC Test Plan) • Successful completion of Nuclear hardening of the Euro fighter helmet tracker system in Germany

			<ul style="list-style-type: none">• Designed magnetic shielding for export military vehicle project. Manage the shielding manufacturing• C-band satellite earth station interference evaluations• EMC Consultant for multinational vehicle project• Shielded enclosure design - SKA trailers• EMC Design guidance for periscope development.• Manage KAPB shielded room installation and perform SE Tests• Consultation on renewable energy projects and their impact on SKA• Perform path loss tests for windfarm projects in the Northern Cape• Perform maintenance activities on the shielded enclosures at the KAPB.• Presented a paper at the IEEE Conference 2014.• Assist with the compilation of a RF Guidance document for the Department of Labour to assist with the risk assessment of RF in the danger areas of explosives facilities.• Presented papers at several NIXT and Explosives Managers Conferences
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CURRICULUM VITAE

Andrea Gibb

Name Andrea Gibb

Profession Environmental Practitioner

Name of Firm SiVEST SA (Pty) Ltd

Present Appointment Divisional Manager
Environmental Division

Years with Firm 8 Years

Date of Birth 29 January 1985

ID Number 8501290020089

Nationality South African



Education

Matriculated 2003, Full Academic Colours, Northcliff High School, Johannesburg, South Africa

Professional Qualifications

BSc (Hons) Environmental Management (University of South Africa 2008-2010)

BSc Landscape Architecture (with distinction) (University of Pretoria 2004-2007)

Awards: Cave Klapwijk prize for highest average in all modules in the Landscape Architecture programme, ILASA book prize for the best Landscape Architecture student in third year design, Johan Barnard planting design prize for the highest distinction average in any module of plant science.

ArcGIS Desktop 1 (ESRI South Africa December 2010)

Environmental Impact Assessment (EIA) 2014 Legal Regime Workshop (Imbewu 2015)

Employment Record

Sept 2018 – to date	SiVEST SA (Pty) Ltd: Divisional Manager: Environmental Division
May 2017 – Aug 2018	SiVEST SA (Pty) Ltd: Senior Manager: Environmental Division
Aug 2010 – Apr 2017	SiVEST SA (Pty) Ltd: Environmental Practitioner
Jan 2008 – July 2010	Cave Klapwijk and Associates: Environmental Assistant and Landscape Architectural Technologist
Feb 2006 – Dec 2006	Cave Klapwijk and Associates: Part time student

Language Proficiency

LANGUAGE	SPEAK	READ	WRITE
English	Fluent	Fluent	Fluent

Key Experience

Andrea has over 10 years' work experience and is employed by SiVEST's Environmental Division as the Divisional Manager heading up the Renewable Energy Sector in the Johannesburg Office. She specialises in overseeing large scale multifaceted Environmental Impact Assessments (EIAs) and Basic Assessments (BAs) throughout South Africa, undertaken according to International Finance Corporation (IFC) standards and Equator Principles, within the renewable energy generation and electrical distribution sectors. From a business development perspective Andrea assists the division by marketing the environmental services and identifying prospective clients. She enjoys guiding, mentoring and motivating the team to find their niche and improve their input. Andrea further specialises in visual impact assessments (VIAs) and has developed a specialist team who she oversees.

Skills include:

- Project and team management
- Marketing and business development
- Financial management
- Client liaison and relationship management
- Team leadership
- Mentorship and training
- Report writing and review
- Documentation / quality control

Projects Experience

Aug 2010 – to date

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) / BASIC ASSESSMENT (BA)

- BA for the proposed construction of the Grasskoppies Substations and Power Line near Loeriesfontein, Northern Cape Province.
- BA for the proposed construction of the Ithemba Substations and Power Line near Loeriesfontein, Northern Cape Province.
- BA for the proposed construction of the Hartebeest Leegte Substations and Power Line near Loeriesfontein, Northern Cape Province.
- BA for the proposed construction of the !Xha Boom Substations and Power Line near Loeriesfontein, Northern Cape Province.
- EIA for the proposed construction of the Grasskoppies Wind Farm near Loeriesfontein, Northern Cape Province.
- EIA for the proposed construction of the Ithemba Wind Farm near Loeriesfontein, Northern Cape Province.
- EIA for the proposed construction of the Hartebeest Leegte Wind Farm near Loeriesfontein, Northern Cape Province.
- EIA for the proposed construction of the !Xha Boom Wind Farm near Loeriesfontein, Northern Cape Province.
- Application for an Amendment of the Environmental Authorisation (EA) for the proposed construction of the Droogfontein II PV Plant near Kimberley, Northern Cape Province.
- Amendment and Resubmission of the FBAR for the Eskom Longdown Substation and Vyeboom 66kV Turn-in Power Lines near Villiersdorp, Western Cape Province.
- BA for the proposed construction of the Leeuwbosch Power Plant near Leeudoringstad, North West Province.

