



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Northern Cape Provincial Operations
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SRK Consulting (on behalf of Kloofsig Solar (Pty) Ltd)
P. O. Box 21842
Port Elizabeth
6000

Email: wmarais@srk.co.za

BY EMAIL/REGISTERED MAIL

Attention: Wanda Marais

RE: FINAL SCOPING REPORT FOR KLOOFSIG SOLAR (PTY) LTD PROPOSED SOLAR PLANT ACTIVITIES, ON PORTION 0 (REMAINING EXTENT) OF FARM 18, SITUATED NEAR PETRUSVILLE, IN THE UPPER ORANGE BUSINESS UNIT OF THE ORANGE PROTO-CATCHMENT MANAGEMENT AGENCY, NORTHERN CAPE PROVINCE

1. BACKGROUND

The Department of Water and Sanitation (from herein referred to as the Department or DWS) received a Final Scoping Report requesting comment for the proposed photo-voltaic solar plant (PV) by Kloofsig Solar (Pty) Ltd which are to take place on portion 0 (remaining extent) of Farm 18 situated near Petrusville. The document was then reviewed with reference to the National Water Act (Act No. 36 of 1998) and the following are the comments;

As mentioned in the report, the Department takes note that the proposed activity at the above mentioned locations will include:

1. Development of three (3) project phases of 75MW each and a small onsite substation (converting 33 kV to 132kV) covering a combined area of 970ha;
2. Construction of the facility and associated substation for the transmission of electricity from the proposed facility to the Manganore sub-station on the properties listed above;
3. The construction and operation of a powerline for transmission.

The area falls within the Upper Orange Business Unit of the Orange Proto - Catchment Management Agency. Future correspondence on this project should therefore be directed to the DWS – Bloemfontein Office.

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2. Distance from the water course

The Department notes that the proposed activity could be within the 1:100 year floodline. Please note that our Department rates all perennial and non-perennial rivers together with all dry river beds and natural drainage and associated riparian areas extremely sensitive to development. An option of developing furthest away from the all water course would be the preferred option.

Please note that no development or farming should be done within 100 m or 1:100 year flood line of any water course and 500m of wetlands without authorisation from our Department. The water courses should be delineated in order to provide appropriate buffer to maintain such water course. The delineation should be done according to the appropriate Department of Water and Sanitation's delineation document.

The construction camp shall not be located within the 1:100 year flood line or within 100 meters whatever is the greatest from any watercourse. Operation and storage of equipment within the riparian zone must be limited as far as possible. Vehicles and other machinery must be serviced well above the 1:100 year flood line or within a horizontal distance of 100 meters from any watercourse or estuary. Oils and other potential pollutants must be disposed off at an appropriate licensed site, with the necessary agreement from the owner of such a site.

3. Storm Water management

Any storm water must be diverted from the construction works and roads and must be managed in such a manner as to disperse runoff and to prevent the concentration of storm water flow. Where necessary, works must be constructed to attenuate the velocity of the storm water discharge and to protect the banks of the watercourse. Storm water control works must be constructed, operated and maintained in a sustainable manner throughout the project.

Increased runoff due to vegetation clearance and/or soil compaction must be managed, and steps must be taken to ensure that storm water does not lead to bank instability and excessive levels of silt entering the watercourse. Storm water leaving the construction site must in no way be contaminated by any substance, whether such substance is a solid, liquid, vapour or gas or a combination thereof which is produced, used, stored, dumped or spilled on the premises.

4. Invasive alien vegetation

Vegetation must be monitored and managed on an on-going basis during construction and operation. Alien vegetation must not be allowed to further colonise the area, and all new alien vegetation recruitment must be eradicated or controlled, using standard methods approved by the Department.

5. Design and layout of solar plant

A detailed layout plan needs to be submitted to our Department showing all the facilities in the proposed development, distance from the any watercourses and bathroom facilities.

Details of the final design must also be supplied as soon as a decision has been made, as the details of this factor may influence the environmental impact both during the construction and operational phases of the project.

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6. Construction

Material with pollution generating potential must be limited in any construction activities. Any hazardous substances must be handled according to the relevant legislation relating to transport, storage and use of the substance. Any spillage of any hazardous materials including diesel that may occur during construction and operation must be reported immediately to our Department.

7. Waste Management

Rubbish bins and Enviro loose/mobile toilets must be there and enough for the people on site during construction. A letter of consent from a registered waste facility to allow contractor to empty the toilet facility at their sewer system should be submitted to our department.

All sewage, grey and wash water, as well as any waste generated during the construction phase of the facilities will be collected, contained and disposed of at the permitted and / or licensed facilities of the Local Authority and this must please be confirmed in writing by the local authority.

8. Rehabilitation

Soils that have become compacted through the activities of the development must be loosened to an appropriate depth to allow seed germination. The necessary erosion prevention mechanisms must be employed to ensure the sustainability of all structures and activities and to prevent in-stream sedimentation. Rehabilitation remains the sole responsibility of the applicant and the Department.

9. Water use entitlement

The Department notes that the applicant has not submitted a request for a water use authorisation from our Department. Please be informed that engaging in water use activities is unlawful without necessary authorisation from our Department.

