



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

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NEAS Reference: DEAT/EIA/12410/2011
DEA Reference: 12/12/20/1717
Enquiries: Ms Portia Mashego
Telephone: 012-310-3249 Fax: 012-320-7539 E-mail: PMashego@environment.gov.za

Mr H Ramsden
Terra Wind Energy Golden Valley (Pty) Ltd
PO Box 68063
BRYANSTON
2021

Fax no: 086 530 9050

PER FACSIMILE / MAIL

Dear Mr Ramsden

APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998: GN R.387: PROPOSED CONSTRUCTION OF TERRA WIND ENERGY GOLDERN VALLEY PROJECT, BLUE CRANE ROUTE LOCAL MUNICIPALITY, COOKHOUSE, EASTERN CAPE PROVINCE

With reference to the abovementioned application, please be advised that the Department has decided to accept the Final Environmental Impact Assessment Report (EIR) dated October 2010 and received by the Department on 26 October 2010 and grant authorisation. The environmental authorisation and reasons for the decision are attached herewith.

In terms of regulation 10(2) of the Environmental Impact Assessment Regulations, 2010, you are instructed to notify all registered interested and affected parties (IAPs), in writing and within twelve (12) calendar days of the date of this letter, of the Department's decision in respect of your application as well as the provisions regarding the making of appeals that are provided for in the Environmental Impact Assessment (EIA) Regulations, 2010.

Your attention is drawn to Chapter 7 of the EIA Regulations, 2010, which regulates appeal procedures. Attached please find a simplified copy of the appeals procedure to be followed. Kindly include a copy of this procedure with the letter of notification to IAPs.

A copy of the official appeal form can be obtained from: Mr TH Zwane; Senior Legal Administrator (Appeals); Tel: 012-310 3929; TZwane@environment.gov.za, at the Department.

Should any party, including the applicant, wish to appeal any aspect of the decision, they or the applicant must, *inter alia*, lodge a notice of intention to appeal with the Minister, within 20 days after the date of the decision, by means of one of the following methods:

By facsimile: 012 320-7561

or

By post: Department of Environmental Affairs
Private Bag X447
Pretoria
0001

or

By hand: Fedsure Forum Building,
2nd Floor North Tower
Corner Van der Walt and Pretorius Streets
Pretoria

If the appellant is a person other than the applicant, the appellant must within ten (10) days of lodging the notice of intention to appeal, provide a copy of the notice to the applicant and a notice indicating where and for what period the appeal submission will be available for inspection by the applicant.

If the applicant is the appellant, the applicant must also provide a copy of the notice of intention to appeal, within ten (10) days of having lodged such notice, to each person and organ of state which was a registered interested and affected party. The applicant must furthermore provide all the above-mentioned registered interested and affected parties with a notice indicating that the appeal submission will be made available on the day of lodging it with the Minister or MEC, and indicate where and for what period the appeal submission will be available for inspection by such person or organ of state.

Please include the Department, attention of the Director: Environmental Impact Evaluation, in the list of IAPs, notified through your notification letter of the decision, for record purposes.

The authorised activities shall not commence within thirty (30) days of the date of signature of the authorisation. An appeal under this section does not suspend an environmental authorisation or exemption, or any provisions or conditions attached thereto, or any directive, unless the Minister, MEC or delegated organ of state directs otherwise.

Yours sincerely



Mr Dumisani Mthembu

ACTING CHIEF DIRECTOR: ENVIRONMENTAL IMPACT MANAGEMENT

Department of Environmental Affairs

Date: 5/04/2011

CC: Dr K Whittington-Jones
Mr M Mene
Mr TH Zwane

Coastal and Environmental Services
Blue Crane Local Municipality
Appeals Authority (DEA)

Fax: 046 622 6564
Fax: 042 243 2250

APPEALS PROCEDURE IN TERMS OF CHAPTER 7 OF THE NEMA EIA REGULATIONS, 2010 AS PER GN R. 543 OF 2010 TO BE FOLLOWED BY THE APPLICANT AND INTERESTED AND AFFECTED PARTIES UPON RECEIPT OF NOTIFICATION OF AN ENVIRONMENTAL AUTHORISATION