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- BA for the proposed construction of the Wildebeestkuil Power Plant near Leeudoringstad, North West Province.
 - EIA for the proposed development of the Tlisitseng 1 and 2 75MW Solar Photovoltaic (PV) Energy Facilities near Lichtenburg, North West Province.
 - EIAs for the proposed development of the Sendawo 1, 2, and 3 75MW Solar PV Energy Facilities near Vryburg, North West Province.
 - EIA for the proposed construction of the Sendawo Common Collector Substation and power line near Vryburg, North West Province.
 - EIA for the proposed construction of the Aletta 140MW Wind Energy Facility near Copperton, Northern Cape Province.
 - Application for an Amendment of the Environmental Authorisation (EA) for the proposed construction of the 100MW Limestone Solar Thermal Power Project near Danielskuil, Northern Cape Province.
 - Applications for the Amendment of the EAs for the proposed construction of three 75MW solar PV facilities near Prieska, Northern Cape Province.
 - Applications for the Amendment of the EAs for the proposed construction of the 75MW Arriesfontein and Wilger Solar Power Plants near Danielskuil, Northern Cape Province.
 - Completion and submission of the final EIA report for the proposed Rooipunt PV Solar Power Park Phase 1 and proposed Rooipunt PV Solar Power Park Phase 2 near Upington, Northern Cape Province.
 - EIAs for the proposed construction of the Helena 1, 2 and 3 75MW Solar PV Energy Facilities near Copperton, Northern Cape Province.
 - EIA for the proposed construction of the Nokukhanya 75MW Solar PV Power Plant near Dennilton, Limpopo Province.
 - EIA for the proposed development of the Dwarsrug Wind Farm near Loeriesfontein, Northern Cape Province.
 - BA for the proposed construction of two 132kV power lines and associated infrastructure from the Redstone Solar Thermal Power Project site to the Olien MTS near Lime Acres, Northern Cape Province.
 - BA for the proposed construction of two 132kV power lines and associated infrastructure from Silverstreams DS to the Olien MTS near Lime Acres, Northern Cape Province.
 - BA for the proposed Construction of the SSS1 5MW Solar PV Plant on the Western Part of Portion 6 (Portion of Portion 5) of Farm Spes Bona 2355 near Bloemfontein, Free State Province.
 - BA for the proposed Construction of the SSS2 5MW Solar PV Plant on the Eastern Part of Portion 6 (Portion of Portion 5) of Farm Spes Bona 2355 near Bloemfontein, Free State Province.
 - BA for the proposed Mookodi Integration Phase 2: Proposed Construction of a 132kV power line from the proposed Bophirima Substation to the existing Schweizer-Reneke Substation, North West Province.
 - BA for the proposed Mookodi Integration Phase 2: Proposed Construction of a 132kV power line from the Mookodi Substation to the existing Magopela Substation, North West Province.
 - BA for the proposed Mookodi Integration Phase 2: Proposed Construction of the Mookodi - Ganyesa 132kV power line, proposed Ganyesa Substation and Havelock LILO, North West Province.
 - Amendment of the Final Environmental Impact Report for the Proposed Mookodi 1 Integration Project near Vryburg, North West Province.
 - BA for the proposed 132kV power line and associated infrastructure for the proposed Redstone Solar Thermal Energy Plant near Lime Acres, Northern Cape Province.
 - BA for the proposed construction of a 132kV power line and substation associated with the 75MW PV Plant on the Farm Droogfontein (PV 3) in Kimberley, Northern Cape Province.
 - BA for the proposed establishment of a Learning and Development Retreat and an Executive Staff and Client Lodge at Mogale's Gate, Gauteng Province.
 - Application for an Amendment of the EA to increase the output of the proposed 40MW PV Facility on the farm Mierdam to 75MW, Northern Cape Province.

- BA for the proposed construction of a power line and substation near Postmasburg, Northern Cape Province.
- BA for the proposed West Rand Strengthening Project – 400kV double circuit power line and substation extension in the West Rand, Gauteng.
- EIA for the proposed construction of a wind farm and PV plant near Prieska, Northern Cape Province.
- Public Participation assistance as part of the EIA for the proposed Thyspunt Transmission Lines Integration Project – EIA for the proposed construction of 5 x 400kV transmission power lines between Thyspunt to Port Elizabeth, Eastern Cape Province.
- EIA assistance for the proposed construction of three Solar Power Plants in the Northern Cape Province.
- Public Participation as part of the EIA for the proposed Delareyville Kopela Power Line and Substation, North West Province.
- Public Participation as part of the EIA for the Middelburg Water Reclamation Project, Mpumalanga Province.

VISUAL IMPACT ASSESSMENT (VIA)