10. Issues to take into consideration

The applicant is to submit an EMP/EIA and it should take the following issues into consideration:

1. Should the project continue; a site visit and pre consultation site inspection must be conducted by a DWS official with the applicant, which will be followed by an application for Water Use Authorisation. This must be submitted to DWS in terms of the National Water Act, 1998 (Act 36 of 1998) before any activities take place. For a water use licence application to be considered, the following needs to be provided:
 - 1.1. Fully completed application forms. The water uses that will possibly be triggered are section 21 (a), (b), (c), (g) and (i) in terms of the National Water Act (Act 36 of 1998). These forms for the various water uses are available on the DWS website (<https://www.dwa.gov.za/Projects/WARMS/Licensing/licensing1.aspx>) or upon request;
 - 1.2. Registration fee (R114) and proof of payment;

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- 1.3. Certified copy of the representative's id or company registration certificate;
 - 1.4. Copy of the property title deed;
 - 1.5. Copy of the property zoning document;
 - 1.6. Letter of consent from land owner if the applicant is not the land owner;
 - 1.7. A copy of 1:50 000 topographic map / 1:10 000 indicating map name number of farm boundaries including subdivision;
 - 1.8. Approved EMP, Water Quality Management Report, Geohydrological Report; with Overall Water Balance;
 - 1.9. Signed Design Drawings and Engineer Report (Pollution control dam, storm water trenches, evaporation dams, onsite sanitation etc), designed by ECSA registered Engineer;
 - 1.10. Environmental Impact Assessment Report and Environmental Authorisation/RoD From Environmental Affairs;
 - 1.11. Public Participation Correspondence (notice proof and minutes from meeting);
 - 1.12. Section 27 (1) of NWA of 1998 No. 36 and proof of BBBEE status;
 - 1.13. Service level agreement with waste collector (sewage, domestic and oil) and water services provider;
 - 1.14. Company Share certificates and shareholding breakdown;
 - 1.15. Proof of preferred bidder status from the Department of Energy;
 - 1.16. Closure rehabilitation Plan; and
 - 1.17. Clearance Letter from Land Claim
2. The EMP must clearly show all water courses as defined in the National Water Act, 1998 (Act 36 of 1998) as well as the delineation 1:100 year flood lines. No activity may occur within the 1:100 year flood line of a river/drainage lines without authorisation. No activity may occur within the 500 metres of a pan/wetland (perennial/non perennial) without authorisation.
3. The EMP must clearly show the methods for collecting, storing, transporting and finally disposing of all waste products produced as well as the responsible and accountable persons. This includes written consent from the relevant accredited waste disposal site/ sewage disposal/ oil disposal in handling the waste. All applicable sections of the National Environmental Management: Waste Act 59 of 2008 should be strictly adhered to.

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4. The EMP must clearly identify all risks that are associated with the project that can affect the water resources in and around the project area and state all implementable measures to prevent and respond to accidents and abnormal events that may occur.
5. The EMP must clearly identify all risks that are associated with the project that can affect the water resources in and around the project area and state all corresponding measures to prevent and respond to accidents and abnormal events that may occur.
6. The EMP must clearly show through a responsibility matrix and organogram the responsible persons for implementing the mitigation measures and reporting lines, in the event of an accident.
7. The EMP must show in written form that the developer has made a legally binding commitment to implement the proposed mitigation measures and that these measures are not only suggestions and recommendations.
8. The EMP must clearly show the process followed if the developer does not comply with the legal requirements of the EMP and National Water Act, 1998 (Act No 36 of 1998).


11. Conclusion

Should the above issues be considered and all the requested documentation be submitted, the Department of Water and Sanitation has no objection to the proposed farming activities. Therefore the Department objects to this activity if the applicant has not provided proof of adherence to the above mentioned recommendations.

This reply does not grant any exemption from the requirements of any applicable Act, Ordinance, Regulation or By-law.

Should you have any further queries, please contact the relevant official at the number above.

Yours faithfully,



MR. M. MAHUNONYANE
PP **ACTING CEO: ORANGE PROTO-CATCHMENT MANAGEMENT AGENCY**

DATE: 17/11/2016

Marais, Wanda

From: John Geeringh <GeerinJH@eskom.co.za>
Sent: 11 January 2017 02:20 PM
To: Marais, Wanda
Cc: Dudu Hadebe
Subject: RE: NOTICE OF COMMENT PERIOD: Draft Environmental Impact Report: Proposed 75 MW Kloofsig 1,2 and 3 Solar PV Energy Facilities, Northern Cape.
Attachments: Eskom requirements for work in or near Eskom servitudes SOLAR (3).doc; Renewable Energy Generation Plant Setbacks to Eskom Infrastructure - Signed.pdf; 486618_Kloofsig 1 PV DEIR_Executive Summary_20170105.pdf

Please ensure the Eskom requirements for works at or near Eskom infrastructure is taken into consideration. I have attached it to this mail. The developer must make sure that he allows enough space to do 400kV line turn-ins to the proposed on-site substation. It seems to me that the proposed 400 / 132kV substation is very close to the existing 400kV power line. Eskom also requires that enough space is allowed for future expansion of the 400kV substation should it be required. Eskom normally acquires 600 x 600m for a 400kV substation. I may be a good idea for the developer to meet with Eskom via the GAU to determine the possible connection options as well as the requirements for whatever connection will be suitable, if this has not yet happened.

Regards

John Geeringh (Pr. Sci. Nat.)
Senior Consultant Environmental Management

Eskom GC: Land Development
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2000

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Cell: 083 632 7663

From: Marais, Wanda [<mailto:WMarais@srk.co.za>]
Sent: 10 January 2017 01:58 PM
Subject: NOTICE OF COMMENT PERIOD: Draft Environmental Impact Report: Proposed 75 MW Kloofsig 1,2 and 3 Solar PV Energy Facilities, Northern Cape.
Importance: High

Dear Authorities, Stakeholders & IAPs,

NOTICE OF COMMENT PERIOD: Draft Environmental Impact Report: Proposed 75 MW Kloofsig Energy Facility, Northern Cape.

This serves as notice that the Draft Environmental Impact Reports (DEIR) for the Kloofsig Energy Facility, Northern Cape, is currently open for review. Comments received on the Scoping Reports, together with responses, have been included in a Comments & Responses Table in the reports.