APPLICANT	INTERESTED AND AFFECTED PARTIES (IAPs)
1. Receive notice of Environmental Authorisation (EA) from the relevant Competent Authority (CA).	1. Receive notice of Environmental Authorisation (EA) from Applicant/Consultant.
2. Within 20 days after the date of the decision, notify the relevant Appeal Authority of the intention to appeal.	2. Within 20 days of date of the decision, notify the relevant Appeal Authority of the intention to appeal.
3. The Applicant must within 10 days of having submitted the notice of intention to appeal, as indicated in 2 above, provide to each persons and organ of state who was a registered IAP- 3.1 a copy of the notice of intention to appeal; and 3.2 a notice indicating that the appeal submission will be made available on the day of lodging it with the Appeal Authority and where and for what period the appeal submission will be available for inspection by such registered IAP.	3. Appellant must within 10 days of having submitted the notice of intention to appeal, as indicated in 2 above, provide the applicant with- 3.1 a copy of the notice of intention to appeal; and 3.2 a notice indicating where and for what period the appeal submission will be available for inspection by the applicant.
4. The appeal must be submitted to the Appeal Authority within 30 days after the lapsing of the 20 days period which is allowed for the submission of the notice of intention to appeal.	4. The appeal must be submitted to the Appeal Authority within 30 days after the lapsing of the 20 days period which is allowed for the submission of the notice of intention to appeal.
5. A person or organ of state that receives notice of an appeal may submit a responding statement to the relevant Appeal Authority or designated organ of state within 30 days from the date that the appeal submission was lodged with the Appeal Authority.	5. An applicant that receives notice of an appeal may submit a responding statement to the relevant Appeal Authority or designated organ of state within 30 days from the date the appeal submission was lodged with the Appeal Authority.

NOTES:

1. **An appeal against a decision must be lodged with-**
 - a) the Minister of Water and Environmental Affairs if the decision was issued by the Director-General of the Department of Environmental Affairs (or another official) acting in his/her capacity as the delegated Competent Authority;
 - b) the Minister of Justice and Constitutional Development if the applicant is the Department of Water Affairs and the decision was issued by the Director-General of the Department of Environmental Affairs (or another official) acting in his/her capacity as the delegated Competent Authority;
 - c) the MEC if the decision was issued by the Head of Department (or another official) acting in his/her capacity as the delegated Competent Authority; or
 - d) the delegated organ of state where relevant.

2. **An appeal lodged with-**
 - a) the Minister of Water and Environmental Affairs must be submitted to the Department of Environmental Affairs;
 - b) the Minister of Justice and Constitutional Development must be submitted to the Department of Environmental Affairs;
 - c) the MEC must be submitted to the provincial department responsible for environmental affairs; or
 - d) the delegated organ of state, where relevant, must be submitted to the delegated organ of state.

3. **An appeal must be-**
 - a) on an official form obtainable or published by the relevant Appeal Authority;
 - b) accompanied by:
 - a statement setting out the grounds of appeal;
 - supporting documentation which is referred to in the appeal and is not available to the relevant Appeal Authority;
 - a statement that the appellant has complied with regulation 60 (2) or (3) has been complied with together with copies of the notices referred to in regulation 60; and
 - the prescribed appeal fee, if any.

4. **A copy of the official appeal form can be obtained from:**
Mr TH Zwane, Senior Legal Administrator (Appeals); Tel: 012 310 3929, TZwane@environment.gov.za



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Environmental Authorisation

Authorisation register number:	12/12/20/1717
NEAS Reference:	DEAT/EIA/12410/2011
Last amended:	First issue
Holder of authorisation:	Terra Wind Energy Golden Valley (Pty) Ltd
Location of activity:	EASTERN CAPE PROVINCE, Cookhouse, Blue Crane Route Local Municipality

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.

Dea
5/04/2011

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 activity specified below.

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, 2006 the Department hereby authorises –

TERRA WIND ENERGY GOLDEN VALLEY (PTY) LTD

with the following contact details –

Mr. H Ramsden

Terra Wind Energy Golden Valley (Pty) Ltd

PO Box 68063

BRYANSTON

2021

Tel: 087 808 1501

Fax: 086 530 9050

to undertake the following activities (hereafter referred to as "the activities"):

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8/04/2011*

GN R.387:

- Item 1 (l) *"The construction of facilities or infrastructure including associated structures or infrastructure, for the generation of electricity where the transmission and distribution of above ground electricity with a capacity of 120 kilovolts or more".*

GN R.386:

- Item 1(m) *"Any purpose in the one in ten year floodline of a river or stream, or within 32 metres from the bank of a river or stream where the flood line is unknown, excluding purposes associated with existing residential use, but including*

- (i) Canals;*
- (ii) Channels;*
- (iii) Bridges;*
- (iv) Dams; and*
- (v) Weirs".*

- Item 7 *"The above ground storage of a dangerous good, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30m³ at any one location or site".*

- Item 12 *"The transformation or removal of indigenous vegetation of 3ha or more or of any size where the transformation or removal would occur within a critically endangered or an endangered ecosystem listed in terms of section 52 of the National Environmental Management: Biodiversity Act, 2004 (Act No 10 of 2004)".*

- Item 16 (a) *"The transformation of undeveloped, vacant or derelict land to residential, mixed, retail, commercial, industrial or institutional use where such development does not constitute infill and where the total area to be transformed is bigger than 1 hectare."*

for the proposed wind powered electricity generation facility on eleven farms namely Olive Wood Estate, Olive Fonteyn, Quaggas Kuyl, Lushof, Kroonkop, Oude Smoor Drift, Maatjiesfontein, Leuwe Drift, Gedagtenis, Varkens Kuyl and Wagenaarsdrift, all found around the town of Cookhouse as described on page 12 of the Environmental Impact Assessment Report (EIR) dated October 2010, which falls within the jurisdiction of the *Blue Crane Route Local Municipality of the Eastern Cape Province*, hereafter referred to as "the property".