- VIA for the proposed construction of the Mlonzi Golf Estate and Hotel Development, Eastern Cape Province.
- VIA for the proposed Tinley Manor South Banks Beach Enhancement Solution, KwaZulu-Natal Province.
- VIA for the proposed construction of the Grasskoppies Wind Farm near Loeriesfontein, Northern Cape Province.
- VIA for the proposed construction of the Ithemba Wind Farm near Loeriesfontein, Northern Cape Province.
- VIA for the proposed construction of the Hartebeest Leegte Wind Farm near Loeriesfontein, Northern Cape Province.
- VIA for the proposed construction of the !Xha Boom Wind Farm near Loeriesfontein, Northern Cape Province.
- VIA for the proposed Phezukomoya Wind Energy Facility near Noupoot, Northern Cape Province.
- VIA for the proposed San Kraal Wind Energy Facility near Noupoot, Northern Cape Province
- VIA for the proposed Assagay Valley Mixed Use Development, KwaZulu-Natal Province.
- VIA for the proposed Kassier Road North Mixed Use Development, KwaZulu-Natal Province.
- VIA for the proposed construction of a power line and associated infrastructure for the proposed Kalkaar Solar Thermal Power Plant near Kimberley, Free State and Northern Cape Provinces.
- VIA (Scoping Phase) for the proposed construction of a 3000MW Wind Farm and associated infrastructure near Richmond, Northern Cape Province.
- VIA for the proposed construction of the Aletta 140MW Wind Energy Facility near Copperton, Northern Cape Province.
- VIA for the proposed construction of a power line and associated infrastructure for the proposed Rooipunt Solar Thermal Power Plant near Upington, Northern Cape Province.
- VIAs (Impact Phase) for the proposed construction of the Sendawo 1, 2 and 3 solar PV energy facilities near Vryburg, North West Province.
- VIA (Impact Phase) for the proposed construction of the Sendawo substation and associated power line near Vryburg, North West Province.
- VIAs (Impact Phase) for the proposed construction of the Tlisitseng 1 and 2 solar PV energy facilities near Lichtenburg, North West Province.
- VIA for the proposed construction of the Tlisitseng substation and associated 132kV power line near Lichtenburg, North West Province.
- VIA (Scoping Phase) for the proposed construction of the Sendawo substation and associated power line near Vryburg, North West Province.
- VIA (Scoping Phase) for the proposed construction of the Sendawo 1, 2 and 3 solar PV energy facilities near Vryburg, North West Province.

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- VIA (Scoping Phase) for the proposed construction of the Tlisitseng 1 and 2 solar PV energy facilities near Lichtenburg, North West Province.
 - Visual recommendations for Phase 1 of the proposed Renishaw Estate Mixed Use Development, KwaZulu-Natal Province.
 - VIA for the proposed Tinley Manor South Banks Development, KwaZulu-Natal Province.
 - VIAs (Impact Phase) for the proposed construction of the Helena 1, 2 and 3 75MW Solar PV Energy Facilities near Copperton, Northern Cape Province.
 - VIA (Scoping Phase) for the proposed construction of the Helena 1, 2 and 3 75MW Solar PV Energy Facilities near Copperton, Northern Cape Province.
 - Visual Due Diligence Report for the possible rapid rail extensions to the Gauteng network, Gauteng Province.
 - Visual Status Quo and Constraints Report for the possible rapid rail extensions to the Gauteng network, Gauteng Province.
 - VIA for the proposed agricultural components of the Integrated Sugar Project in Nsoko, Swaziland.
 - VIA for the proposed Tweespruit to Welroux power lines and substation, Free State Province.
 - VIA for the proposed construction of the Nokukhanya 75MW Solar PV Power Plant near Dennilton, Limpopo Province.
 - VIA (Impact Phase) for the proposed development of the Dwarsrug Wind Farm near Loeriesfontein, Northern Cape Province.
 - VIA for the proposed amendment to the authorised power line route from Hera Substation to Westgate Substation, Gauteng Province.
 - VIA (Impact Phase) for the Eastside Junction Mixed Use Development near Delmas, Mpumalanga Province.
 - VIA for the proposed construction of two 132kV power lines and associated infrastructure from the Redstone Solar Thermal Power Project site to the Olien MTS near Lime Acres, Northern Cape Province.
 - VIA for the proposed construction of two 132kV power lines and associated infrastructure from Silverstreams DS to the Olien MTS near Lime Acres, Northern Cape Province.
 - VIA (Scoping Phase) for the proposed development of the Dwarsrug Wind Farm near Loeriesfontein, Northern Cape Province.
 - VIA for the proposed Rorqual Estate Development near Park Rynie on the South Coast of KwaZulu Natal.
 - VIA (Scoping Phase) for the proposed construction of a Coal-fired Power Station, Coal Mine and Associated Infrastructure near Colenso, KwaZulu-Natal Province.
 - VIA for the proposed Mookodi Integration Phase 2: Proposed Construction of the Mookodi - Ganyesa 132kV power line, proposed Ganyesa Substation and Havelock LILO, North West Province.
 - VIA for the proposed construction of the Duma transmission substation and associated Eskom power lines, KwaZulu-Natal Province.
 - VIA for the proposed construction of the Madlanzini transmission substation and associated Eskom power lines, Mpumalanga Province.
 - VIA for the proposed rebuild of the 88kV power line from Normandie substation to Hlungwane substation, Mpumalanga and KwaZulu-Natal Provinces.
 - VIA for the proposed construction of the Nzalo transmission substation and associated Eskom power lines, KwaZulu-Natal Province.
 - VIA for the proposed construction of the Sheepmoor traction substation with two 20MVA transformer bays and a new associated 88kV turn-in power line, Mpumalanga Province.
 - VIA for the proposed rebuild of the 88kV power line from Uitkoms substation to Antra T-off, Mpumalanga Province.
 - VIA for the proposed rebuild of the 88kV power line from Umfolozi substation to Eqwasha traction substation including an 88kV turn-in power line to Dabula traction substation, Kwazulu-Natal Province.
 - VIA for the proposed construction of the new 88/25kV Vryheid traction substation with two 20MVA transforma bays and a new associated 88kV turn-in power line, KwaZulu-Natal Province.