Each phase is labelled Kloofsig 1, Kloofsig 2 and Kloofsig 3 respectively, and is subject to a separate EIA process with **DEA Reference numbers** as follows:

Kloofsig 1: 14/12/16/3/3/2/951

Kloofsig 2: 14/12/16/3/3/2/952

Kloofsig 3: 14/12/16/3/3/2/953

The Executive Summary of these DEIRs have been distributed to all registered IAPs, and a printed copies of the full reports are available for public review at the Vanderkloof Public Library, Vanderkloof. The reports can also be accessed as an electronic copy on SRK Consulting's webpage via the 'Public Documents' link

<http://www.srk.co.za/en/page/za-public-documents>

A period of 30 days is provided to IAPs and state authorities to comment on these reports. Please note that this commenting period runs from **10 January 2017** and closes at **17h00** on **9 February 2017**. Please ensure you submit any comments you may have on the projects to us in writing within that timeframe.

You are encouraged to review this Draft Environmental Impact Report and send written comment by **17h00 on 9 February 2017** to:

Wanda Marais
SRK Consulting
PO Box 21842, Port Elizabeth, 6000
Email: wmarais@srk.co.za
Fax: (041) 509 4850

Kind Regards,

Wanda Marais B Proc
Public Participation Practitioner



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Eskom requirements for work in or near Eskom servitudes.


1. Eskom's rights and services must be acknowledged and respected at all times.
2. Eskom shall at all times retain unobstructed access to and egress from its servitudes.
3. Eskom's consent does not relieve the developer from obtaining the necessary statutory, land owner or municipal approvals.
4. Any cost incurred by Eskom as a result of non-compliance to any relevant environmental legislation will be charged to the developer.
5. If Eskom has to incur any expenditure in order to comply with statutory clearances or other regulations as a result of the developer's activities or because of the presence of his equipment or installation within the servitude restriction area, the developer shall pay such costs to Eskom on demand.
6. The use of explosives of any type within 500 metres of Eskom's services shall only occur with Eskom's previous written permission. If such permission is granted the developer must give at least fourteen working days prior notice of the commencement of blasting. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued in terms of the blasting process. It is advisable to make application separately in this regard.
7. Changes in ground level may not infringe statutory ground to conductor clearances or statutory visibility clearances. After any changes in ground level, the surface shall be rehabilitated and stabilised so as to prevent erosion. The measures taken shall be to Eskom's satisfaction.
8. Eskom shall not be liable for the death of or injury to any person or for the loss of or damage to any property whether as a result of the encroachment or of the use of the servitude area by the developer, his/her agent, contractors, employees, successors in title, and assignees. The developer indemnifies Eskom against loss, claims or damages including claims pertaining to consequential damages by third parties and whether as a result of damage to or interruption of or interference with Eskom's services or apparatus or otherwise. Eskom will not be held responsible for damage to the developer's equipment.
9. No mechanical equipment, including mechanical excavators or high lifting machinery, shall be used in the vicinity of Eskom's apparatus and/or services, without prior written permission having been granted by Eskom. If such permission is granted the developer must give at least seven working days' notice prior to the commencement of work. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued by the relevant Eskom Manager

Note: Where and electrical outage is required, at least fourteen work days are required to arrange it.

10. Eskom's rights and duties in the servitude shall be accepted as having prior right at all times and shall not be obstructed or interfered with.
11. Under no circumstances shall rubble, earth or other material be dumped within the servitude restriction area. The developer shall maintain the area concerned to Eskom's satisfaction. The developer shall be liable to Eskom for the cost of any remedial action which has to be carried out by Eskom.
12. The clearances between Eskom's live electrical equipment and the proposed construction work shall be observed as stipulated by *Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993)*.
13. Equipment shall be regarded electrically live and therefore dangerous at all times.
14. In spite of the restrictions stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), as an additional safety precaution, Eskom will not approve the erection of houses, or structures occupied or frequented by human beings, under the power lines or within the servitude restriction area.
15. Eskom may stipulate any additional requirements to highlight any possible exposure to Customers or Public to coming into contact or be exposed to any dangers of Eskom plant.
16. It is required of the developer to familiarise himself with all safety hazards related to Electrical plant.
17. Any third party servitudes encroaching on Eskom servitudes shall be registered against Eskom's title deed at the developer's own cost. If such a servitude is brought into being, its existence should be endorsed on the Eskom servitude deed concerned, while the third party's servitude deed must also include the rights of the affected Eskom servitude.

John Geeringh (Pr Sci Nat)

Senior Consultant Environmental Management
Eskom GC: Land Development

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|---|--|--|
|  | <p style="text-align: center;">SCOT</p> | <p style="text-align: center;">Technology</p> |
|---|--|--|

Title: **Renewable Energy Generation Plant Setbacks to Eskom Infrastructure** Unique Identifier: **240-65559775**

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Documentation Type: **Guideline**

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Disclosure Classification: **CONTROLLED DISCLOSURE**


Compiled by



J W Chetty
Mechanical Engineer

Date: 20/02/2014

Approved by



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Date: 24/02/2014

Authorised by



R A Vajeth
Acting Snr Manager (Lines)

Date: 27/2/2014

Supported by SCOT/SC



R Vajeth
SCOT/SC/ Chairperson

Date: 27/2/2014

PCM Reference: 240-65132732 **LINE ENGINEERING SERVICES**

SCOT Study Committee Number/Name : **OVERHEAD LINES**

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EXECUTIVE SUMMARY

In recent decades, the use of wind turbines, concentrated solar plants and photovoltaic plants have been on the increase as it serves as an abundant source of energy. This document specifies setbacks for wind turbines and the reasons for these setbacks from infrastructure as well as setbacks for concentrated solar plants and photovoltaic plants. Setbacks for wind turbines employed in other countries were compared and a general setback to be used by Eskom was suggested for use with wind turbines and other renewable energy generation plants.

