forestry, fisheries
& the environment

Department:
Forestry, Fisheries and the Environment
**REPUBLIC OF SOUTH AFRICA**

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

**DFFE Reference:** 14/12/16/3/3/2/2374
**Enquiries:** Mr Jay-Jay Mpelane
**Telephone:** (012) 399 9404, **E-mail:** JMpelane@dffe.gov.za

Ms. Mercia Grimbeek
Khoemana Wind (RF) Pty Ltd
Suite 104
Albion Springs
183 Main Road
Rondebosch
**CAPE TOWN**
7700

Tel number: +27 21 207 2185.
+27 71 752 8033.
Email Address: gideon.raath@enertrag.com

**PER EMAIL / MAIL.**

Dear Ms Grimbeek

**ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, ACT NO. 107 OF 1998, AS AMENDED: FOR THE DEVELOPMENT OF THE KHOEMANA WIND ENERGY FACILITY (WEF) AND ASSOCIATED INFRASTRUCTURE, 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, as amended (the EIA Regulations), you are instructed to notify all registered interested and affected parties, in writing and within 14 (fourteen) days of the date of the decision as well as the provisions regarding the submission of appeals that are contained in the Regulations.

In terms of the Promotion of Administrative Justice Act, Act No. 3 of 2000, you are entitled to the right to fair, lawful and reasonable administrative action; and to written reasons for administrative action that affects you negatively. Further your attention is drawn to the provisions of the Protection of Personal Information Act, Act No. 4 of 2013 which stipulates that the Department should conduct itself in a responsible manner when collecting, processing, storing and sharing an individual or another entity's personal information by holding the Department accountable should the Department abuses or compromises your personal information in any way.

Your attention is drawn to Chapter 2 of National Environmental Management Act, Act No. 107 of 1998 National Appeal Regulations published under Government Notice R993 in Government Gazette No. 38303 dated 08 December 2014 (National Appeal Regulations, 2014), which prescribe the appeal procedure to be followed. Kindly include a copy of this document (National Appeal Regulations, 2014) with the letter of notification to interested and affected parties in this matter.

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:**
The Director: Appeals and Legal Review of this Department at the below mentioned addresses.

By email: appeals@dffe.gov.za

By hand: Environment House
473 Steve Biko Road
Arcadia
**PRETORIA**
0083

By post: Private Bag X447
**PRETORIA**
0001

Please note that in terms of Section 43(7) of the National Environmental Management Act, Act No. 107 of 1998, as amended, 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.dffe.gov.za/documents/forms#legal_authorisations or request a copy of the documents at appeals@dffe.gov.za .

Yours faithfully,

**Mr Sabelo Malaza**
**Chief Director: Integrated Environmental Authorisations**
**Department of Forestry, Fisheries and the Environment**
**Date:** 03/05/2024

| | | | |
|---|---|---|---|
| Cc: | Dineo Moleko. | Northern Cape: DAEARD&LR | Email: dmoleko@ncpg.gov.za |
| | GH (Heinrich) Mathobela | Tsantsabane Local Municipality | Email: mm@tsantsabane.gov.za |
| | | Tsantsabane Local Municipality | Email: mmsec@tsantsabane.gov.za |
| | Jana de Jager | Jones & Wagener | Email: jana@jaws.co.za |



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forestry, fisheries & the environment

Department:
Forestry, Fisheries and the Environment
**REPUBLIC OF SOUTH AFRICA**

# Environmental Authorisation

**In terms of Regulation 25 of the Environmental Impact Assessment Regulations, 2014, as amended.**

**THE DEVELOPMENT OF THE KHOEMANA WIND ENERGY FACILITY (WEF) AND ASSOCIATED INFRASTRUCTURE, NORTHERN CAPE PROVINCE**

**ZF MGCAWU DISTRICT MUNICIPALITY**

| | |
|---|---|
| **Authorisation register number:** | *14/12/16/3/3/2/2374* |
| **Last amended:** | *First issue* |
| **Holder of authorisation:** | *Khoemana Wind (RF) Pty Ltd* |
| **Location of activity:** | *Within Ward 7 of the Tsantsabane Local Municipality and Ward 5 of the Kgatelopele Local Municipality. on the Portion 1 of Farm no. 500, Portion 2 of Farm no. 500, Portion 1 of Farm no. 468, and Portion 2 of Farm no. 467, near Postmasburg, Tsantsabane and Kgatelopele Local Municipalities within the 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.

# 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, Act No. 107 of 1998, as amended and the EIA Regulations, 2014, as amended.