- VIA for the proposed construction of a 132kV power line and substation associated with the 75MW PV Plant on the Farm Droogfontein (PV 3) in Kimberley, Northern Cape Province.
- VIA (Impact Phase) for the proposed Construction of a Solar PV Power Plant near De Aar, Northern Cape Province.
- VIA for the (Impact Phase) proposed Construction of the Renosterberg Wind Farm near De Aar, Northern Cape Province.
- VIA for the (Impact Phase) proposed Construction of the Renosterberg Solar PV Power Plant near De Aar, Northern Cape Province.
- VIA for the proposed construction of a 132kV power line for the Redstone Thermal Energy Plant near Lime Acres, Northern Cape Province.
- VIA for the proposed Mookodi Integration phase 2 132kV power lines and Ganyesa substation near Vryburg, North West Province.
- VIA for the proposed 132kV power lines associated with the PV Plants on Droogfontein Farm near Kimberley, Northern Cape Province.
- VIA (Scoping phase) for the Eastside Junction Mixed Use Development near Delmas, Mpumalanga Province.
- VIA for the proposed development of a learning and development retreat and an executive and staff lodge at Mogale's Gate, Gauteng Province.
- VIA for the proposed construction of a substation and 88kV power line between Heilbron (via Frankfort) and Villiers, Free State Province.
- Visual Status Quo Assessment for the Moloto Development Corridor Feasibility Study in the Gauteng Province, Limpopo Province and Mpumalanga Province.
- VIA the West Rand Strengthening Project – 400kV double circuit power line and substation extension in the West Rand, Gauteng.
- VIA for the proposed construction of a wind farm and solar photovoltaic plant near Loeriesfontein, Northern Cape Province.
- Visual sensitivity mapping exercise for the proposed Mogale's Gate Expansion, Gauteng.
- VIA (Scoping Phase) for the proposed Renosterberg Solar PV Power Plant and Wind Farm near De Aar, Northern Cape Province.
- Scoping level VIAs for the proposed construction of three Solar Power Plants in the Northern Cape Province.
- VIAs for the Spoornet Coallink Powerline Projects in KZN and Mpumalanga.
- Visual Constraints Analysis for the proposed establishment of four Wind Farms in the Eastern and Northern Cape Province.
- VIA (Scoping Phase) for the proposed development of a solar energy facility in De Aar, Northern Cape.
- VIA (Scoping Phase) for the proposed development of a solar energy facility in Kimberley, Northern Cape.

STRATEGIC ENVIRONMENTAL PLANNING

- Assistance with the Draft Environmental Management Framework for the Mogale City Local Municipality, Gauteng Province.
- Sensitivity Negative Mapping Analysis for the proposed Mogale's Gate Development, Gauteng Province.

Name	Stephan Hendrik Jacobs
Profession	Environmentalist
Name of Firm	SiVEST SA (Pty) Ltd
Present Appointment	Environmental Consultant
Years with Firm	3 years
Date of Birth	28 May 1991
ID Number	9105285065080
Nationality	South African



Education

Pretoria Boys High, Pretoria, South Africa, Matriculated 2009.

Professional Qualification

- B.Sc. Hons Environmental Management and Analysis, (Post Graduate) University Of Pretoria Honours (2014).
- B.Sc. Environmental Sciences (Undergraduate) University Of Pretoria (2012-2013)

Employment Record

May 2015 – current	SiVEST SA (Pty) Ltd – Graduate Environmental Consultant
Nov 2014 – Feb 2015	Sodwana Bay Fishing Charters – Assistant Manager
Oct 2014 – Mar 2015	Ufudu Turtle Tours – Tour Guide

Language Proficiency

LANGUAGE	SPEAK	READ	WRITE
English	Excellent	Excellent	Excellent
Afrikaans	Good	Good	Good

Key Experience

Stephan joined SiVEST in May 2015 and holds the position of Environmental Consultant in the Johannesburg office.

Stephan specialises in the field of Environmental Management and has been extensively involved in Environmental Impact Assessment (EIA) and Basic Assessment (BA) processes for various types of projects / developments. As such, Stephan has vast experience with regards to the compilation of Environmental Impact Assessments (EIAs) and Basic Assessments (BAs). Additionally, Stephan has extensive experience in undertaking public participation and stakeholder engagement processes. Stephan has also assisted extensively in the undertaking of field work and the compilation of reports for specialist studies such as Surface Water and Visual Impact Assessments. Stephan also has experience in Environmental Compliance and Auditing and has acted as an Environmental Control Officer (ECO) for several infrastructure projects.

Stephan has been educated and achieved his degrees (B.Sc. and B.Sc. Hons) at the University of Pretoria in Environmental Sciences (Environmental Management & Analysis).

Skills include:

- Strong computer skills (Word, excel, PowerPoint etc.);
- Strong Proposal and report writing skills;
- Report compilation skills for Environmental Impact Assessments (EIAs) and Basic Assessments (BAs);
- Report compilation skills for Environmental Management Plans/Programmes (EMPr);
- Compilation and conducting Visual Impact Assessments;
- Assisting in Surface Water / Wetland Delineations and Assessments.

Key experience includes:

- Environmental Impact Assessment (EIA) of small, medium and large-scale infrastructure projects,
- Basic Assessment (BA), of small, medium and large-scale infrastructure projects,
- Environmental Management Plans (EMPr), of small, medium and large-scale infrastructure projects,
- Undertaking of Public Participation and Stakeholder Engagement Processes
- Proposal and tender compilation,
- Environmental Compliance and Auditing (ECO);
- Various site inspections, and
- Visual Impact Assessments (Field work and report compilation).