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1. INTRODUCTION

During the last few decades, a large amount of wind turbines have been installed in wind farms to accommodate for the large demand of energy and depleting fossil fuels. Wind is one of the most abundant sources of renewable energy. Wind turbines harness the energy of this renewable resource for integration in electricity networks. The extraction of wind energy is its primary function and thus the aerodynamics of the wind turbine is important. There are many different types of wind turbines which will all exhibit different wind flow characteristics. The most common wind turbine used commercially is the Horizontal Axis Wind Turbine. Wind flow characteristics of this turbine are important to analyse as it may have an effect on surrounding infrastructure.

Wind turbines also cause large turbulence downwind that may affect existing infrastructure. Debris or parts of the turbine blade, in the case of a failure, may be tossed behind the turbine and may lead to damage of infrastructure in the wake path.

This document outlines the minimum distances that need to be introduced between a wind turbine and Eskom infrastructure to ensure that debris and / or turbulence would not negatively impact on the infrastructure.

Safety distances of wind turbines from other structures as implemented by other countries were also considered and the reasons for their selection were noted.

Concentrated solar plants and photovoltaic plants setbacks away from substations were also to be considered to prevent restricting possible power line access routes to the substation.

2. SUPPORTING CLAUSES

2.1 SCOPE

This document provides guidance on the safe distance that a wind turbine should be located from any Eskom power line or substation. The document specifies setback distances for transmission lines (220 kV to 765 kV), distribution lines (6.6 kV to 132 kV) and all Eskom substations. Setbacks for concentrated solar plants and photovoltaic plants are also specified away from substations.

2.1.1 Purpose

Setbacks for wind turbines and power lines / substations are required for various reasons. These include possible catastrophic failure of the turbine blade that may release fragments and which may be thrown onto nearby power lines that may result in damage with associated unplanned outages. Turbulence behind the turbine may affect helicopter flight during routine Eskom live line maintenance and

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inspections that may lead to safety risk of the aircraft / personnel. Concentrated solar plants and photovoltaic plants setback away from substations were required to prevent substations from being boxed in by these renewable generation plants limiting line route access to the substations.

2.1.2 Applicability

This document is applicable to the siting of all new and existing wind turbines, concentrated solar plants and photovoltaic plants near power lines and substations.

2.2 NORMATIVE/INFORMATIVE REFERENCES

2.2.1 Normative

1. <http://www.envir.ee/orb.aw/class=file/action=preview/id=1170403/Hiiumaa+turbulence+impact+EMD.pdf>.
2. <http://www.energy.ca.gov/2005publications/CEC-500-2005-184/CEC-500-2005-184.PDF>
3. <http://www.adamscountywind.com/Revised%20Site/Windmills/Adams%20County%20Ordinance/Adams%20County%20Wind%20Ord.htm>
4. http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=PA11R&RE=1&EE=1
5. <http://www.wind-watch.org/documents/european-setbacks-minimum-distance-between-wind-turbines-and-habitations/>
6. <http://www.publications.parliament.uk/pa/ld201011/ldbills/017/11017.1-i.html>
7. http://www.caw.ca/assets/pdf/Turbine_Safety_Report.pdf
8. Rogers J, Slegers N, Costello M. (2011) A method for defining wind turbine setback standards. Wind energy 10.1002/we.468

2.2.2 Informative

None

2.3 DEFINITIONS

| Definition | Description |
|------------|---|
| Setback | The minimum distance between a wind turbine and boundary line/dwelling/road/infrastructure/servitude etc. |
| Flicker | Effect caused when rotating wind turbine blades periodically cast shadows |
| Tip Height | The total height of the wind turbine ie. Hub height plus half rotor diameter (see Figure1) |

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2.3.1 Disclosure Classification

Controlled disclosure: controlled disclosure to external parties (either enforced by law, or discretionary).

2.4 ABBREVIATIONS

| Abbreviation | Description |
|--------------|-------------|
| None | |

2.5 ROLES AND RESPONSIBILITIES

All personnel involved in the positioning wind turbines, concentrated solar plants and photovoltaic plants near power lines/substations must follow the setbacks outlined in this guideline.

2.6 PROCESS FOR MONITORING

Approval by Eskom in writing.

2.7 RELATED/SUPPORTING DOCUMENTS

None

3. DOCUMENT CONTENT

3.1 INTERNATIONAL SETBACK COMPARISON

Wind Turbine setbacks employed by various countries were considered. It was found that setbacks were determined for various reasons that include noise, flicker, turbine blade failure and wind effects. The distances (setbacks) varied based on these factors and were influenced by the type of infrastructure

Wind turbine setbacks varied for roads, power lines, dwellings, buildings and property and it was noted that the largest setbacks were employed for reasons of noise and flicker related issues [1-7]. Very few countries specified setbacks for power lines.

The literature survey [1-7], yielded information about studies and experiments were conducted to determine the distance that a broken fragment from a wind turbine might be thrown. Even though of low probability of hitting a power line [5.0×10^{-5}]^[8], the distances recorded were significant [750m]^[8]

Setbacks were thus introduced to prevent any damage to Eskom infrastructure.

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Wind turbines may also cause changes in wind patterns with turbulent effects behind the hub. These factors dictate the wind turbine setbacks specified in this document.

Concentrated solar plants and photovoltaic plants also can limit access into the substation for power lines of all voltages. A setback distance must therefore be employed to prevent the substation from being boxed in by these generation plants. These setback distances are specified in this document.