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, Act No. 107 of 1998, as amended and the Environmental Impact Assessment Regulations, 2014, as amended, the Department hereby authorises –

**KHOEMANA WIND (RF) PTY LTD**

with the following contact details –

Ms. Mercia Grimbeek
Khoemana Wind (RF) Pty Ltd
Suite 104
Albion Springs
183 Main Road
Rondebosch
**CAPE TOWN**
7700

Tel number: +27 21 207 2185.
+27 71 752 8033.
Email Address: gideon.raath@enertrag.com

to undertake the following activities (hereafter referred to as "the activity") indicated in Listing Notice 1, Listing Notice 2 and Listing Notice 3 of the EIA Regulations, 2014 as amended:

| Activity number | Activity description |
|---|---|
| ***Listing Notice 1**, Item 11:*<br>The development of facilities or infrastructure for the transmission and distribution of electricity-<br>(i) Outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts. | The Facility is located outside urban areas. Furthermore, internal distribution electrical infrastructure required to connect the respective electrical components related to the Facility, and the onsite substation, including cabling (buried or overhead) will be between 33kV and 132kV. The onsite substation will be rated 33/132kV whereas internal cabling will be up to 33kV. |
| ***Listing Notice 1**, Item 12:*<br>The development of-<br>(ii) infrastructure or structures with a physical footprint of 100 square meters or more,<br>(a) within a watercourse; or<br>(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse. | The development of the Facility will exceed a footprint of 100m$^2$ within the delineated footprint, and within 32m from the edge of non-perennial watercourses. |
| ***Listing Notice 1**, Item 14:*<br>The development and related operation of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic metres or more but not exceeding 500 cubic metres. | The Facility will require storage and handling of a dangerous goods, including fuel, cement and chemical storage onsite, that will be greater than 80m$^3$ but not exceeding 500m$^3$. |
| ***Listing Notice 1**, Item 19:*<br>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 meters from a watercourse. | Internal access roads and stormwater control infrastructure, as well as electrical cabling required to connect the various components of the Facility will collectively require the excavation, infilling or removal of soil exceeding 10m$^3$ from delineated watercourses on site. The exact values will be confirmed once final |



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| Activity number | Activity description |
|---|---|
| | designs have been provided however, these will be within the thresholds relevant to this Listed Activity and therefore within the threshold values and triggering this activity. |
| *Listing Notice 1, Item 24:*<br>The development of a road-<br>(ii) with reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 meters. | The access and internal roads associated with the Facility will be up to 12m and 10m respectively, to be placed with a corridor of up to 20m width to accommodate cable trenches, stormwater channels and turning circle/bypass areas where necessary, therefore exceeding the 8m threshold specified. |
| Listing Notice 1, Item 28:<br>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:<br>(ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare. | The Facility is considered a commercial and/or industrial development and will be constructed on land used or agricultural/grazing purposes. The development is located outside of an urban area and be bigger than 1 ha. |
| **Listing Notice 2** | |
| ***Listing Notice 2**, Item 1:*<br>The development of facilities or infrastructure for the generation of electricity from a renewable resource where the electricity output is 20 megawatts or more. | The project comprises a Wind Energy Facility of up to **280MW**, allowing for up to 280MW export from the Facility. |
| ***Listing Notice 2**, Item 15:*<br>The clearance of an area of 20 hectares or more of indigenous vegetation. | The development of the Facility will require the clearance of more than 20ha of vegetation. |
| **Listing Notice 3** | |
| ***Listing Notice 3**, Item 10:*<br>The development and related operation of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage | The Facility will require storage and handling of a dangerous goods, including fuel, cement and chemical |

| Activity number | Activity description |
|---|---|
| occurs in containers with a combined capacity of 30 but not exceeding 80 cubic meters.<br>**g. Northern Cape**:<br>ii. Areas within a watercourse or wetland; or within 100 metres from the edge of a watercourse or wetland. | storage onsite up to but not exceeding 500m$^3$, located within 100m from the edge of a watercourse or wetland. |
| ***Listing Notice 3**, Item 12:*<br>The clearance of an area of 300 square metres or more of indigenous vegetation.<br>**g. Northern Cape**:<br>ii. Within critical biodiversity areas identified in bioregional plans. | The development of the Facility will require the clearance of more than 300m$^2$ of vegetation within Ecological Support Areas (NC CBA, 2016) located within the project site. |
| ***Listing Notice 3**, Item 18:*<br>The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre.<br>**g. Northern Cape**:<br>ii. Outside urban areas:<br>(ii) Areas within a watercourse or wetland; or within 100 metres from the edge of a watercourse or wetland. | Transport of large infrastructure components related to the facility will require the widening of existing access and/or internal roads by up to 14m, and lengthening collectively exceeding 1km in length, thereby exceeding the threshold values and triggering this activity, collectively located within the delineated extent, or within 100 metres from the edge of a watercourse or wetland on site. |

as described in the final Environmental Impact Assessment Report (EIAR) dated March 2024 at:

- For the development of the **Khoemana Wind Energy Facility** (WEF) and associated infrastructure, Northern Cape Province, hereafter referred to as "the property."