Projects Experience

Stephan is responsible for the following activities: report writing, proposal writing, assisting in specialist surface water delineation and functional assessments, assisting in visual impact assessments and environmental compliance and auditing procedures. Current and completed projects / activities are outlined in detail below:

- Environmental Control Officer (ECO) for the Polokwane Integrated Rapid Public Transport System (IRPTS), Limpopo Province.
- Basic Assessment (BA) for the construction of a Non-Motorised Transport (NMT) Training and Recreational Park adjacent to the Peter Mokaba Stadium in Polokwane, Limpopo Province.
- Basic Assessment (BA) for the Proposed Expansion of the Tissue Manufacturing Capacity at the Twinsaver Kliprivier Operations Base, Gauteng Province.
- Basic Assessment (BA) for the Proposed Construction of a New SPAR Distribution Centre on Erf 1092 at Redhouse in Port Elizabeth, Eastern Cape Province.
- Basic Assessment (BA) for the Proposed Construction of the Graskoppies Substation, Linking Substation and Associated 132kV Power Line near Loeriesfontein, Northern Cape Province.
- Basic Assessment (BA) for the Proposed Construction of the Hartebeest Leegte Substation, Linking Substation and Associated 132kV Power Line near Loeriesfontein, Northern Cape Province.
- Basic Assessment (BA) for the Proposed Construction of the Ithemba Substation, Linking Substation and Associated 132kV Power Line near Loeriesfontein, Northern Cape Province.
- Basic Assessment (BA) for the Proposed Construction of the !Xha Boom Substation, Linking Substation and Associated 132kV Power Line near Loeriesfontein, Northern Cape Province
- Environmental Impact Assessment (EIA) for the Proposed Construction of the Graskoppies Wind Farm near Loeriesfontein, Northern Cape Province.

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- Environmental Impact Assessment (EIA) for the Proposed Construction of the Hartebeest Leegte Wind Farm near Loeriefontein, Northern Cape Province.
 - Environmental Impact Assessment (EIA) for the Proposed Construction of the Ithemba Wind Farm near Loeriefontein, Northern Cape Province.
 - Environmental Impact Assessment (EIA) for the Proposed Construction of the !Xha Boom Wind Farm near Loeriefontein, Northern Cape Province.
 - Environmental Control Officer (ECO) for Phase 1 and Phase 2 of the Newmarket Retail Development, Gauteng Province.
 - Environmental Control Officer (ECO) for the proposed NuPay Office Block development at the Newmarket Retail Development, Gauteng Province.
 - Environmental Control Officer (ECO) for the proposed Construction of the Decathlon Building at the Newmarket Retail Development, Gauteng Province.
 - Environmental Control Officer (ECO) for the External Road Upgrades at the Newmarket Retail Development, Gauteng Province.
 - Environmental Review of the Xakwa Coal Operations, adjacent to the proposed Eastside Junction Development.
 - Environmental Due Diligence for the Woodlands and Harrowdene Office Parks in Woodmead, Gauteng Province.
 - Visual Impact Assessment for the Helena Solar PV Plant, Northern Cape Province.
 - Visual Impact Assessment for the Nsoko Msele Integrated Sugar Project, Swaziland.
 - Visual Impact Assessments for the proposed construction of the Sendawo Solar 1, Sendawo Solar 2 and Sendawo Solar 3 Photovoltaic (PV) Energy Facilities near Vryburg, North West Province.
 - Visual Impact Assessments for the proposed construction of the Sendawo Substation and Associated 400kV Power Line near Vryburg, North West Province.
 - Visual Impact Assessments for the proposed construction of the Tlisitseng Solar 1 and Tlisitseng Solar 2 Photovoltaic (PV) Energy Facilities near Lichtenburg, North West Province.
 - Visual Impact Assessment for the proposed construction of the Tlisitseng 1 132kV Substation and associated 132kV Power Line near Lichtenburg, North West Province.
 - Visual Impact Assessment for the proposed construction of the Tlisitseng 2 132kV Substation and associated 132kV Power Line near Lichtenburg, North West Province.
 - Visual Impact Assessment for the proposed construction of the 3000MW PhilCo Green Energy Wind Farm and Associated Infrastructure near Richmond, Northern Cape Province.
 - Visual Impact Assessment for the proposed construction of the Aletta 140MW Wind Energy Facility near Copperton, Northern Cape Province.
 - Visual Impact Assessment for the proposed construction of the Aletta 132kV Substation and associated 132kV Power Line near Copperton, Northern Cape Province.