3.2 ESKOM REQUIRED SETBACKS

- Eskom requires a setback distance of 3 times the tip height of the wind turbine from the edge of the closest Eskom servitude (including vacant servitudes) for transmission lines.
- Eskom requires a setback distance of 1 times the tip height of the wind turbine from the edge of the closest Eskom servitude (including vacant servitudes) for distribution Lines.
- Eskom must be informed of any proposed wind turbine, concentrated solar plants and photovoltaic activity within a 5 km radius of a substation. No wind turbine structure shall be built within a 2 km radius of the closest point of the substation. Where concentrated solar plants and photovoltaic structures fall within a 2 km radius of the closest point of a substation, Eskom should be informed in writing during the planning phase of the construction of such plant or structure.
- Applicants must show that Eskom radio telecommunication systems (mainly microwave systems) will not be affected in any way by wind turbines.

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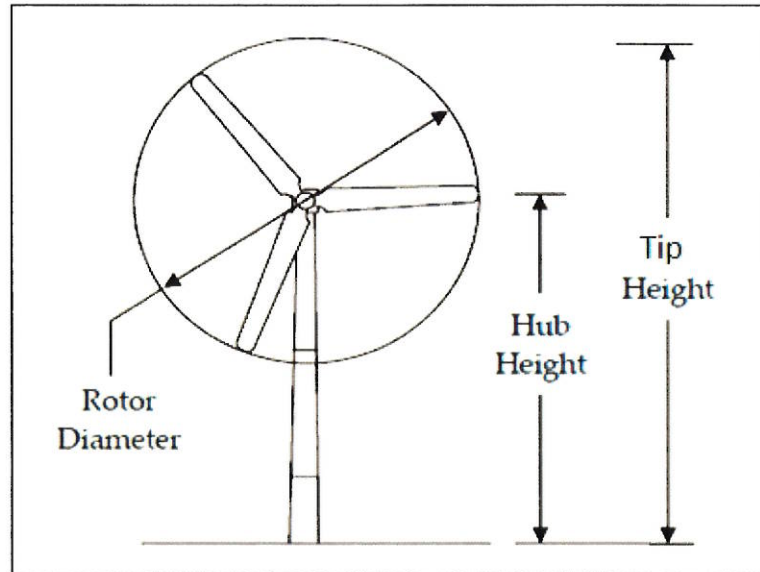


Figure 1: Horizontal Axis Wind Turbine ^[2]

4. AUTHORISATION

This document has been seen and accepted by:

| Name & Surname | Designation |
|------------------|-----------------------------|
| V Naidoo | Chief Engineer |
| Dr P H Pretorius | Electrical Specialist |
| J Geeringh | Snr Consultant Environ Mngt |
| B Haridass | Snr Consultant Engineer |
| R A Vajeth | Acting Snr Manager (Lines) |

5. REVISIONS

| Date | Rev. | Compiler | Remarks |
|---------------|------|------------|---|
| November 2013 | 0 | J W Chetty | First Publication - No renewable energy generation plant setback specification in existence |

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Marais, Wanda

From: John Geeringh <GeerinJH@eskom.co.za>
Sent: 11 January 2017 02:23 PM
To: Marais, Wanda
Subject: RE: NOTICE OF COMMENT PERIOD: Draft Environmental Impact Report: Proposed 75 MW Kloofsig 1,2 and 3 Solar PV Energy Facilities, Northern Cape.

It is also important to ensure that the power line and substation infrastructure that must be transferred to Eskom is authorised separately to ensure that conditions in the EA talk only to the relevant infrastructure.

Kind regards
John

From: Marais, Wanda [<mailto:WMarais@srk.co.za>]
Sent: 10 January 2017 01:58 PM
Subject: NOTICE OF COMMENT PERIOD: Draft Environmental Impact Report: Proposed 75 MW Kloofsig 1,2 and 3 Solar PV Energy Facilities, Northern Cape.
Importance: High

Dear Authorities, Stakeholders & IAPs,

NOTICE OF COMMENT PERIOD: Draft Environmental Impact Report: Proposed 75 MW Kloofsig Energy Facility, Northern Cape.

This serves as notice that the Draft Environmental Impact Reports (DEIR) for the Kloofsig Energy Facility, Northern Cape, is currently open for review. Comments received on the Scoping Reports, together with responses, have been included in a Comments & Responses Table in the reports.

Each phase is labelled Kloofsig 1, Kloofsig 2 and Kloofsig 3 respectively, and is subject to a separate EIA process with DEA Reference numbers as follows:

Kloofsig 1: 14/12/16/3/3/2/951
Kloofsig 2: 14/12/16/3/3/2/952
Kloofsig 3: 14/12/16/3/3/2/953

The Executive Summary of these DEIRs have been distributed to all registered IAPs, and a printed copies of the full reports are available for public review at the Vanderkloof Public Library, Vanderkloof. The reports can also be accessed as an electronic copy on SRK Consulting's webpage via the 'Public Documents' link <http://www.srk.co.za/en/page/za-public-documents>

A period of 30 days is provided to IAPs and state authorities to comment on these reports. Please note that this commenting period runs from **10 January 2017** and closes at **17h00** on **9 February 2017**. Please ensure you submit any comments you may have on the projects to us in writing within that timeframe.