The main infrastructure components required for the Khoemana WEF is as follows:

- **Wind turbine generators** (WTG) (steel, concrete or steel/concrete structure type) with a maximum rotor diameter (RD) of up to 250 m with a Hub Height (HH) of up to 250 m and a tip height of up to 375 m. The proposed Khoemana WEF will have up to **26 WTGs**.
- **Concrete turbine** foundations and turbines hard stands (of ~30 m radius, 3000 m2 area and requiring ~13000 m3 concrete each). Vegetation clearance required for each turbine (including hardstand) is ~1.5

ha. The exact layout and specification of the hardstanding will be determined once the design phase has been completed.

- **A 33/132 kV on-site IPP** substation connecting all related low and medium voltage MV) cabling as needed. The substation will comprise of standard substation electrical equipment, i.e., transformers, busbars, office area, operation and control room, telecommunication infrastructure, access roads, workshop, and storage area, including standard substation electrical equipment as may be needed (feeder bays, transformers, busbars, transformer oil dam, stringer strain beams, insulators, isolators, conductors, circuit breakers, lightning arrestors, relays, capacitor banks, batteries, wave trappers, switchyard, metering and indication instruments, equipment for power line carrier, surge protection and outgoing feeders, as may be needed).
- **Temporary and permanent laydown** areas required for temporary storage and assembly of components and materials.
- **Overhead or underground** cabling between the turbines (to be laid underground where practical).
- **Access road/s** to the site and internal roads between project components, to be placed within a corridor of up to 20m width to accommodate cable trenches, stormwater channels and turning circle/bypass areas of up to 20 m. Existing roads will be upgraded wherever possible, although new roads will be constructed where necessary.
- **A temporary concrete** batching plant, concrete wind tower factory & yard of approximately 7 ha, comprising amongst others, a concrete storage area, batching plant, electrical infrastructure and substation, generators and fuel stores, gantries and loading facilities, offices, material stores (rebar, concrete, aggregate and associated materials), mess rooms, workshops, laydown and storage areas, sewage and toilet facilities, offices and boardrooms, labour mess and changerooms, mixers, moulds and casting areas, water and settling tanks, pumps, silos and hoppers, a laboratory, parking areas, internal and access roads.
- **Temporary staff** accommodation (where required only).
- **A Battery Energy Storage System** (BESS) comprising of several utility scale battery modules within shipped containers or an applicable housing structure on a concrete foundation. The BESS capacity will be up to 280MW/1120MWh, with up to four hours of storage. The BESS will be used to store excess energy generated by the wind energy facility. It is proposed that solid state lithium battery storage systems will be used. The main components of the BESS include the batteries, power conversion system and transformer which will all be stored in various rows of containers. The BESS will be located on a platform of up to 5 ha and will accommodate internal roads (as required), a temporary construction laydown area and a firebreak around the BESS footprint.
- **Associated Infrastructure**, including:
  - Access roads and internal gravel roads.

- Fencing and lighting.
- Lightning protection.
- Telecommunication infrastructure.
- Stormwater channels. ◦ Water pipelines.
- Offices and Operational control centre.
- Operation and Maintenance Area / Warehouse / workshop.
- Ablution facilities. ◦ A gate house.
- Control centre, offices, warehouses.
- Security building. and visitor's centre.
- Substation building.
- Sewage: Conservancy/septic tanks and portable toilets as needed.

| **Property details of the proposed project/affected farms:** | | |
|---|---|---|
| SG 21 Digit Code: Khoemana WEF. | C03100000000046700002.<br>C03100000000046800001.<br>C03100000000050000001.<br>C03100000000050000002. | |
| **Khoemana WEF-** Farm name/ portion number. | Portion 1 of Farm no. 500,<br>Portion 2 of Farm no. 500,<br>Portion 1 of Farm no. 468, and<br>Portion 2 of Farm no. 467. | |
| Ward number | Ward 7 in the Tsantsabane Local Municipality.<br>Ward 5 in the Kgatelopele Local Municipality. | |
| District Municipality | ZF Mgcawu District Municipality | |
| Nearest town | Postmasburg. | |
| Corner Coordinates | **Latitude** | **Longitude** |
| **Khoemana WEF** | 28°21'7.12"S | 23°21'50.86"E |
| | 28°21'6.99"S | 23°21'51.44"E |
| | 28°21'48.69"S | 23°24'16.85"E |
| | 28°21'49.26"S | 23°24'16.37"E |
| | 28°24'14.57"S | 23°22'37.66"E |
| | 28°25'17.86"S | 23°23'54.98"E |
| | 28°26'30.71"S | 23°23'28.60"E |
| | 28°26'31.29"S | 23°23'27.79"E |

