

PROPOSED ELECTRIFICATION OF THE ENKOVUKENI COMMUNITY, iSIMANGALISO WETLAND PARK, KOSI BAY

ENVIRONMENTAL CONSTRAINTS TO BE TAKEN INTO ACCOUNT, BY AN ENGINEERING CONSULTANCY, WHEN QUOTING FOR THE DESIGN AND IMPLEMENTATION OF SOLAR PHOTO-VOLTAIC ELECTRICITY GENERATION AT ENKOVUKENI

1. INTRODUCTION

Situated in the iSimangaliso Wetland Park, a World heritage Site, the islanded community of Enkovukeni, numbering some 57 households has been earmarked for electrification.

Three means of electrifying the community have been investigated:

- To establish an overhead 22kV power line linking the existing grid approximately 7 km away, across Kosi Bay, to the community. Thereafter the 22kV power will be stepped down via transformers and the households supplied via low voltage power lines at 250V.

or

- The establishment of a containerised Microgrid Solution which is estimated to consist of 5 containers, solar panels and their 250V low voltage power lines, to provide power to households in the Enkovukeni Community. Approximately 5 households may be fed from each container / microgrid.

The first two options, after some consideration, were discarded as being too costly. An Environmental Impact Assessment (EIA) had been commenced and then subsequently stopped on these options being negated. The EIA, termed a Basic Assessment, and the need for Environmental Authorisation by the Department of Forestry, Fisheries and the Environment, was necessitated as numerous Activities which are presumed to have a negative environmental impact, were triggered.

A third option is now being considered, viz;

- Solar Photo Voltaic power via solar panels, an inverter and thereafter fed into the houses.
- Design, manufacture and install a standalone carport structure using either galvanized steel or treated wooden poles, engineered to support the weight of solar panels, as well as accommodate the inverter and battery enclosure. The

design must ensure that the maximum possible PV capacity is installed per household.

- Install solar panels with a total output of up to 5kW, including a matching inverter and battery system.
- Provide a secure kiosk to house inverters, batteries, and other electrical components that can be mounted on the solar PV support structure.
- Install LV pole-top box, cabling, and smart metering as per Eskom standards.

2. POTENTIAL ENVIRONMENTAL PROCESSES TO BE FOLLOWED FOR ENVIRONMENTAL AUTHORISATION

It is not yet known which process will be followed. Two options exist, viz.

- In terms of the amended EIA Regulations published under NEMA, as amended, if the proposed development triggers listed activities in terms of Listing Notices 1 (GNR. 327), and 3 (GNR. 324) (as amended), in terms of section 24(2) and 24D of NEMA, then environmental authorisation will be required via the undertaking of a Basic Assessment. The Basic Assessment Report will be submitted to the national Department of Forestry, Fisheries, and the Environment (DFFE) for environmental authorisation. Should a Water Use Licence be required, an application will be submitted to the Department of Water and Sanitation in terms of Chapter 4 of the National Water Act, 1998 (Act No 36 of 1998), particularly Section 40(4).
- Conduct an Internal Environmental Scoping Report as required by the iSimangaliso Wetland Park Authority.

Should the iSimangaliso Wetland Park Authority so deem necessary, the Park Authority may stipulate that Environmental Authorisation through the Basic Assessment is required in terms of the National Environmental Management: Protected Areas Act (Act 57 of 2003),

50. Commercial and community activities in a national park, nature reserve and world heritage site

- (5) No development, construction or farming may be permitted in a national park, nature reserve or world heritage site without the prior written approval of the management authority.

On behalf of Eskom Holdings, ACER (Africa) Environmental Consultants will fulfil the role and responsibilities of Environmental Assessment Practitioner (EAP), to undertake, either:

- The Basic Assessment and the associated public participation process, and to submit the required application and supporting documentation to DFFE and other relevant authorities for consideration and decision-making, or

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- Conduct the ISimangaliso Internal Environmental Scoping Report (IESR).

3. POTENTIAL LISTED ACTIVITIES FOR WHICH ENVIRONMENTAL AUTHORISATION MAY BE REQUIRED IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT (NEMA) OF 1998, ACT 107 OF 1998, IF TRIGGERED

A Basic Assessment will have to be conducted if any of the Listed Activities below, are triggered by the development. An Environmental Authorisation is then required to be obtained from the Department of Forestry, Fisheries and the Environment (DFFE) in terms of The National Environmental Management Act (NEMA) of 1998, Act 107 of 1998, and due process followed:

3(a) Listing Notice 1 of the National Environmental Management Act (Act No. 107 of 1998) as published in Government Gazette No. 40772, dated 07 April 2017

Activity 27.

The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation,

Activity 30.

Any process or activity identified in terms of section 53(1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).

3(b) Listing Notice 3 of the National Environmental Management Act (Act No. 107 of 1998) as published in Government Gazette No. 40772, dated 07 April 2017

Activity 12

The clearance of an area of 300 square metres or more of indigenous vegetation

- (i) A protected area identified in terms of NEMPAA, excluding conservancies;
- (ii) World Heritage Sites;
- (iv) Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA

requires a Basic Assessment (EIA) and Environmental Authorisation.

Activities falling within 100m of the high-water mark of the sea, estuary or lakes will also be subject to scrutiny by the Environmental Consultant.

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4. JOINT ENVIRONMENTAL AND TECHNICAL SITE VISIT

A close working relationship between the Environmental Consultants, ACER Africa, and the appointed Design Engineers is envisaged. This is to ensure environmental legal compliance at all phases of the project as well as that the process followed is the least onerous.

This will necessitate that the Environmental Consultants, ACER Africa, and the appointed Design Engineers conduct the initial site visit jointly in order to facilitate the correct location of infrastructure, on environmental and technical / electrical grounds.

5. MEANS OF EQUIPMENT AND CONSTRUCTION MATERIALS TRANSPORT

Should it be approved financially, post whatever Environmental Process is followed, it is envisaged that a helicopter will be used to transport, from a location still to be ascertained, all equipment and construction materials.

6. ISIMANGALISO WETLAND PARK AUTHORITY_OVERARCHING ENVIRONMENTAL MANAGEMENT PROGRAMME, dated JUNE, 2019

The environmental aspects such as waste disposal and potential impacts to be mitigated will be subject to the iSimangaliso Wetland Park Authority Overarching Environmental Management Programme, dated June, 2019.

7. KEY FACTORS TO BE CONSIDERED WHEN PLACING AND POSITIONING SOLAR INFRASTRUCTURE AT EACH HOUSEHOLD:

- I. Cleared areas around households are preferred.
- II. Placement of the solar panels should not require the cutting of trees or natural bush
- III. Solar panels should not be placed on structures higher than 4 m in height.
- IV. Solar panels should be located as close to the primary household structure as possible.
- V. The placement of the solar panel structure and kiosk should not require any clearing of indigenous vegetation.



Bruce Burger
Officer Environmental Management
Eskom Distribution

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Date