The proposed development will comprise of the following components:

- Up to 214 wind turbines with a nominal power output of 2.5MW each (mounted on 800-100m masts and nacelle; 100m diameter rotor-consisting of 3x50m blades).
- Concrete foundations to support the wind turbine towers.
- Internal access roads to each turbine –approximately 5 metres wide.
- Underground cables connecting the wind turbines.
- 132kV overhead power lines linking the site to either the Poseidon Substation and/or the overhead power lines traversing the farms.
- Possible upgrading of existing roads for the transportation of the turbines to the Wind Energy Facility.
- Up to two substations on the Wind Energy Facility to receive the generated power.
- A building to house the control instrumentation and backup power support. As well as a store room for the maintenance equipment.

The granting of this environmental authorisation is subject to the conditions set out below.

Conditions

1. Scope of authorisation

- 1.1 Authorisation of the activities is subject to the conditions contained in this authorisation, which conditions form part of the environmental authorisation and are binding on the holder of the authorisation.
- 1.2 The holder of the authorisation must be responsible for ensuring compliance with the conditions by any person acting on his or her behalf, including but not limited to, an agent, sub-contractor, employee or person rendering a service to the holder of the authorisation.

- 1.3 The activities authorised may only be carried out on the eleven farms as described on page 12 of the Environmental Impact Assessment Report (EIR) dated October 2010.
- 1.4 The recommendations and mitigation measures recorded in the EIAR dated October 2010 must be adhered to.
- 1.5 Any changes to, or deviations from, the project description set out in this 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 authorisation in terms of the regulations.
- 1.6 These activities must commence within a period of three (3) years from the date of issue. If commencement of the activities does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activities to be undertaken.
- 1.7 Commencement with one activity listed in terms of this authorization constitutes commencement of all authorized activities.
- 1.8 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.
- 1.9 Relevant legislation that must be complied with by the holder of this authorisation includes but is not limited to:
- Compliance with the requirements of Section 38(1), (3) and (7) of the National Heritage Resources Act, Act 25 of 1999, including the comments and recommendations of the relevant heritage resources authority responsible for the area in which the development is proposed. Should any heritage resources be exposed during excavation for the purpose of construction, construction in the vicinity of the finding must be stopped. A registered heritage specialist or professional paleontologist must be called to the site for inspection. Under no circumstances shall any heritage material be destroyed or removed from the site. The relevant heritage resource agency or the South African Heritage Resources Agency (SAHRA) must be informed about the findings within forty hours (48) hours.
 - Occupational Health and Safety Act, 1993 (Act No. 85 of 1993).
 - National Water Act, 1998 (Act No. 36 of 1998).

- National Forests Act, 1998 (Act No. 84 of 1998).
 - National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) and its Regulations.
 - National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) and its Regulations.
 - National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) and its Regulations.
 - Hazardous substance Act (Act No. 15 of 1973).
 - National Environmental Management: Air Quality, Act 2004 (Act No. 39 of 2004).
 - Civil Aviation Act, 2009 (Act No. 13 of 2009).
 - Should fill material be required for any purpose, the use of borrow pits must comply with the provisions of the Minerals and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) administered by the Department of Mineral Resources.
- 1.10 The holder of an environmental authorisation has the responsibility to notify the competent authority of any alienation, transfer and change of ownership rights in the property on which the activity is to take place.

2. Notification of authorisation

- 2.1 The holder of the authorisation must notify every registered interested and affected party, in writing and within 10 (ten) calendar days of the date of this environmental authorisation, of the decision to authorise the activity.
- 2.2 The notification referred to must –
- 2.2.1 specify the date on which the authorisation was issued;
 - 2.2.2 inform the interested and affected party of the appeal procedure provided for in Chapter 7 of the Environmental Impact Assessment (EIA) Regulations, 2010;
 - 2.2.3 advise the interested and affected party that a copy of the authorisation will be furnished on request; and
 - 2.2.4 give the reasons for the decision.

3. Management of the activity

- 3.1 The Environmental Management Plan (EMP) submitted as part of Application for EA must be amended and submitted to the Department for written approval prior to

commencement of the activity. The recommendations and mitigation measures recorded in the EIR dated October 2010 must be incorporated as part of the EMP. Once approved, the EMP must be implemented and adhered to.