| | | |
|---|---|---|
| | 28°24'3.41"S | 23°19'56.76"E |
| | 28°21'51.87"S | 23°21'29.10"E |

**Technical details of the project:**

| Infrastructure/ or Component. | Description / Dimensions |
|---|---|
| Number of turbines. | - Up to **26 WTGs**. |
| Export capacity of the facility. | Up to **280 MW.** |
| Turbine Hub Height. | Up to 250m. |
| Turbine Rotor Diameter. | Up to 250m. |
| Tower type. | Steel or concrete towers (or hybrid steel/concrete) can be used at the site. Alternatively, the towers can be of a hybrid nature, comprising concrete towers with top steel sections. |
| Foundation. | Approximately 30m diameter x 5m deep, however, these dimensions may be larger as required by the geotechnical conditions. |
| Hard stand/s | - Comprising blade storage area, rotor hub laydown area as well as other turbine materials/component laydown areas and crane pad for primary and assistance cranes (as required).<br>- Approximately 1.5 ha per turbine required. |
| Operations and Maintenance (O&M) building footprint. | • Located near the substation. Typical areas include:<br>- Operations building– 20m x 10m = 200m$^2$ (approximately),<br>- Workshop and Stores,<br>- Parking areas<br>- Refuse area for temporary waste storage,<br>- Ablution facilities (septic/conservancy tanks with portable toilets or similar), and<br>- The total combined area of the buildings will not exceed 50 000 m$^2$. |
| Temporary laydown and construction camp area. | • Up to 4.5ha each which will be rehabilitated after construction and typically includes:<br>- Waste, site and plant storage areas, |



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| Infrastructure/ or Component. | Description / Dimensions |
|---|---|
| | - Fuel storage areas,<br>- Construction offices,<br>- Mess areas and changing rooms,<br>- Ablution facilities including conservancy or septic tanks,<br>- Parking areas, and<br>- Cement batching plant. |
| Cables. | The medium voltage collector system will comprise of cables that run underground, except where a technical assessment suggest that overhead lines are required. |
| Temporary laydown or staging area. | Typical area of 30 000 m² each. |
| Cement batching plant, wind tower factory and yard (temporary). | • Gravel and sand will be stored in separate storage areas whilst the cement will be contained in a silo.<br>• Up to 7ha each.<br>• Contains a concrete storage area, batching plant, electrical infrastructure and substation, generators and fuel stores, gantries and loading facilities, offices, material stores (rebar, concrete, aggregate and associated materials), mess rooms, workshops, laydown and storage areas, sewage and toilet facilities, offices and boardrooms, labour mess and changerooms, mixers, moulds and casting areas, water and settling tanks, pumps, silos and hoppers, a laboratory, parking areas, internal and access roads. |
| On-site substation. | - 33/132kV.<br>- Up to 3 ha in extent including associated equipment, cabling and associated infrastructure.<br>- Standard substation infrastructure will include; operation and control room, transformer oil dam, standard substation electrical equipment (feeder bays, transformers, busbars, stringer strain beams, insulators, isolators, conductors, circuit breakers, |



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| Infrastructure/ or Component. | Description / Dimensions |
|---|---|
| | lightning arrestors, relays, capacitor banks, batteries, wave/line trappers, switchyard, metering and indication instruments, equipment for power line carrier, surge protection and outgoing feeders, as may be needed). |
| BESS (located within on-site substation complex). | - BESS of up to 280 MW/1120 MWh, with up to four hours of storage.<br>- Total footprint will be up to 8ha (on-site substation included) and will accommodate internal roads, a temporary construction laydown area and a firebreak around the BESS footprint.<br>- It is proposed that Lithium Battery Technologies, such as Lithium Iron Phosphate, Lithium Nickel Manganese Cobalt oxides or Vanadium Redox flow technologies will be considered. The preferred technology is Solid State Lithium batteries.<br>- The main components of the BESS include the batteries, power conversion system and transformer which will all be stored in various rows of containers. |
| Grid connection. | The project is intended to connect to the nearby Olien MTS through a powerline of up to 132kV (either single or double circuit), of approximately 42km (or less) in length, with a height of up to 40m and servitude width of up to 40m. |
| Supporting infrastructure. | Building Infrastructure, Offices; Operational control centre; Operation and Maintenance Area/ Warehouse/ workshop; Ablution facilities; Battery Energy Storage System; Substation building, Electrical Infrastructure which includes, A 33/132 kV on-site substation connecting all related low and medium voltage cabling; and Above ground and underground cabling (where possible) and overhead power lines.<br><u>Associated Infrastructure:</u> |

