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**PART 2 ENVIRONMENTAL AUTHORISATION (EA) AMENDMENT PROCESS
FOR APPROVED HIGHLANDS SOUTH WIND ENERGY FACILITY,
EASTERN CAPE PROVINCE
DEFF REF NO: 14/12/16/3/3/1/1960**

ADDENDUM TO AGRICULTURAL IMPACT ASSESSMENT

**Report by
Johann Lanz**

13 June 2021

Table of Contents

- 1 Introduction 3
- 2 Project description 3
- 3 Specialist comment 5
- 4 Conclusion 5
- Appendix 1: Specialist Curriculum Vitae 6
- Appendix 2: Details of the specialist, declaration of interest and undertaking under oath..... 7

1 INTRODUCTION

This document is an amendment to, and should be read together with, the original Agricultural Impact Assessment for Highlands Wind Energy Facilities, which was compiled in August 2018 (Lanz, 2018). This document has been compiled to inform the Part 2 Amendment in terms of Regulation 31 of the National Environmental Management Act (Act No. 107 of 1998) (NEMA) and the EIA Regulations, 2014, as amended (GN R 982) being undertaken on the authorised Highlands South WEF.

The objectives of this Specialist Amendment Letter are:

- to identify and assess all potential / new impacts of the proposed amendments on agricultural resources and agricultural production potential,
- to provide recommended mitigation measures, monitoring requirements, and rehabilitation guidelines for all identified impacts that may arise as part of the amendments.

Johann Lanz, who conducted the original August 2018 assessment, was also appointed as an independent specialist to conduct this Specialist Amendment Letter.

2 PROJECT DESCRIPTION

The Applicant proposes to amend the project description of the Environmental Authorisation (EA) as follows:

Table 1: Highlands South WEF: Proposed amendments to the project description

Component	Approved	Proposed amendment
Number of turbines	Up to 15 turbines	Up to 12 turbines
Generation capacity of the WEF	Up to 90 MW	No change
Generation capacity per turbine	Up to 6 MW	Remove generation capacity per turbine
Rotor / blade diameters:	Maximum of 150 m	Maximum of 175 m
Hub height:	Up to 135 m	Up to 180 m
Tip height:	Up to 200 m	Up to 267.5 m
Foundation Size:	up to approximately 25 m x 25 m in total and up to 5 m deep per turbine	up to approximately 35 m x 35 m in total and up to 7 m deep per turbine
Hard Stand area per turbine:	5000 m ²	6000 m ²
Battery Storage	N/A (Not currently included in	Battery Energy Storage System

	project description)	(BESS) adjacent to the substation on the temporary laydown area (with a footprint of approximately 1ha, and a height of approximately 8m).
Length of internal roads	Approximately 50 km	Approximately 45 km

In addition, the following amendments are proposed:

- Slight adjustments to the turbine positions in the preliminary approved layout are proposed, in order to minimise wake effects, as well as to avoid the proposed new blade length extending into areas identified as highly sensitive for birds and bats.
- The proposed battery storage technology, adjacent to the substation (on the authorised temporary laydown area), would have a footprint of approximately 1 ha, and a height of approximately 8 m, and would include the following:

Type of Battery:	BESS comprising Lithium-ion, Sodium-sulphur, Vanadium Redox Flow or an alternative battery technology
Life span of BESS:	Assume the same as duration of facility
Motivation for BESS:	Battery storage offers a wide range of advantages to South Africa including renewable energy time shift, renewable capacity firming, electricity supply reliability and quality improvement, voltage regulation, electricity reserve capacity improvement, transmission congestion relief, load following and time of use. In essence, this technology allows renewable energy to enter the base load and peak power generation market and therefore can compete directly with fossil fuel sources of power generation and offer a truly sustainable electricity supply option.
Footprint:	Approximately 1 ha
Connection type:	AC Connection on Grid
System Power:	Up to 870 MWh (The larger project option)
No. of batteries used:	Variable, preferably containerized systems
Inverters used:	Specific type will be chosen according to performance requirements of use cases
Height of BESS:	Approximately 8m

- Removal of Condition 17.1 (relating to the requirement of an Electromagnetic Compatibility

(EMC) Control Plan for acceptance by the SKA-SA, for inclusion in the Final EMPr).

- Removal of Condition 42, which states that “The development footprint must exclude the area identified as a potential target for the protected area expansion (NPAES)”.

According to the Applicant, the proposed amendments will not result in an increase in the size of the approved development footprint for the project. (In this regard, the final EIA Report indicated that: “Typically in wind energy facilities, the amount of surface area covered by turbines and associated infrastructure such as roads is less than 1% of the total site. The footprint of the facility is estimated at 51.4 ha”. The development footprint with the proposed amendments would be approximately 48 ha).

3 SPECIALIST COMMENT

There are no additional agricultural impacts related to any of the proposed amendments listed in Section 2 above. All impacts identified in the original Agricultural assessment (2018) are still valid for the proposed amendments. The amendments and final layout will not change the nature or significance of any of the impacts assessed in the original study. There are no agricultural advantages or disadvantages related to the amendments. The amendments do not require any changes or additions to the mitigation measures for agricultural impacts that were recommended for the authorised development, and there are therefore no required changes to the EMPr. The agricultural impacts of the amended project will therefore be identical to the impact for the development that was assessed in the original specialist assessment report.