- 3.2 Please note that this Department is compiling a guideline document on renewable energy installations. Once this guideline has been published in the Government Gazette in terms of section 24J of the National Environmental Management Act, 1989 (Act No. 107 of 1998) (NEMA), it will be expected that you adhere to the relevant sections of the guideline.

4. Monitoring

- 4.1 The applicant must appoint a suitably 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 authorisation are implemented and to ensure compliance with the provisions of the EMP.
- 4.2 The ECO shall be appointed before commencement of any authorised activity/ies.
- 4.3 Once appointed, the name and contact details of the ECO must be submitted to the Director: Compliance Monitoring of the Department.
- 4.4 The ECO shall keep record of all activities on site, problems identified, transgressions noted and a task schedule of tasks undertaken by the ECO.
- 4.5 A detailed incident (including spillage of bitumen, fuels, chemicals, or any other material) and complaint register must be kept on site indicating how these issues were addressed, what rehabilitation measures were taken and what preventative measures were implemented to avoid re-occurrence of incidents/complaints.
- 4.6 In addition the ECO must maintain the following on site:
- A daily site diary
 - Copies of all reports submitted to the Department
 - A schedule of current site activities including the monitoring of such activities.
- 4.7 The ECO shall remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is ready for operation.
- 4.8 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.

5. Recording and reporting to the Department

- 5.1 All documentation e.g. audit/monitoring/compliance reports and notifications, required to be submitted to the Department in terms of this authorisation, must be submitted to the *Director: Compliance Monitoring* at the Department.
- 5.2 The holder of the authorisation must submit an environmental audit report to this Department upon completion of the construction and rehabilitation activities.
- 5.3 The environmental audit report must:
- 5.3.1 Be conducted by an independent environmental auditor;
 - 5.3.2 Indicate the date of the audit, the name of the auditor and the outcome of the audit;
 - 5.3.3 Evaluate compliance with the requirements of the approved EMP and EA;
 - 5.3.4 Include measures to be implemented to attend to any non-compliances or degradation noted;
 - 5.3.5 Include copies of any approvals granted by other authorities relevant to the development for the reporting period; and
 - 5.3.6 Highlight any outstanding environmental issues that must be addressed, along with recommendations for ensuring these issues are appropriately addressed.
- 5.4 The audit report must be submitted prior to commencement of the operation phase of the project.

6. Commencement of the activity

- 6.1 The authorised activities shall not commence within thirty (30) days of the date of signature of the authorisation.
- 6.2 The applicant must obtain a Water Use Licence Authorisation (WULA) from the Department of Water Affairs (DWA) prior to the commencement of the project should the applicant impact on any wetland or water resource. The WULA must be submitted to the *Director: Environmental Impact Evaluation* at the Department.
- 6.3 Pre-construction monitoring must be undertaken during the final design phase within this area in order to inform the positioning of the turbines.
- 6.4 The applicant must submit a final layout plan for the entire wind energy facility for approval to the department prior to commencement of construction activities on site. The layout plan should indicated the following:

- Turbine positions;
 - Foundation footprint;
 - Permanent laydown area footprint;
 - Construction period laydown footprint;
 - Internal roads indicating width (construction period width and operation period width) and with numbered sections between the other site elements which they serve (to make commenting on sections possible);
 - Wetlands, drainage lines, rivers, stream and water crossing of roads and cables indicating the type of bridging structures that will be used;
 - Heritage sites that will be affected by the turbines and associated infrastructure;
 - Substation(s) and/or transformer(s) sites including their entire footprint;
 - Cable routes and trench dimensions (where they are not along internal roads);
 - Connection routes to the distribution/transmission network;
 - Cut and fill areas at turbine sites along roads and at substation/transformer sites indicating the expected volume of each cut and fill;
 - Borrow pits;
 - Spoil heaps (temporary for topsoil and subsoil and permanently for excess material);
 - Buildings including accommodation; and
 - All "no-go" areas
- 6.5 The applicant must appoint a qualified botanical and fauna specialists to ground-truth every turbine footprint and the power lines alignments, and their recommendations must form part of the final layout plan of the wind energy facility and the amended EMP to be submitted to the department for approval.
- 6.6 A geotechnical assessment report proving that the proposed facility will be structurally sound and will not pose a safety risk to surrounding structures or people must be submitted to the Department prior to commencement of construction activities on site.
- 6.7 The authorised activities must not commence before a connection and use of system agreement is obtained from Eskom Holdings Limited.
- 6.8 An appeal under section 43 of the National Environmental Management Act (NEMA), Act 107 of 1998 (as amended), does not suspend an environmental authorisation or exemption, or any provisions or conditions attached thereto, or any directive, unless the Minister, MEC or delegated organ of state directs otherwise.

7. Notification to authorities

7.1 Fourteen (14) days written notice must be given to the Department that the activity will commence. 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. This notification period may coincide with the period contemplated in 6.1 above.