| Infrastructure/ or Component. | Description / Dimensions |
|---|---|
| | - Fencing and lighting.<br>- Lightning protection.<br>- Temporary and permanent laydown areas required for temporary storage and assembly of components and materials.<br>- Temporary staff accommodation and laydown area.<br>- Meteorological masts and infrastructure.<br>- Minor water pipelines.<br>- Gatehouse and/or security building.<br>- Visitor's centre (if required).<br>- Telecommunication infrastructure.<br>- Batching plant (if required).<br>- Stormwater channels. |
| Access road/s and internal roads. | • The proposed site is located approximately 9km from the R385 which is connected by means of a secondary road.<br>• Access road/s to the site and internal roads between project components, to be developed within a corridor of 20m wide to allow for fluctuating road widths as necessitated by cable trenches, stormwater channels and turning circle/bypass areas. Access roads for the WEFs will be up to 60km. Existing roads will be upgraded wherever possible, although new roads will be constructed where necessary. |
| Services required. | <u>Waste:</u><br>- **Construction**: Solid wastes produced during construction of a wind energy development project would include containers, dunnage (wood or similar material used to load and secure cargo during transportation) and packaging materials for turbine components, and miscellaneous wastes associated with assembly activities. Solid wastes resulting from |

| Infrastructure/ or Component. | Description / Dimensions |
|---|---|
| | the presence of the construction work crews would include food scraps and other organic wastes. All such wastes are non-hazardous, and typically they are containerized on site and periodically removed by commercial haulers to existing off-site, appropriately permitted disposal facilities. Industrial wastes that would be generated during the construction phase would include minor amounts of paints and coatings and spent solvents associated with the assembly of turbines and towers. Minor amounts of wastes associated with the on-site maintenance of off-road construction equipment would also be generated. However, it is anticipated that such on-site maintenance activity would be limited to that which is immediately necessary to keep the equipment in running condition. As such, tiny amounts of waste oils, coolants, and filters can be expected from operational maintenance activities, to be stored temporarily and removed from site by suitable contractors to appropriately permitted disposal facilities.<br>- **Operation:** Solid wastes produced during the operational phase would be very limited and consist primarily of office-related wastes generated at the control facility and food wastes from the maintenance crews who might be present on the site during business hours. All such wastes are non-hazardous, and typically stored temporarily and removed from site by suitable contractors to appropriately permitted disposal facilities. Industrial wastes would also be generated during the operational phase. These wastes would include, where applicable, used oils, lubricants, hydraulic fluids, spent coolants removed from turbine components as a result of routine preventative |



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| Infrastructure/ or Component. | Description / Dimensions |
|---|---|
| | maintenance or unexpected repair activities, as well as solvents and cleaning agents required during maintenance activities. Such wastes will be stored temporarily and removed from site by suitable contractors to appropriately permitted disposal facilities.<br><br>- **Decommissioning:** During decommissioning, large quantities of solid wastes and industrial wastes could result from dismantlement of a wind energy project. Fluids drained from turbine drivetrain components (e.g. and where applicable, lubricating oils, hydraulic fluids, coolants) are likely to be similar in chemical composition to spent fluids removed during routine maintenance and would be managed in the same manner as similar maintenance-related wastes. Tower segments are expected to be stored on site for a brief period and eventually sold as scrap, or where possible recycles or reused. Likewise, turbine components may have some salvage value. Electrical transformers are expected to be removed from the site and available for other applications elsewhere. Substantial amounts of broken concrete from tower and building foundations as well as rock or gravel from on-site roads or electrical substations would also result from decommissioning. All such materials are expected to be salvageable for use in road-building, bank stabilization or similar projects. Miscellaneous materials without salvage value are expected to be non-hazardous and stored temporarily and removed from site by suitable contractors to appropriately permitted disposal facilities. |

| Infrastructure/ or Component. | Description / Dimensions |
|---|---|
| | - All materials on site will be stored in compliance with relevant legislation. Hazardous waste will be appropriately stored and disposed of at a registered hazardous waste disposal facility.<br><br><u>Effluent and Wastewater:</u><br>- Chemical toilets and septic/conservancy tanks (as required) will be used. These will be serviced regularly, and effluent will be disposed of at a registered wastewater treatment works. All sewage/effluent water will be maintained and serviced regularly by an appropriate waste contractor. Any other effluent discharge during construction will be collected in sealed containers/tanks and collected by a registered service provider to be disposed of at an approved facility off-site.<br>- It is proposed that the project will construct and use its own sanitation services as Municipal services do not service the project site.<br><br><u>Water supply:</u><br>- Water supply for construction and operation may need to be sourced from municipal supply (by truck); or in combination with groundwater abstraction. Where possible, bulk water supply from the Vaal-Gamagara water supply scheme may also be used.<br>- Electricity supply – it is proposed that this power be sourced from a diesel generator, or similarly available electrical source, during the construction period. |