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- Visual Impact Assessment for the proposed construction of the Eureka 140MW Wind Energy Facility and associated Infrastructure near Copperton, Northern Cape Province.
 - Visual Impact Assessment for the proposed construction of the Eureka 400kV Substation and 400kV Power Line near Copperton, Northern Cape Province.
 - Visual Impact Assessment for the Proposed Construction of the Graskoppies Wind Farm near Loeriesfontein, Northern Cape Province.
 - Basic Visual Impact Assessment for the Proposed Construction of the Graskoppies Substation, Linking Substation and Associated 132kV Power Line near Loeriesfontein, Northern Cape Province.
 - Visual Impact Assessment for the Proposed Construction of the Hartebeest Leegte Wind Farm near Loeriesfontein, Northern Cape Province.
 - Basic Visual Impact Assessment for the Proposed Construction of the Hartebeest Leegte Substation, Linking Substation and Associated 132kV Power Line near Loeriesfontein, Northern Cape Province.
 - Visual Impact Assessment for the Proposed Construction of the Ithemba Wind Farm near Loeriesfontein, Northern Cape Province.
 - Basic Visual Impact Assessment for the Proposed Construction of the Ithemba Substation, Linking Substation and Associated 132kV Power Line near Loeriesfontein, Northern Cape Province.
 - Visual Impact Assessment for the Proposed Construction of the !Xha Boom Wind Farm near Loeriesfontein, Northern Cape Province.
 - Basic Visual Impact Assessment for the Proposed Construction of the !Xha Boom Substation, Linking Substation and Associated 132kV Power Line near Loeriesfontein, Northern Cape Province.
 - Visual Impact Assessment for the Proposed Construction of the 315MW Phezukomoya Wind Energy Facility near Noupoot, Northern Cape Province.
 - Visual Impact Assessment for the Proposed Construction of the 390MW Sankraal Wind Energy Facility near Noupoot, Northern Cape Province.
 - Visual Impact Assessment for the proposed development of the Phase 1 Kuruman Wind Energy Facility, Kuruman, Northern Cape Province
 - Visual Impact Assessment for the proposed development of the Phase 2 Kuruman Wind Energy Facility, Kuruman, Northern Cape Province
 - Basic Visual Impact Assessment for the proposed development of Supporting Electrical Infrastructure to the Phase 1 and Phase 2 Kuruman Wind Energy Facilities, Kuruman, Northern Cape Province
 - Visual Impact Assessment for the Proposed Tinley Manor South Banks Beach Enhancement Solution, KwaZulu-Natal Province.
 - Visual Impact Assessment for the proposed Mlonzi Hotel and Golf Estate Development, Near Lusikisiki, Eastern Cape Province

- Visual Impact Assessment for the Proposed Assagay Valley Development, KwaZulu-Natal Province.
- Visual Impact Assessment for the Proposed Kassier Road North Development, KwaZulu-Natal Province.
- Basic Visual Impact Assessment for the proposed construction of up to a 132kV Power Line and Associated Infrastructure for the Rooipunt Solar Thermal Power Plant near Upington, Northern Cape Province.
- Basic Visual Impact Assessment for the proposed construction of up to a 132kV Power Line and Associated Infrastructure for the proposed Kalkaar Solar Thermal Power Plant near Kimberly, Free State and Northern Cape Provinces.
- Surface Water Assessment for the Steve Thswete Local Municipality, Mpumalanga Province.
- Surface Water Delineation and Assessment for the proposed coal Railway Siding at the Welgedacht Marshalling Yard and associated Milner Road Upgrade near Springs, Ekurhuleni Metropolitan Municipality.

Name Kerry Lianne Schwartz

Profession GIS Specialist

Name of Firm SiVEST SA (Pty) Ltd

Present Appointment Senior GIS Consultant:
Environmental Division

Years with Firm 30 Years

Date of Birth 21 October 1960

ID No. 6010210231083

Nationality South African



Professional Qualifications

BA (Geography), University of Leeds 1982

Membership to Professional Societies

South African Geomatics Council – GTc GISc 1187

Employment Record

1994 – Present SiVEST SA (Pty) Ltd - Environmental Division: GIS/Database Specialist.
1988 - 1994 SiVEST (formerly Scott Wilson Kirkpatrick): Town Planning Technician.
1984 – 1988 Development and Services Board, Pietermaritzburg: Town Planning Technician.

Language Proficiency

LANGUAGE	SPEAK	READ	WRITE
English	Fluent	Fluent	Fluent

Key Experience

Kerry is a GIS specialist with more than 20 years' experience in the application of GIS technology in various environmental, regional planning and infrastructural projects undertaken by SiVEST.

Kerry's GIS skills have been extensively utilised in projects throughout South Africa in other Southern African Countries. These projects have involved a range of GIS work, including:

- Design, compilation and management of a demographic, socio-economic, land use, environmental and infrastructural databases.
- Collection, collation and integration of data from a variety of sources for use on specific projects.
- Manipulation and interpretation of both spatial and alphanumeric data to provide meaningful inputs for a variety of projects.
- Production of thematic maps and graphics.
- Spatial analysis and 3D modelling, including visual and landscape assessments.

Projects Experience

STRATEGIC PLANNING PROJECTS

Provision of database, analysis and GIS mapping support for the following:

- Water Plan 2025: Socio-economic, Land Use and Demographic Update – Umgeni Water (KwaZulu-Natal).
- Eskom Strategic Plan – Eskom (KwaZulu-Natal).
- Umgeni Water Quality Management Plan – Department of Water Affairs and Umgeni Water (KwaZulu-Natal).
- KwaZulu-Natal Development Perspective – Department of Economic Affairs (KwaZulu-Natal).
- Indlovu Regional Integrated Plan – Department of Local Government and Housing (KwaZulu-Natal).
- Umgeni Water and Sanitation Needs Analysis – Umgeni Water (KwaZulu-Natal).
- Metro Waste Water Management Plan – Durban Waste Water management, City of Durban (KwaZulu-Natal).
- KwaZulu-Natal Electrification Prioritisation Model – Eskom (KwaZulu-Natal).
- Umzinyathi Regional Development Plan – Umzinyathi Regional Council (KwaZulu-Natal).
- GIS driven model to assess future population growth in quaternary catchments under different growth scenarios – Umgeni Water (KwaZulu-Natal).
- Ubombo Master Water Plan Study – Mhlathuze Water Board (KwaZulu-Natal).
- Development strategy for local economic development and social reconstruction of the Germiston-Daveyton Activity Corridor – Eastern Gauteng Services Council (Gauteng).
- Structure Plan for the Cities of Beira and Dondo in Mozambique – World Bank.
- Land identification study for low cost housing in the Indlovu Region – Indlovu Regional Council (KwaZulu-Natal).
- Local Development Plan for Manzini – Manzini Town Council (Swaziland).
- Indlovu Project Prioritisation Model – Indlovu Regional Council (KwaZulu-Natal).
- Structure Plans for the Cities of Ndola and Luanshya - Ministry of Local Government and Housing (Zambia).
- Database development for socio-economic and health indicators arising from Social Impact Assessments conducted for the Lesotho Highlands Development Association – Lesotho.
- Development Plan for the adjacent towns of Kasane and Kazungula - Ministry of Local Government, Land and Housing (Botswana).
- Development Plan for the rural village of Hukuntsi - Ministry of Local Government, Land and Housing (Botswana).
- Provision of data platform for the spatial analysis of water supply, demand and affordability in Bulawayo – City of Bulawayo and NORAIID (Zimbabwe).
- Integrated Development Plans for various District and Local Municipalities including:
 - Nquthu Local Municipality (KwaZulu-Natal)
 - Newcastle Local Municipality (KwaZulu-Natal)
 - Amajuba District Municipality (KwaZulu-Natal)
 - Jozini Local Municipality (KwaZulu-Natal)
 - Umhlabuyalingana Local Municipality (KwaZulu-Natal)
- uMhlathuze Rural Development Initiative – uMhlathuze Local Municipality (KwaZulu-Natal).
- Rural roads identification – uMhlathuze Local Municipality (KwaZulu-Natal).
- Mapungubwe Tourism Initiative – Development Bank (Limpopo Province).
- Northern Cape Tourism Master Plan – Department of Economic Affairs and Tourism (Northern Cape Province).

- Spatial Development Framework for Gert Sibande District Municipality (Mpumalanga) in conjunction with more detailed spatial development frameworks for the 7 Local Municipalities in the District, namely:
 - Albert Luthuli Local Municipality
 - Msukaligwa Local Municipality
 - Mkhondo Local Municipality
 - Pixley Ka Seme Local Municipality
 - Dipaleseng Local Municipality
 - Govan Mbeki Local Municipality
 - Lekwa Local Municipality
- Land Use Management Plans/Systems (LUMS) for various Local Municipalities including:
 - Nkandla Local Municipality (KwaZulu-Natal)
 - Hlabisa Local Municipality (KwaZulu-Natal)
 - uPhongolo Local Municipality (KwaZulu-Natal)
 - uMshwathi Local Municipality
- Spatial Development Framework for uMhlathuze Local Municipality (KwaZulu-Natal).
- Spatial Development Framework for Greater Clarens – Maloti-Drakensberg Transfrontier Park (Free State).
- Land use study for the Johannesburg Inner City Summit and Charter – City of Johannesburg (Gauteng).
- Port of Richards Bay Due Diligence Investigation – Transnet
- Jozini Sustainable Development Plan – Jozini Local Municipality (KwaZulu-Natal)
- Spatial Development Framework for Umhlabuyalingana Local Municipality (KwaZulu-Natal)

BUILT INFRASTRUCTURE

- EIA and EMP for a 9km railway line and water pipeline for manganese mine – Kalagadi Manganese (Northern Cape Province).
- EIA and EMP for 5x 440kV Transmission Lines between Thyspunt (proposed nuclear power station site) and several substations in the Port Elizabeth area – Eskom (Eastern Cape Province).
- Initial Scoping for the proposed 750km multi petroleum products pipeline from Durban to Gauteng/Mpumalanga – Transnet Pipelines.
- Detailed EIA for multi petroleum products pipeline from Kendall Waltloo, and from Jameson Park to Langlaagte Tanks farms –Transnet Pipelines.
- Environmental Management Plan for copper and cobalt mine (Democratic Republic of Congo).
- EIA and Agricultural Feasibility study for Miwani Sugar Mill (Kenya).
- EIAs for Concentrated Solar and Photovoltaic power plants and associated infrastructure (Northern Cape, Free State, Limpopo and North West Province).
- EIAs for Wind Farms and associated infrastructure (Northern Cape and Western Cape).
- Basic Assessments for 132kV Distribution Lines (Free State, KwaZulu-Natal, Mpumalanga and North West Province).
- Environmental Assessment for the proposed Moloto Development Corridor (Limpopo).
- Environmental Advisory Services for the Gauteng Rapid Rail Extensions Feasibility Project.
- Environmental Screening for the Strategic Logistics and Industrial Corridor Plan for Strategic Infrastructure Project 2, Durban-Free State-Gauteng Development Region.

STATE OF THE ENVIRONMENT REPORTING

- 2008 State of the Environment Report for City of Johannesburg.

- Biodiversity Assessment – City of Johannesburg.