8. Operation of the activity

8.1 Fourteen (14) days written notice must be given to the Department that the activity operational phase will commence.

8.2 The applicant must compile an operational EMP for the operational phase of the activity and submit it to the Department for approval before commencement of the operational phase of the activity.

8.3 The holder of this authorisation must appoint an Environmental Officer (EO) for the operational phase of the project to monitor all operational activities as part of the EMP

9. Site closure and decommissioning

9.1 Should the activity ever cease or become redundant, the applicant shall 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.

10. Specific conditions

10.1 Avifauna and bats

10.1.1 An avifaunal specific EMP must be completed by a suitable qualified person to further refine the mitigation once all of the turbine positions have been finalized.

10.1.2 A bird monitoring programme must be implemented to document the effect of the operation of the wind energy facility on avifauna and bats. This should commence prior to construction (to provide a benchmark), and continue during operation of the wind energy facility.

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- 10.1.3 The results of the pre-construction bird monitoring programme must inform the final layout and the construction schedule of the wind energy facility.
- 10.1.4 Turbines must be placed at least 300m apart to avoid bird collisions.
- 10.1.5 Reports regarding bird monitoring must be submitted to Birdlife South Africa, the Endangered Wildlife Trust (EWT), CapeNature and this Department on a quarterly basis. The report will assist all stakeholders in identifying potential and additional mitigation measures and to establish protocols for bird monitoring programmes for wind energy development in the country.
- 10.1.6 Ultrasound broadcast must be used to deter bats and birds from flying into wind turbines.
- 10.1.7 Wind turbines operating times must be restricted during times when bat activity is high or they must be programmed to switch off under specific conditions prone to bird collision such as during low wind.
- 10.1.8 The applicant must implement, in collaboration with all project proponents for the respective wind farms in Cookhouse and a suitable qualified avifauna specialist, an active long-term bird monitoring programme in order to understand the nature of impacts on avifauna due to wind energy facilities on the site.
- 10.1.9 If high bird mortalities are recorded, the applicant must investigate emitting broadcasts for a certain radio frequency to discourage birds from entering high collision areas.
- 10.1.10 The baseline data collected and documented during the survey must be shared with the EWT and Birdlife South Africa for a better understanding of the distribution or breeding behaviour of any of the priority species listed in the EIR dated October 2010.
- 10.1.11 Habitat destruction must be kept to an absolute minimum by keeping the lay-down areas as small as possible, reducing the number and size/length of roads and reducing the final extent of the developed area.
- 10.1.12 Anti-collision devices such as bird flappers must be installed where power lines cross avifaunal corridors. 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.
- 10.1.13 The applicant must ensure that lighting on the turbines is kept to a minimum, and is coloured red and intermittent, rather than permanent and white, to reduce confusion effects for nocturnal migrants. Night time wind turbine obstruction lighting must consist of medium intensity type B aviation red flashing lights. Minimum intensities of 2 000 candela for night-time red flashing or strobe lights are required.

10.1.14 The facility must be designed to discourage their use as perching or nesting substrates by birds.

10.2 Vegetation, wetlands and water resources

10.2.1 All species of special concern (SSC) must be identified and every effort must be made to rescue them.

10.2.2 Critical available biodiversity information must be consulted for the final placement of turbines and infrastructure.

10.2.3 The applicant must ensure that a continuous monitoring and removal of alien plant species such as those of *Puntia* and *Agave* species is implemented, as well as careful monitoring of the state of the landscape with the Eastern Cape Biodiversity Conservation Plan (ECBCP) land use planning principles.

10.2.4 Vegetation clearing must be kept to an absolute minimum. Mitigation measures must be implemented to reduce the risk of erosion and the invasion of alien species.

10.2.5 A "Plant Rescue and Protection" plan which allows for the maximum transplant of conservation important species from areas to be transformed must be compiled by a vegetation specialist familiar with the site in consultation with the ECO. This plan must be implemented prior to commencement of the construction phase.

10.2.6 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 Eastern Cape Department of Economic Development and Environmental Affairs (DEDEA) for the destruction of species protected in terms of the Provincial Nature Conservation Ordinance (PNCO) Schedule 4. Copies of the permits must be submitted to the Department for record keeping.

10.2.7 Construction activities must be restricted to demarcated areas to restrict impact on vegetation and animals.

10.2.8 A comprehensive habitat rehabilitation plan must be developed for the site. 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.

10.2.9 All areas of disturbed soil must be reclaimed using only indigenous grass and shrubs. Reclamation activities should be undertaken as early as possible on disturbed areas.