4 CONCLUSION

The conclusion of this assessment is that the proposed amendments will result in no change to the projects agricultural impacts. Therefore, from an agricultural impact point of view, the amendments and final layout should be authorised.

APPENDIX 1: SPECIALIST CURRICULUM VITAE

Johann Lanz Curriculum Vitae

Education

M.Sc. (Environmental Geochemistry)	University of Cape Town	1996 - 1997
B.Sc. Agriculture (Soil Science, Chemistry)	University of Stellenbosch	1992 - 1995
BA (English, Environmental & Geographical Science)	University of Cape Town	1989 - 1991
Matric Exemption	Wynberg Boy's High School	1983

Professional work experience

I have been registered as a Professional Natural Scientist (Pri.Sci.Nat.) in the field of soil science since 2012 (registration number 400268/12) and am a member of the Soil Science Society of South Africa.

Soil & Agricultural Consulting Self employed 2002 - present

In the past 5 years of running my soil and agricultural consulting business, I have completed more than 120 agricultural assessments (EIAs, SEAs, EMPRs) in all 9 provinces for renewable energy, mining, urban, and agricultural developments. My regular clients include: Aurecon; CSIR; SiVEST; Arcus; SRK; Environamics; Royal Haskoning DHV; Jeffares & Green; JG Afrika; Juwi; Mainstream; Redcap; G7; Mulilo; and Tiptrans. Recent agricultural clients for soil resource evaluations and mapping include Cederberg Wines; Western Cape Department of Agriculture; Vogelfontein Citrus; De Grendel Estate; Zewenwacht Wine Estate; and Goedgedacht Olives.

In 2018 I completed a ground-breaking case study that measured the agricultural impact of existing wind farms in the Eastern Cape.

Soil Science Consultant Agricultural Consultants International (Tinie du Preez) 1998 - 2001

Responsible for providing all aspects of a soil science technical consulting service directly to clients in the wine, fruit and environmental industries all over South Africa, and in Chile, South America.

Contracting Soil Scientist De Beers Namaqualand Mines July 1997 - Jan 1998

Completed a contract to advise soil rehabilitation and re-vegetation of mined areas.

Publications

- Lanz, J. 2012. Soil health: sustaining Stellenbosch's roots. In: M Swilling, B Sebitosi & R Loots (eds). *Sustainable Stellenbosch: opening dialogues*. Stellenbosch: SunMedia.
- Lanz, J. 2010. Soil health indicators: physical and chemical. *South African Fruit Journal*, April / May 2010 issue.
- Lanz, J. 2009. Soil health constraints. *South African Fruit Journal*, August / September 2009 issue.
- Lanz, J. 2009. Soil carbon research. *AgriProbe*, Department of Agriculture.
- Lanz, J. 2005. Special Report: Soils and wine quality. *Wineland Magazine*.

I am a reviewing scientist for the *South African Journal of Plant and Soil*.



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

APPENDIX 2: DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

(For official use only)

File Reference Number:

NEAS Reference Number:

Date Received:

DEA/EIA/

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

Part 2 Environmental Authorisation (EA) Amendment Process For Approved Highlands South Wind Energy Facility, Eastern Cape Province

Kindly note the following:

- This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
- This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.environment.gov.za/documents/forms>.
- A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
- All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
- All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address: Department of Environmental Affairs, Attention: Chief Director: Integrated Environmental Authorisations, Private Bag X447, Pretoria, 0001

Physical address: Department of Environmental Affairs, Attention: Chief Director: Integrated Environmental Authorisations, Environment House, 473 Steve Biko Road, Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za

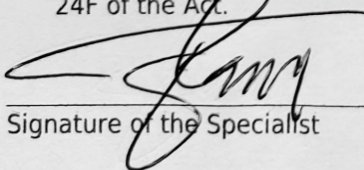
1. SPECIALIST INFORMATION

Specialist Company Name:	Johann Lanz – Soil Scientist		
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	4	Percentage Procurement recognition
			100%
Specialist name:	Johann Lanz		
Specialist Qualifications:	M.Sc. (Environmental Geochemistry)		
Professional affiliation/registration:	Registered Professional Natural Scientist Member of the Soil Science Society of South Africa		
Physical address:	1a Wolfe Street, Wynberg, Cape Town, 7800		
Postal address:	1a Wolfe Street, Wynberg, Cape Town, 7800		
Postal code:	7800	Cell:	082 927 9018
Telephone:	082 927 9018	Fax:	Who still uses a fax? I don't
E-mail:	johann@johannlanz.co.za		

2. DECLARATION BY THE SPECIALIST

I, **Johann Lanz**, declare that -

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.


Signature of the Specialist

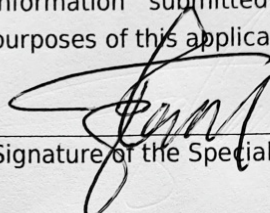
Johann Lanz - Soil Scientist (sole proprietor)

Name of Company:

Date 12/05/2021

3. UNDERTAKING UNDER OATH/ AFFIRMATION

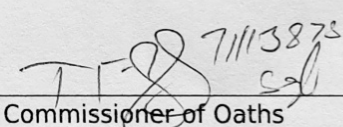
I, **Johann Lanz**, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.


Signature of the Specialist

Johann Lanz - Soil Scientist (sole proprietor)

Name of Company

Date 12/05/2021


Signature of the Commissioner of Oaths

Date 2021-05-12