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# Conditions of this Environmental Authorisation

**Scope of authorisation**

1. The development of the **Khoemana** Wind Energy Facility (WEF) and associated infrastructure in the Northern Cape Province is **approved** as per the geographic coordinates cited in the table above.
2. The Optimised Layout Map included in 27 Appendix I of the final EIAR dated March 2024, is hereby approved, subject to the conditions below.
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 must only be conducted 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 **ten (10) 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 ten (10) 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.



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**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;
    12.3. 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.

**Commencement of the activity**

13. The authorised activity must not commence until the period for the submission of appeals has lapsed as per the National Appeal Regulations, 2014, and no appeal has been lodged against the decision. In terms of Section 43(7), an appeal under Section 43 of the National Environmental Management Act, Act No. 107 of 1998, as amended 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**

14. The Environmental Management Programme (EMPr) for the facility submitted as part of the final EIAR dated March 2024 (26 Appendix H) including appendices, such as Appendix B- Alien Invasive and Open Space Management Plan, Appendix C- Revegetation and Rehabilitation Management Plan, and Appendix D Search and Rescue Management Plan is approved and must be implemented and adhered to.
15. The Generic Environmental Management Programme (GEMPr) for the substation, submitted as part of the final EIAR dated March dated 2024 (Appendix A), is approved and must be implemented and adhered to.
16. The EMPr for the PV facility and the generic EMPr for the substation must be implemented and strictly enforced during all phases of the project. They shall be seen as dynamic documents and shall be included in all contract documentation for all phases of the development.

17. Changes to the approved EMPr must be submitted in accordance with the EIA Regulations applicable at the time.
18. The Department reserves the right to amend the approved EMPr should any impacts that were not anticipated or covered in the EIAR be discovered.

**Frequency and process of updating the EMPr.**

19. The EMPr must be updated where the findings of the environmental audit reports, contemplated in Condition 25 below, indicate insufficient mitigation of environmental impacts associated with the undertaking of the activity, or insufficient levels of compliance with the Environmental Authorisation or EMPr.
20. The updated EMPr must contain recommendations to rectify the shortcomings identified in the environmental audit report.
21. The updated EMPr must be submitted to the Department for approval together with the environmental audit report, as per Regulation 34 of the EIA Regulations, 2014 as amended. 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.
22. 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 the EIA Regulations, 2014 as amended. 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.
23. The holder of the authorisation must apply for an amendment of an EMPr, if such amendment is required before an audit is required. The amendment process is prescribed in Regulation 37 of the EIA Regulations, 2014, as amended. The holder of the authorisation must request comments on the proposed amendments to the impact management outcomes of the EMPr or amendments to the closure objectives of the closure plan from potentially interested and affected parties, including the competent authority, by using any of the methods provided for in the Act for a period of at least 30 days.

**Monitoring**

24. The holder of the authorisation must appoint an experienced 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.



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24.1. The ECO must be appointed before commencement of any authorised activities.

24.2. Once appointed, the name and contact details of the ECO must be submitted to the *Director: Compliance Monitoring* of the Department.

24.3. The ECO must keep record of all activities on site, problems identified, transgressions noted and a task schedule of tasks undertaken by the ECO.

24.4. 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.

**Recording and reporting to the Department**.

25. 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.

26. 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.

27. The frequency of auditing and of submission of the environmental audit reports must be as per the frequency indicated in the EMPr, considering the processes for such auditing as prescribed in Regulation 34 of the EIA Regulations, 2014 as amended.

28. 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.

29. The environmental audit reports must be compiled in accordance with Appendix 7 of the EIA Regulations, 2014 as amended 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.

30. 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**.

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



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**Operation of the activity**

32. 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.