- 10.2.10 All electrical collector lines must be buried in a manner that minimizes additional surface disturbance.
- 10.2.11 Topsoil from all excavations and construction activities must be salvaged and reapplied during reclamation.
- 10.2.12 The applicant is required to inform the relevant provincial department and/or this Department should the removal of protected species, medicinal plants and "data deficient" plant species be required.
- 10.2.13 All hard infrastructures should be located within existing areas of low sensitivity, as far as possible.
- 10.2.14 All turbine and infrastructure must be located at least 100m from the edge of any high sensitive areas.
- 10.2.15 No exotic plants may be used for rehabilitation purposes; only indigenous plants of the area may be utilised.
- 10.2.16 No activities will be allowed to encroach into a water resource without a water use authorisation being in place from the Department of Water Affairs.
- 10.2.17 Where infrastructure is to be located close to watercourses, water quality monitoring must be done on a regular basis. The frequency to be agreed with the Department of Water Affairs.
- 10.2.18 Appropriate erosion mitigation must be implemented to prevent any potential erosion.

10.3. Visual resources

- 10.3.1 The applicant must ensure to reduce visual impacts during construction by minimising areas of surface disturbance, controlling erosion, using dust suppression techniques, and restoring exposed solid as closely as possible to their original contour and vegetation.
- 10.3.2 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.
- 10.3.3 Commercial messages and graffiti on turbines must be avoided.
- 10.3.4 The lighting and markings of the wind energy facility must comply with the requirements of the Civil Aviation Authority.
- 10.3.5 Construction activities must be restricted to daylight hours in order to negate or reduce visual impacts associated with lighting.

- 10.3.6 To reduce the effects of motion smear, rotor blades should either be painted with black stripes across the blade, in different positions on each blade, or a single solid black blade with two solid white blades.
- 10.3.7 Wind turbines must be painted bright white to provide the maximum daytime conspicuousness.

10.4 Air emissions

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

10.5 Roads and ground transportation

- 10.5.1 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 should be placed within existing disturbed areas or environmental conditions must be taken into account to ensure the minimum amount of damage is caused to natural habitats.
- 10.5.2 Road alignments must be planned in such a way that the minimum of cut and fill operations are required.
- 10.5.3 A transportation plan must be developed, particularly for the transport of turbine components, main assembly cranes and other large pieces of equipment. A permit must be obtained from the relevant transport department for the transportation of all components (abnormal loads) to the sites.
- 10.5.4 A traffic management plan must be prepared 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.
- 10.5.5 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 should be given to limiting construction vehicles travelling on public roadways during the morning and late afternoon commute time.

- 10.5.6 Roads must be designed so that changes to surface water runoff are avoided and erosion is not initiated.
- 10.5.7 A designated access to the site must be created and clearly marked to ensure safe entry and exit.
- 10.5.8 Signage must be erected at appropriate points warning of turning traffic and the construction site.
- 10.5.9 Internal access roads must be located away from drainage bottoms and avoid wetlands, if feasible.
- 10.5.10 Internal access roads must be located to minimize stream crossings. All structures crossing streams must be located and constructed so that they do not decrease channel stability or increase water velocity.
- 10.5.11 Existing drainage must not be altered, especially in sensitive areas.

10.6 Noise

- 10.6.1 The applicant must ensure that all equipment and machinery are well maintained and equipped with silencers.

10.7 Historical/paleontological resources

- 10.7.1 Prior to commencement of construction activities, a thorough palaeontological field survey of natural and already existing, artificial bedrock exposures within the study region as a whole must be undertaken by a qualified palaeontologist, to identify specific areas, zones or horizons of high palaeontological sensitivity on the ground that may warrant further specialist mitigation.
- 10.7.2 Should any graves be found, all construction activities must be suspended and an archaeologist be immediately contacted. The discovered graves must be cordoned off.
- 10.7.3 If there are any changes to the layout of the turbines, then additional survey work will be required in order to ensure that no sites are directly impacted and/or to identify the need for an excavation permit.

10.8 Hazardous materials and waste management

- 10.8.1 Areas around fuel tanks must be bunded or contained in an appropriate manner as per the requirements of SABS 089:1999 Part 1.
- 10.8.2 Leakage of fuel must be avoided at all times and if spillage occurs, it must be remedied immediately.
- 10.8.3 Hazardous waste such as bitumen, oils, oily rags, paint tins etc must be disposed of at an approved hazardous waste landfill site.
- 10.8.4 During the construction phase of the development, an effective monitoring system must be put in place to detect any leakage or spillage of all hazardous substances during their transportation, handling, installation and storage. The applicant must ensure that precautionary measures to limit the possibility of oil and other toxic liquids from entering the soil or stormwater system are in place.
- 10.8.5 Streams, river, pans, wetlands, dams and their catchments must be protected from erosion, direct or indirect spillage of pollutants.
- 10.8.6 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.
- 10.8.7 Hazardous substances must not be stored where there could be accidental leakage into surface or subterranean water.
- 10.8.8 The applicant must ensure that an effective monitoring system is put in place to detect any leakage or spillage of all hazardous substances.
- 10.8.9 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 any vehicle maintenance must occur within 350 m of the temporal zone of wetlands, whether a drainage line with or without an extensive floodplain or hillside wetlands.
- 10.8.10 Temporary bunds must be constructed around chemical storage to contain possible spills.
- 10.8.11 Spill kits must be made available on-site for the clean-up of spills.
- 10.8.12 An integrated waste management approach must be implemented that is based on waste minimisation and must incorporate reduction, recycling, re-use and disposal where appropriate. Any solid waste shall be disposed of at a landfill licensed in terms

of section 20 (b) of the National Environment Management Waste Act, 2008 (Act No. 59 of 2008).