You are encouraged to review this Draft Environmental Impact Report and send written comment by **17h00 on 9 February 2017** to:

Wanda Marais
SRK Consulting
PO Box 21842, Port Elizabeth, 6000
Email: wmarais@srk.co.za
Fax: (041) 509 4850

Kind Regards,

6. DEVELOPMENT TEAM

The following people were involved in the development of this document:

Jonathan W Chetty (Mechanical Engineer)

Vivendhra Naidoo (Chief Engineer)

Dr Pieter H Pretorius (Electrical Specialist)

John Geeringh (Snr Consultant Environ Mngt)

Bharat Haridass (Snr Consultant Engineer)

Riaz A Vajeth (Acting Snr Manager (Lines))

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CaseReference: [Kloofsig 1 Solar Facility](#)

DecisionDate:

Friday, January 27, 2017 - 09:45

CaseDiscussion:

SRK Consulting was appointed by Kloofsig Solar (Pty) Ltd to conduct an Environmental Impact Assessment (EIA) Process for the proposed 75MW Kloofsig Solar PV Energy Facility, Northern Cape – Kloofsig 1. A draft EIA was completed in term of the National Environmental Management Act, 1998 (NEMA) and the EIA Regulations 2014. The proposed development will comprise the construction of a solar energy facility covering 270 ha. Infrastructure includes solar panels mounted in arrays, underground low voltage cables linking panels to an inverter, underground medium voltage cables, and a 33kV below ground powerline, laydown areas and construction camp, offices, ablution facilities, storeroom, permanent office. Electricity transmission infrastructure includes an 8.5 km 132kV powerline and substation, as 132kV switching station, an additional on-site substation and short connection line to the existing 400kV powerline is proposed. Natura Viva CC was appointed to conduct an Archaeological Impact Assessment (AIA) and Palaeontological Impact Assessment (PIA) for the project.

Tusenius, M.L. 2016. Archaeological Impact Assessment of the Proposed Kloofsig 1 Solar PV Energy Facility on the Remainder of the Farm Kalk Poort 18, Petrusville Area, Renosterberg Local Municipality, Northern Cape

Background scatters of Middle Stone Age (MSA) and Later Stone Age (LSA) lithics were identified within the project area and were rated as heritage resources of low heritage significance. A concentration of Early Stone Age (ESA), MSA and Fauresmith material was identified along the watercourse to the north of the proposed eastern powerline and has been rated as heritage resources of IIIB significance.

Recommendations provided in the report include the following:

- Avoid the section of the watercourse to the north of the eastern power line which was identified as being of medium local archaeological sensitivity and cordon it off with security tape;
- Restrict construction activities in the eastern power line area to the disturbed zone between the telephone lines and the gravel road;
- If dense concentration of stone artefacts are uncovered during construction, the Environmental Control Officer (ECO) should notify SAHRA;
- If any human remains, graves or stone burial cairns are found during construction, work in that area must cease and the ECO must immediately notify SAHRA. If the burials cannot be avoided, exhumation by a suitably and accredited professional archaeologist would need to be done under a permit issued by SAHRA. Mitigation is at the cost of the developer.

Almond, J. 2015. Palaeontological Impact Assessment: Basic Assessment Study and Proposed Exemption from further Specialist Palaeontological Studies for the proposed Kloofsig Solar PV Facility on the remainder of the Farm Kalk Poort 18, Renosterberg Local Municipality near Colesburg, Northern Cape

The study area of the proposed Kloofsig Solar PV Facility is underlain by potentially fossiliferous sediments of the Tierberg Formation and unfossiliferous Early Jurassic igneous rocks of the Karoo Dolerite suite. The Tierberg mudrocks are poorly exposed as they are covered by Late Caenozoic sediments such as calcrete, surface soils and alluvium. No significant fossil heritage was recorded within the development area and no sensitive or no-go areas were identified.

Recommendations provided in the report include the following:

- In the case of any substantial fossil finds during construction, these should be safeguarded, preferably in-situ, and reported by the ECO as soon as possible to SAHRA so that appropriate mitigation by a palaeontologist can be considered and implemented; and
- These recommendations should be incorporated into the Environmental Management Programme (EMPr) for the development.

Almond, J.E. 2016. Recommended Exemption from Further Palaeontological Studies: Proposed Kloofsig 1 Solar PV Energy Facility on the remainder of farm Kalkpoort 18, Renosterberg Local Municipality near Petrusville, Northern Cape

The Kloofsig 1 study area is underlain by the Tierberg Formation and Karoo dolerite bedrocks of low palaeontological sensitivity. No sensitive conservation-worthy fossil sites were identified within the development footprint during fieldwork.

Recommendations provided in the report include that should any substantial fossil remains be encountered during construction, these should be safeguarded, preferably in situ, and reported by the ECO to SAHRA as soon as possible so that appropriate action can be taken by a professional palaeontologist at the developers expense. Mitigation would normally involve the scientific recording and judicious sampling or collection of fossil material as well as associated geological data by a professional palaeontologist.

Final Comment

The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit has no objection to the proposed development. The recommendations provided in the AIA and PIA, and the following conditions must be included in the Environmental Management Programme (EMPr) for the project:

- ESA/MSA Concentrations identified at Waypoints 3-7 must be avoided with a 30 m buffer. This area must be cordoned off and be avoided during all phases of development;
- The Final EIA, EMPr and all appendices must be submitted to SAHRA upon their submission to the Department of Environmental Affairs (DEA) for decision making;
- If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of

heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgit/John Gribble 021 462 5402) must be alerted. If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Mimi Seetelo 012 320 8490), must be alerted immediately. A professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the findings. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required;

- If the development receives an Environmental Authorisation (EA), SAHRA must be informed and all documents pertaining to the EA must be uploaded to the SAHRIS Case file.

Official Docs:

| Attachment | Size |
|---|--------------|
|  Case 9914 - Final Comment.pdf (http://sahra.org.za/sahris/sites/default/files/casedecisions/Case%209914%20-%20Final%20Comment.pdf) | 101.76 KB |

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CaseDecisions

CaseReference: [Kloofsig 2 Solar Facility](#)

DecisionDate:

Friday, January 27, 2017 - 09:45

CaseDiscussion:

SRK Consulting was appointed by Kloofsig Solar (Pty) Ltd to conduct an Environmental Impact Assessment (EIA) Process for the proposed 75MW Kloofsig Solar PV Energy Facility, Northern Cape – Kloofsig 2. A draft EIA was completed in term of the National Environmental Management Act, 1998 (NEMA) and the EIA Regulations 2014. The proposed development will comprise the construction of a solar energy facility covering 200 ha. Infrastructure includes solar panels mounted in arrays, underground low voltage cables linking panels to an inverter, underground medium voltage cables, and a 33kV below ground powerline, laydown areas and construction camp, offices, ablution facilities, storeroom, permanent office. Electricity transmission infrastructure includes an 8.5 km 132kV powerline and substation, as 132kV switching station, an additional on-site substation and short connection line to the existing 400kV powerline is proposed. Natura Viva CC was appointed to conduct an Archaeological Impact Assessment (AIA) and Palaeontological Impact Assessment (PIA) for the project.