**Site closure and decommissioning**

33. 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**

34. All no go areas must be strictly adhered to.
35. Mitigation measures provided by all specialists must be adhered to.
36. An ecological and faunal walk-through (micro-siting) must be conducted prior to construction of identify species of conservation concern (SCC) or provincially protected species requiring permits for their removal, which permits must be obtained from the relevant authority.
37. A comprehensive Plant Search and Rescue must be undertaken by a suitably qualified botanical specialist prior to vegetation clearance as part of the pre-construction monitoring. This is applicable for provincially protected species which must be removed from site with the relevant permit.
38. Plant SCC found on site must either be housed in an onsite nursery for use during rehabilitation or be relocated to suitable areas where vegetation clearance will not occur.
39. The clearance of vegetation, at any given time, must be kept to a minimum to reduce the possibility of soil erosion.
40. Ground clearing and the digging of trenches must ideally take place at the end of the dry season, prior to the first rains in order to minimise the impacts of dust.
41. Newly cleared and exposed areas must be managed for dust and landscaped with indigenous vegetation to avoid soil erosion. Where necessary, temporary stabilisation measures must be used until vegetation stablishes.
42. An integrated waste management approach must be implemented that is based on waste minimisation and must incorporate reduction, recycling and re-use options.
43. Fence must be constructed in such a way so that burrowing animals can still gain access, which will allow other animals to also use the holes dug under fence to increase connectivity in the area. Fence must have



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mesh size large enough to allow small animals to pass through, if not (e.g., Easy View), regular holes must be cut at the base to allow movement of these animals.

44. Post-construction/ operational bat monitoring must be performed according to the South African Good Practise Guidelines for Operational Monitoring for Bats at Wind Energy Facilities (Aronson et al, 2014) or later version valid at the time of monitoring. Monitoring must be done for the initial 2 years, thereafter, the frequency must be informed by the specialist conducting the operational monitoring.
45. The Rehabilitation and Alien Invasive Species Management Programme must be implemented during the life cycle of the project.
46. The illegal collection, hunting or harvesting of any plants or animals at the site must be prohibited by anyone except by individuals with the appropriate permits.

Turbines position

47. Up to **26 wind** turbines are approved (as per the Final Optimised Layout map).
48. The final placement of turbines must follow a micro siting procedure involving a walk-through and identification of any sensitive areas by ecological, avifaunal, bat, surface water and heritage specialists.
49. Exclusion of sensitive ecological, avifaunal, bat, surface water and heritage areas from construction activities must be informed by micro siting of all development activities.

Avifauna and bats

50. All avifaunal no-go buffer recommendations must be strictly adhered to.
51. Formal post construction monitoring must be resumed once the turbines have been activated, as per the most recent edition of the best practice guidelines. The exact scope and nature of the post-construction monitoring will be informed on an ongoing basis by the result of the monitoring through a process of an establishment of available recent technology and adaptive management. The purpose of this would be to establish if and to what extent displacement of priority species has occurred through the altering of flight patterns post-construction, and to search for and identify carcasses at turbines (fatalities).
52. The post-construction avifauna monitoring reports must be submitted to BirdLife South Africa and DFFE as per the guidelines.
53. Lighting of the wind farm (for example security lights) must be kept to a minimum. Lights must be directed downwards (provided this complies with Civil Aviation Authority regulations). No turbines must be constructed in no-go areas, while associated infrastructure (roads, and substations) must be avoided where possible in these areas.
54. 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.
55. The holder of this Environmental Authorisation must restrict the construction activities to the footprint area.

56. Turbine placement and turbine blades must not encroach into sensitive bat features and their buffer areas (200m and 500m for bat roosts). Roost habitat must be avoided for any infrastructure placement.
57. The post-construction bat monitoring reports must be submitted to SABAA and DFFE as per the guidelines.

Water resources

58. No exotic plants must be used for rehabilitation purposes; only indigenous plants of the area must be used.
59. The construction of surface stormwater drainage systems during the construction phase must be done in a manner that would protect the quality and quantity of the downstream system.
60. A Stormwater Management Plan must be designed and implemented for the road network to prevent roads from serving as concentrated conduits for water run-off, significantly increasing erosion potential and sediment transport capacity. Water diversions along the road must be placed at regular intervals in order to divert water back into the natural veld on the downstream side of the road.
61. All final positions of watercourse crossings must be appropriately "fine-tuned" through field verification in order to minimise potential impacts and reduce road construction cost.
62. An effective 40m and 100m watercourse Buffer Zone which include all riparian habitat must be established prior to any construction activities taking place. No person or vehicle will be allowed within the Buffer Zone, except for officially marked crossings. Management must be vigilant in preventing personnel taking short-cuts across the Buffer Zones between construction sites. The proposed road networks must avoid creating excessive crossings of the wash habitats and must avoid the established depression systems.
63. No vehicles must enter watercourse buffer zones outside of construction footprints.

Visual resources

64. 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.
65. 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.
66. 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.