10.8.13 Temporary ablution facilities must be provided for staff at all times during the construction phase. The ablutions must be cleaned regularly with associated waste being disposed of at a registered/permited waste site and must be removed from the site when construction phase is completed.

10.9 Storm water management

10.9.1 A comprehensive storm water management plan must be developed and implemented to control storm water and runoff water on the site and prevent off-site migration of contaminated storm water or increased soil erosion. This plan should form part of the EMP.

10.10 Construction must include 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.

10.11 Human health and safety

10.11.1 A health and safety programme must be developed to protect both workers and the general public during construction, operation and decommissioning of the wind energy facility. The programme must establish a safety zone for wind turbine generator 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 wind turbine generators.

10.11.2 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 NEMA Regulations, Government Notice 386 and 387 of 2006.

10.11.3 Potential fire hazards must be managed by ensuring that no fire are permitted on site and that the constructors must be aware of the consequences of starting fire on site to avoid damage to the neighbouring farms.

- 10.11.4 Potentials interference with public safety communication systems (e.g. radio traffic related to emergency activities) must be avoided.
- 10.11.5 The applicant must ensure that the operation of the wind facility has minimal electromagnetic interference (EMI) (i.e. impacts to microwave, radio and television transmissions) and should comply with the relevant communication regulation.
- 10.11.6 The applicant must obtain a written permit or 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. The approval/permit must be submitted to the Director: Environmental Impact Evaluation.
- 10.11.7 The applicant 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.
- 10.11.8 Liaison with land owners/farm managers is to be done prior to construction in order to provide sufficient time for them to plan agricultural activities. If possible, construction should be scheduled to take place within the post-harvest, pre planting season, when fields are lying fallow.

10.12 Excavation and blasting activities.

- 10.12.1 Underground cables and internal access roads must be aligned as much as possible along existing infrastructure to limit damage to vegetation and watercourses.
- 10.12.2 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.
- 10.12.3 Borrow materials must be obtained only from authorized and permitted sites.
- 10.12.4 Anti-erosion measures such as silt fences must be installed in disturbed areas.

10.13 Overhead power line

- 10.13.1 A walk-through survey of the final survey power line corridor must be undertaken by a botanical specialist, an ornithologist and a heritage specialist to identify areas where mitigation may be required.

10.13.2 All sections of the proposed power line passing over, or in close proximity of grasslands, rivers, wetlands, and dams must be marked with suitable bird flight diverters in order to deter large birds from colliding with any powerline. Additional areas of high sensitivity along the preferred alignment must be identified by an avifaunal specialist for the fitment of anti-collision devices according to Eskom Transmission Guidelines.

10.13.3 A Search and Rescue (S&R) operation of all the Red Data as well as rare endangered plants must be undertaken on the exact spots selected on which the pylons will be erected by a suitable qualified botanist. All plants present must be surveyed and collected for documentation at South National Biodiversity Institute (SANBI) and particular species, especially those which are rare and threatened species are moved to nurseries for re-establishment after construction and/or relocated to protected areas.

10.14 Turbines

10.14.1 Turbines must be positioned in such a way that they are at least 500m away from farm complexes, most of which have moderate degree of heritage significance.

10.14.2 Turbines must be positioned in such a way that shadow flicker does not affect any farm complexes.

10.14.3 The applicant must ensure that the placement of turbine on ridges is avoided.

10.14.4 Facility and infrastructure must not be placed at any slope that is steeper than 18%, preferable be placed on the crest landscape.

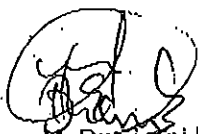
10.14.5 Wind turbines and associated laydown areas and access roads which could potentially impact on sensitive areas must be shifted in order to avoid these areas of high sensitivity.

11. General

11.1 A copy of this authorisation must be kept at the property where the activity/ies will be undertaken. The authorisation must be produced to any authorised official of the Department who requests to see it and must be made available for inspection by any employee or agent of the holder of the authorisation who works or undertakes work at the property.