Tusenius, M.L. 2016. Archaeological Impact Assessment of the Proposed Kloofsig 2 Solar PV Energy Facility on the Remainder of the Farm Kalk Poort 18, Petrusville Area, Renosterberg Local Municipality, Northern Cape

Background scatters of Middle Stone Age (MSA) and Later Stone Age (LSA) lithics were identified within the project area and were rated as heritage resources of low heritage significance.

Recommendations provided in the report include the following:

- If dense concentration of stone artefacts are uncovered during construction, the Environmental Control Officer (ECO) should notify SAHRA;
- If any human remains, graves or stone burial cairns are found during construction, work in that area must cease and the ECO must immediately notify SAHRA. If the burials cannot be avoided, exhumation by a suitably and accredited professional archaeologist would need to be done under a permit issued by SAHRA. Mitigation is at the cost of the developer.

Almond, J. 2015. Palaeontological Impact Assessment: Basic Assessment Study and Proposed Exemption from further Specialist Palaeontological Studies for the proposed Kloofsig Solar PV Facility on the remainder of the Farm Kalk Poort 18, Renosterberg Local Municipality near Colesburg, Northern Cape

The study area of the proposed Kloofsig Solar PV Facility is underlain by potentially fossiliferous sediments of the Tierberg Formation and unfossiliferous Early Jurassic igneous rocks of the Karoo Dolerite suite. The Tierberg mudrocks are poorly exposed as they are covered by Late Caenozoic sediments such as calcrete, surface soils and alluvium. No significant fossil heritage was recorded within the development area and no sensitive or no-go areas were identified.

Recommendations provided in the report include the following:

- In the case of any substantial fossil finds during construction, these should be safeguarded, preferably in-situ, and reported by the ECO as soon as possible to SAHRA so that appropriate mitigation by a palaeontologist can be considered and implemented; and
- These recommendations should be incorporated into the Environmental Management Programme (EMPr) for the development.

Almond, J.E. 2016. Recommended Exemption from Further Palaeontological Studies: Proposed Kloofsig 2 Solar PV Energy Facility on the remainder of farm Kalkpoort 18, Renosterberg Local Municipality near Petrusville, Northern Cape

The Kloofsig 1 study area is underlain by the Tierberg Formation and Karoo dolerite bedrocks of low palaeontological sensitivity. No sensitive conservation-worthy fossil sites were identified within the development footprint during fieldwork.

Recommendations provided in the report include that should any substantial fossil remains be encountered during construction, these should be safeguarded, preferably in situ, and reported by the ECO to SAHRA as soon as possible so that appropriate action can be taken by a professional palaeontologist at the developers expense. Mitigation would normally involve the scientific recording and judicious sampling or collection of fossil material as well as associated geological data by a professional palaeontologist.

Final Comment

The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit has no objection to the proposed development. The recommendations provided in the AIA and PIA, and the following conditions must be included in the Environmental Management Programme (EMPr) for the project:

- The Final EIA, EMPr and all appendices must be submitted to SAHRA upon their submission to the Department of Environmental Affairs (DEA) for decision making;
- If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of

heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt/John Gribble 021 462 5402) must be alerted. If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Mimi Seetelo 012 320 8490), must be alerted immediately. A professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the findings. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required;

- If the development receives an Environmental Authorisation (EA), SAHRA must be informed and all documents pertaining to the EA must be uploaded to the SAHRIS Case file.

OfficialDocs:

| Attachment | Size |
|---|--------------|
|  Case 10001 - Final Comment.pdf (http://sahra.org.za/sahris/sites/default/files/casedecisions/Case%2010001%20-%20Final%20Comment.pdf) | 100.28 KB |

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CaseReference: [Kloofsig 3 Solar Facility](#)

DecisionDate:

Friday, January 27, 2017 - 09:45

CaseDiscussion:

SRK Consulting was appointed by Kloofsig Solar (Pty) Ltd to conduct an Environmental Impact Assessment (EIA) Process for the proposed 75MW Kloofsig Solar PV Energy Facility, Northern Cape – Kloofsig 3. A draft EIA was completed in term of the National Environmental Management Act, 1998 (NEMA) and the EIA Regulations 2014. The proposed development will comprise the construction of a solar energy facility covering 500 ha. Infrastructure includes solar panels mounted in arrays, underground low voltage cables linking panels to an inverter, underground medium voltage cables, and a 33kV below ground powerline, laydown areas and construction camp, offices, ablution facilities, storeroom, permanent office. Electricity transmission infrastructure includes an 8.5 km 132kV powerline and substation, as 132kV switching station, an additional on-site substation and short connection line to the existing 400kV powerline is proposed. Natura Viva CC was appointed to conduct an Archaeological Impact Assessment (AIA) and Palaeontological Impact Assessment (PIA) for the project.

Tusenius, M.L. 2016. Archaeological Impact Assessment of the Proposed Kloofsig 3 Solar PV Energy Facility on the Remainder of the Farm Kalk Poort 18, Petrusville Area, Renosterberg Local Municipality, Northern Cape

Background scatters of Middle Stone Age (MSA) and Later Stone Age (LSA) lithics were identified within the project area and were rated as heritage resources of low heritage significance.