STRATEGIC ENVIRONMENTAL ASSESSMENTS AND ENVIRONMENTAL MANAGEMENT FRAMEWORKS

- SEA for Greater Clarens – Maloti-Drakensberg Transfrontier Park (Free State).
- SEA for the Marula Region of the Kruger National Park, SANParks.
- SEA for Thanda Private Game Reserve (KwaZulu-Natal).
- SEA for KwaDukuza Local Municipality (KwaZulu-Natal).
- EMF for proposed Renishaw Estate (KwaZulu-Natal).
- EMF for Mogale City Local Municipality, Mogale City Local Municipality (Gauteng).
- SEA for Molemole Local Municipality, Capricorn District Municipality (Limpopo).
- SEA for Blouberg Local Municipality, Capricorn District Municipality (Limpopo).

WETLAND STUDIES

- Rehabilitation Planning for the Upper Klip River and Klipspruit Catchments, City of Johannesburg (Gauteng).
- Wetland assessments for various Concentrated Solar and Photovoltaic power plants and associated infrastructure (Limpopo, Northern Cape, North West Province and Western Cape).
- Wetland assessments for Wind Farms and associated infrastructure (Northern Cape and Western Cape).
- Wetland assessments for various 132kV Distribution Lines (Free State, KwaZulu-Natal, Mpumalanga and North West Province).

VISUAL IMPACT ASSESSMENTS

- VIA for the redevelopment of the Newmarket Racecourse in Alberton (Gauteng).
- VIA for the Thyspunt Transmission Lines Integration Project (Eastern Cape).
- VIA s for various Solar Power Plants (Northern Cape, Free State, Limpopo and North West Province).
- VIAs for various Wind Farms (Northern Cape and Western Cape).
- VIAs for various 132kV Distribution Lines (Free State, KwaZulu-Natal, Mpumalanga and North West Province).
- VIA for the proposed Rorqual Estate Development near Park Rynie on the South-Coast of KwaZulu-Natal Province.
- VIA for the proposed Assagay Valley Mixed Use Development (KwaZulu-Natal).
- VIA for the proposed Kassier Road North Mixed Use Development (KwaZulu-Natal).
- VIA for the proposed Tinley Manor South Banks Development (KwaZulu-Natal).
- VIA for the proposed Tinley Manor South Banks Beach Enhancement Solution, (KwaZulu-Natal).
- VIAs for the proposed Mlonzi Hotel and Golf Estate Development (Eastern Cape Province).
- VIA for the Eastside Junction Mixed-use development near Delmas (Mpumalanga).
- Visual sensitivity mapping exercise for the proposed Mogale's Gate Lodge Expansion (Gauteng).
- Analysis phase visual assessment for the proposed Renishaw Estate Environmental Management Framework in the Scottburgh Area (KwaZulu-Natal).
- Landscape Character Assessment for Mogale City Environmental Management Framework (Gauteng).

Name Hlengiwe Innocentia Ntuli

Profession PPP Support and Administrator

Name of Firm SiVEST SA (PTY) LTD

Present Appointment Projects Secretary /
Support and PPP Administrator

Years with Firm 6 Years

Date of Birth 27 September 1989

ID Number 890927 02300 83

Nationality South African



Education

Minerva High School (2002 - 2006)
College Campus (2007-2009)

Professional Qualifications

Certificate in Contact Centre Support NQF2 (2010)
Diploma in IT Programming (2007 – 2009)

Employment Record

Jun 2012 – to date SiVEST SA (Pty) Ltd: Divisional Secretary / PPP Support and Administratore

May 2009 – May 2012 DSG (PTY) LTD: Contact Centre Agent

Language Proficiency

LANGUAGE	SPEAK	READ	WRITE
IsiZulu	Fluent	Fluent	Fluent
English	Fluent	Fluent	Fluent

Key Experience

Hlengiwe joined SiVEST in 2012 and holds the position of Projects Secretary in the Johannesburg Office of SiVEST and assists in the general day to day administration of the organisation.

She has taken on the role of public participation process administrator which includes maintaining project database, arranging and coordinating public meetings as well as following up with organs of states to get comments on projects.

Administrative Experience

Administrative responsibilities include:

- PPP Administration and use of Maximiser
- Filing electronically and paper copies
- Faxing, scanning, emailing, phoning, printing and typing
- Collecting of HR documents (timesheets, leave forms, expense, travel)
- Reception and switchboard reliever
- Document distribution

- Travel arrangements
- Purchasing and outsourcing

Project Experience

- Public Participation Process for the Proposed Construction of the Graskoppies On-site Eskom Substation, Linking Substation and Associated 132kV Power Line near Loeriesfontein, Northern Cape Province.
- Public Participation Process for the Proposed Construction of the Hartebeest Leegte On-site Eskom Substation, Linking Substation and Associated 132kV Power Line near Loeriesfontein, Northern Cape Province.
- Public Participation Process for the Proposed Construction of the Ithemba On-site Eskom Substation, Linking Substation and Associated 132kV Power Line near Loeriesfontein, Northern Cape Province.
- Public Participation Process for the Proposed Construction of the !Xha Boom On-site Eskom Substation, Linking Substation and Associated 132kV Power Line near Loeriesfontein, Northern Cape Province.
- Public Participation Process for the Proposed Refurbishment of the Swartberg Repeater Road near Ladysmith, Western Cape Province
- Basic Assessment (BA) for Proposed Refurbishment of the Swartberg Repeater Road near Ladysmith, Western Cape Province



SIVEST Environmental Division

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