- 11.2 Where any of the applicant's contact details change, including the name of the responsible person, the physical or postal address and/or telephonic details; the applicant must notify the Department as soon as the new details become known to the applicant.
- 11.3 The holder of the authorisation must notify the Department, in writing and within 48 (forty eight) hours, if any condition of this authorisation cannot be or is not adhered to. Any notification in terms of this condition must be accompanied by reasons for the non-compliance. Non-compliance with a condition of this authorisation may result in criminal prosecution or other actions provided for in the National Environmental Management Act, 1998 and the regulations.
- 11.4 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 applicant or his 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 applicant 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: 8/04/2011



Mr Dumisani Mtheribu

CHIEF DIRECTOR: ENVIRONMENTAL IMPACT MANAGEMENT (Acting)

Department of Environmental Affairs

Annexure 1: Reasons for Decision

1. Background

The applicant, Terra Wind Energy Golden Valley (Pty) Ltd, applied for authorisation to carry out the following activities –

- Item: 2 *"Any development activity, including associated structures and infrastructure, where the total area of the developed area is, or intended to be 20 hectares or more".*
- Item: 1 (l) *"The construction of facilities or infrastructure including associated structures or infrastructure; for the generation of electricity where the transmission and distribution of above ground electricity with a capacity of 120 kilovolts or more".*
- Item: 1(m) *"Any purpose in the one in ten year floodline of a river or stream, or within 32 metres from the bank of a river or stream where the flood line is unknown, excluding purposes associated with existing residential use, but including*
(i) Canals;
(ii) Channels;
(iii) Bridges;
(iv) Dams; and
(v) Weirs".
- Item: 7 *"The above ground storage of a dangerous good, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30m³ at any one location or site".*
- Item: 12 *"The transformation or removal of indigenous vegetation of 3 ha or more or of any size where the transformation or removal would occur within a critically endangered or an endangered ecosystem listed in terms of*

section 52 of the National Environmental Management: Biodiversity Act, 2004 (Act No 10 of 2004)".

Item: 16 (a) "The transformation of undeveloped, vacant or derelict land to residential, mixed, retail, commercial, industrial or institutional use where such development does not constitute infill and where the total area to be transformed is bigger than 1 hectare".

-for the proposed establishment of wind energy facility on the eleven farms namely Olive Wood Estate, Olive Fonteyn, Quaggas Kuyl, Lushof, Kroonkop, Oude Smoor Drift, Maatjiesfontein, Leuwe Drift, Gedagtenis, Varkens Kuyl and Wagenaarsdrift, all found around the town of Cookhouse, which falls within the jurisdiction of the Blue Crane Route Local Municipality of the Eastern Cape Province, as described on page 12 of the EIR dated October 2010.

The applicant appointed Coastal and Environmental Services (CES) to undertake an environmental assessment process in accordance with the EIA Regulations, 2006.

2. Information considered in making the decision

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

- a) The information contained in the EIR dated October 2010;
- b) The comments received from the various interested and affected parties (I&APs) which are included in the EIR dated October 2010;
- c) Mitigation measures as proposed in the EIR dated October 2010 and the EMP;
- d) The information contained in the specialist studies contained in volume 2 of the EIR dated October 2010; and
- e) The objectives and requirements of relevant legislation, policies and guidelines, including section 2 of the National Environmental Management Act, 1998 (Act No. 107 of 1998):

3. Key factors considered in making the decision

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 significance are set out below:

- a) The need for the proposed development is directly related to enhancing production of renewable energy and to contribute towards the South Africa Government goal of producing 10 000 GWh of renewable energy by 2013.
- b) The major benefit of the project is the strengthening of the existing electricity grid and will aid the government in achieving its goal of a 30% share of new power generation being derived from Independent Power Producers (IPP).
- c) Six (6) specialist studies were commissioned as part of the EIR and it was found that the impacts associated with the proposed development can be mitigated and are acceptable.
- d) A sufficient public participation process was undertaken and the consultant has satisfied the minimum requirements as prescribed in the EIA regulations, 2006 for public involvement.
- e) As part of the EIA process, Coastal and Environmental Services (CES) being the principal consultancy identified potential environmental impacts associated with the proposed construction works and proposed feasible mitigation measures to mitigate the identified impacts.

4. Findings

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

- The EIR includes the identification and assessment of impacts.
- The information contained in the EIR was relevant and credible for decision making.
- The applicant has satisfied the minimum requirements as prescribed in the EIA regulations of 21 April 2006.
- All legal and procedural requirements have been met.
- There has been sufficient consultation with I&AP's.
- The proposed development is compatible with the proposed site for the development.

- The procedure followed for the impact assessment seems to be adequate for the decision-making process based on the size of the project and affected area. The assessing officer is of the opinion that the assessment is adequate and comprehensive enough and that possible impacts have been assessed correctly.

In view of the above, the Department is satisfied that, subject to compliance with the conditions contained in the environmental authorisation, the proposed activity 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 proposed activity can be mitigated to acceptable levels. The authorisation for the activity is accordingly granted.