Hazardous materials and waste management

67. Areas around fuel tanks must be bunded or contained in an appropriate manner as per the requirements of SABS 089:1999 Part 1.



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68. Leakage of fuel must be avoided at all times and if spillage occurs, it must be remedied immediately.
69. 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.
70. 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.
71. Where solid waste is disposed of, such disposal must only occur at a landfill licensed in terms of section 20(b) of the National Environment Management Waste Act, 2008 (Act 59 of 2008).
72. 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 as amended.

Historical / cultural / paleontological resources

73. The no go areas identified onsite must be adhered to. No turbines or associated infrastructure is permitted within this area. This includes new proposed roads associated with the WEF, but not existing roads.
74. Should any human remains, burials or burial grounds be uncovered during construction activities, work must cease in the vicinity of the find and the SAHRA Burial Grounds and Graves Unit must be contacted regarding a way forward.
75. Should any archaeological resources be uncovered during construction activities, work must cease in the vicinity of the find and the SAHRA Archaeology, Palaeontology and Meteorites Unit must be contacted regarding a way forward.
76. 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.

**General**

77. A copy of this Environmental Authorisation, the audit and compliance monitoring reports, and the approved EMPr, must be made available for inspection and copying-
    77.1. at the site of the authorised activity;
    77.2. to anyone on request; and
    77.3. where the holder of the Environmental Authorisation has a website, on such publicly accessible website.
78. 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



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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:** 03/05/2024

**Mr Sabelo Malaza**
**Chief Director: Integrated Environmental Authorisations**
**Department of Forestry, Fisheries & the Environment**

# 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 application form received on 12 June 2023.

b) The information contained in the final EIAR dated March 2024.

c) The comments received from interested and affected parties as included in the final EIAR dated March 2024.

d) Mitigation measures as proposed in the EIAR dated March 2024.

e) The information contained in the specialist studies contained within the appendices of the final EIAR dated March 2024 and as appears below:

| **Specialist Report** | **Specialist** | **Date** |
|---|---|---|
| Terrestrial Biodiversity and Sensitive Plant Species Specialist Assessment. | Hatch Africa (Pty) Ltd | 28-09-2023. |
| Avifaunal Impact Assessment Report | AfriAvian Environmental. | October 2023 |
| Freshwater Ecosystem Baseline & Impact Assessment | Ecology International (Pty) Ltd | September 2023 |
| Soil And Agricultural Impact Assessment Impact Report | Soil scientist- Konrad Kruger and Adriaan Oosthuizen. | August 2023 |
| Heritage Impact Assessment | CTS Heritage | September 2023 |
| Archaeological Impact Assessment | CTS Heritage | June 2022 |
| Palaeontological Impact Assessment | CTS Heritage | 12 March 2022 |
| Visual Impact Assessment Impact Report | Scientist (Konrad Kruger and Adriaan Oosthuizen). | August 2023 |
| Socio-Economic Impact Assessment Report | Independent Economic Researchers | September 2023. |
| Traffic Impact Assessment Report | EDL Engineers (Pty) Ltd | July 2023. |
| Bat Monitoring Report | Volant Environmental (Pty) Ltd | August 2023 |
| Noise Impact Assessment. | Enviro-Acoustic Research cc | 13 October 2023 |
| Safety Health And Environmental Risk Assessment. | ISHECON | 13 September 2023 |
| Desktop Geotechnical Report. | JG Afrika (Pty) Ltd | March 2022 b |



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## 2. Key factors considered in making the decision.

All information presented to the Department was considered 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.

a) The findings of all the specialist studies conducted and their recommended mitigation measures.

b) The need for the proposed project emanates from the provision of electricity to the national grid.

c) The final EIAR dated March 2024 identified all legislation and guidelines that have been considered in the preparation of the EIAR.

d) The location of the proposed wind energy facility deemed suitable.

e) The project area has favourable wind conditions to operate a wind farm.

f) The project alternatives assessment key findings.

g) The methodology used in assessing the potential impacts identified in the final EIAR dated March 2024 and the specialist studies have been indicated.

h) A sufficient public participation process was undertaken and the applicant has satisfied the minimum requirements as prescribed in the EIA Regulations, 2014 as amended 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 final EIAR dated March 2024 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 final EIAR dated March 2024 is deemed to be accurate and acceptable.

d) The proposed mitigation of impacts identified and assessed curtails the identified impacts.

e) The Optimised Final Layout has taken into consideration the biophysical constraints of sensitive flora, avifauna, and bats, surface water features, sensitive heritage areas, and associated buffer areas. Input from all specialists, stakeholders, and the competent authority was considered in the final Optimised Layout design and selection of the preferred alternative.

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.



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# Annexure 2: Locality Plan