Recommendations provided in the report include the following:

- If dense concentration of stone artefacts are uncovered during construction, the Environmental Control Officer (ECO) should notify SAHRA;
- If any human remains, graves or stone burial cairns are found during construction, work in that area must cease and the ECO must immediately notify SAHRA. If the burials cannot be avoided, exhumation by a suitably and accredited professional archaeologist would need to be done under a permit issued by SAHRA. Mitigation is at the cost of the developer.

Almond, J. 2015. Palaeontological Impact Assessment: Basic Assessment Study and Proposed Exemption from further Specialist Palaeontological Studies for the proposed Kloofsig Solar PV Facility on the remainder of the Farm Kalk Poort 18, Renosterberg Local Municipality near Colesburg, Northern Cape

The study area of the proposed Kloofsig Solar PV Facility is underlain by potentially fossiliferous sediments of the Tierberg Formation and unfossiliferous Early Jurassic igneous rocks of the Karoo Dolerite suite. The Tierberg mudrocks are poorly exposed as they are covered by Late Cenozoic sediments such as calcrete, surface soils and alluvium. No significant fossil heritage was recorded within the development area and no sensitive or no-go areas were identified.

Recommendations provided in the report include the following:

- In the case of any substantial fossil finds during construction, these should be safeguarded, preferably in-situ, and reported by the ECO as soon as possible to SAHRA so that appropriate mitigation by a palaeontologist can be considered and implemented; and
- These recommendations should be incorporated into the Environmental Management Programme (EMPr) for the development.

Almond, J.E. 2016. Recommended Exemption from Further Palaeontological Studies: Proposed Kloofsig 3 Solar PV Energy Facility on the remainder of farm Kalkpoort 18, Renosterberg Local Municipality near Petrusville, Northern Cape

The Kloofsig 3 study area is underlain by the Tierberg Formation and Karoo dolerite bedrocks of low palaeontological sensitivity. No sensitive conservation-worthy fossil sites were identified within the development footprint during fieldwork.

Recommendations provided in the report include that should any substantial fossil remains be encountered during construction, these should be safeguarded, preferably in situ, and reported by the ECO to SAHRA as soon as possible so that appropriate action can be taken by a professional palaeontologist at the developers expense. Mitigation would normally involve the scientific recording and judicious sampling or collection of fossil material as well as associated geological data by a professional palaeontologist.


Final Comment

The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit has no objection to the proposed development. The recommendations provided in the AIA and PIA, and the following conditions must be included in the Environmental Management Programme (EMPr) for the project:

- The Final EIA, EMPr and all appendices must be submitted to SAHRA upon their submission to the Department of Environmental Affairs (DEA) for decision making;
- If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt/John Gribble 021 462 5402) must be alerted. If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Mimi Seetelo 012 320 8490), must be alerted immediately. A professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the findings. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required;

If the development receives an Environmental Authorisation (EA), SAHRA must be informed and all documents pertaining to the EA must be uploaded to the SAHRIS Case file.

OfficialDocs:

| Attachment | Size |
|---|-------------|
|  Case_10002 - Final Comment.pdf (http://sahra.org.za/sahris/sites/default/files/casedecisions/Case%2010002%20-%20Final%20Comment.pdf) | 99.78 KB |

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Marais, Wanda

From: JanHarmV <JanHarmV@nda.agric.za>
Sent: 10 February 2017 09:47 AM
To: Marais, Wanda
Cc: LekgauMah; MpumeN; MankhaneP
Subject: RE: REMINDER: Draft Environmental Impact Report: Proposed 75 MW Kloofsig 1,2 and 3 Solar PV Energy Facilities, Northern Cape.

Hi Wanda

Sorry for the delay, As per you request regarding inputs to the DEIR:

I have provided my inputs and comments to you during the initial phase of compiling the DEIAR and was included as the following in the current DEIAR:

Table 4-1, Page 97, Point 5.5 Page 107, point 572 page 115-118 and also in the DEIAR appendices H1 and H3.

I am satisfied that my concerns are addressed and will be reflected in the Final Environmental Impact Report (FEIR)

Best regards
Harm Vorster
DAFF-LUSM-RA

From: Marais, Wanda [<mailto:WMarais@srk.co.za>]
Sent: 08 February 2017 11:42 AM
Subject: REMINDER: Draft Environmental Impact Report: Proposed 75 MW Kloofsig 1,2 and 3 Solar PV Energy Facilities, Northern Cape.
Importance: High

Dear Authorities,

REMINDER: Draft Environmental Impact Report: Proposed 75 MW Kloofsig Energy Facility, Northern Cape.

This serves as a reminder that the comment period as per the Draft Environmental Impact Reports (DEIR) for the Kloofsig Energy Facility, Northern Cape, will expire at **17h00** on **9 February 2017**. Should you still wish to submit comments and have not yet done so, please ensure that you forward them to us timeously to ensure that they will be reflected and addressed in the Final Environmental Impact Report (FEIR.)

Kind Regards,

Wanda Marais B Proc
Public Participation Practitioner



SRK Consulting (South Africa) (Pty) Ltd
Ground Floor, Bay Suites, 1a Humewood Rd, Humeral, Port Elizabeth, 6001
P O Box 21842, Port Elizabeth, 6000

Marais, Wanda

From: KhuthalaD <KhuthalaD@daff.gov.za>
Sent: 09 February 2017 08:30 AM
To: Marais, Wanda
Subject: EMINDER: Draft Environmental Impact Report: Proposed 75 MW Kloofsig 1,2 and 3 Solar PV Energy Facilities, Northern Cape

Good day

Please email me the title deed of the above proposed project.

Kind Regards
Khuthala