BACKGROUND INFORMATION DOCUMENT

Environmental Impact Assessments for the proposed Boitumelo, Lerato and Kutlwano Solar Power Plants near Lichtenburg, North West Province

1. Introduction

The activities entail the development of three individual photovoltaic solar facilities and associated infrastructure on Portion 4 of the Farm Houthaaldoorns 2, North West Province situated within the Ditsobotla Local Municipality. The town of Lichtenburg is located approximately 22km south of the proposed developments (refer to the attached locality maps).

The projects entail the generation of up to 150MW electrical power through photovoltaic (PV) panels, per facility. Each facility will have a footprint of 300 hectares (including supporting and associated infrastructure). The EIA footprint being assessed for the Kutlwano Solar Power Plant is 421ha. The property on which the facilities are to be constructed will be leased by the respective Applicants from the property owners, for the lifespan of the project (minimum of 20 years). The Applicants are known as Boitumelo Solar Power Plant (RF) (Pty) Ltd, Lerato Solar Power Plant (RF) (Pty) Ltd and Kutlwano Solar Power Plant (RF) (Pty) Ltd.

The Applicants will be required to apply for a generation license from the National Energy Regulator of South Africa (NERSA). The purpose of this background information document (BID) is to provide interested and affected parties (I&APs) with:

- Information on the need for an Environmental Impact Assessments (EIAs);
- An overview of the proposed solar power plants;
- An overview of the EIA process and specialist studies being conducted to understand the potential impacts associated with the proposed facilities; and
- Details of how I&APs may become involved in the process, receive information, or raise issues, which may concern and/or interest them.

2. The need for an EIA

The EIA Regulations, 2014 (GN. R.326 as amended in 2017) published in terms of the National Environmental Management Act (Act No. 107 of 1998) determine that an environmental authorisation is required for certain listed activities, which might have detrimental impacts on the environment. The following activities have been identified with special reference to the proposed development and are listed in the EIA Regulations:

- Activity 11(i) (GN.R. 327): *"The development of facilities or infrastructure for the transmission and distribution of electricity outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts."*
- Activity 24(ii) (GN.R. 327): *""The development of a road (ii) with reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 meters."*
- Activity 28(ii) (GN.R. 327): *"Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture or afforestation on or after 1998 and where such development (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare."*
- Activity 56(ii) (GN.R. 327): *""The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre (ii) where no reserve exists, where the existing road is wider than 8 metres..."*
- Activity 1 (GN.R. 325): *"The development of facilities or infrastructure for the generation of electricity from a renewable resource where the electricity output is 20 megawatts or more..."*

- Activity 15 (GN.R. 325): *"The clearance of an area of 20 hectares or more of indigenous vegetation."*
- Activity 4 (GN.R. 324): *"The development of a road wider than 4 metres with a reserve less than 13,5 metres."*
  Activity 10 (GN.R. 324): *"The development and related operation of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 30 but not exceeding 80 cubic metres."*
  Activity 12 (GN.R. 324): "*The clearance of an area of 300 square metres or more of indigenous vegetation..."*
  Activity 18 (GN.R. 324): *"The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre."*

Being listed under Listing Notices 1, 2 and 3 (GN.R. 327, 325 & 324) implies that the developments are considered as potentially having a significant impact on the environment. Based on the activities triggered, the Applications for Environmental Authorisation are subject to the completion of full Scoping and EIA (S&EIA) Processes as described in Regulations 21-23. The Scoping and EIA processes involves the identification and assessment of environmental impacts through specialist studies, as well as public participation.

3. Project description

The activities entail the development of three individual solar power plants and associated infrastructure. The key components of the individual projects are described below:

- PV Panel Array - To produce up to 150MW, the proposed facilities will require numerous linked cells placed behind a protective glass sheet to form a panel. Multiple panels will be required to form the solar PV arrays which will comprise the PV facility. The PV panels will be tilted at a northern angle in order to capture the most sun.
- Wiring to Inverters - Sections of the PV array will be wired to inverters. The inverter is a pulse width mode inverter that converts direct current (DC) electricity to alternating current (AC) electricity at grid frequency.
- Connection to the grid - Connecting the array to the electrical grid requires transformation of the voltage from 480V to 33kV to 132kV. The normal components and dimensions of a distribution rated electrical substation will be required. An onsite substation will be required on the site to step the voltage up to 132kV, after which the power will be evacuated into the national grid. Whilst the Applicants have not yet received a cost estimate letter from Eskom, it is expected that generation from the facility will tie in with the Watershed 275/132/88 MTS Substation or alternatively connect to any of the existing 132kV and 88Kv lines present within the EIA footprint. The Project will inject up to 100MW into the National Grid.

  One route is proposed from the onsite substation to the collector station situated on the property. Where as two possible connection corridor routes are proposed from the collector station to the Watershed 275/132/88 MTS Substation. Within the preferred corridor (south east of the farm) a new line of approximately 9km will be constructed to the Watershed MTS or alternatively, one of the existing Eskom lines will be upgraded. For the alternative corridor (south west of the farm) a new line of approximately 11km will be constructed to the Watershed MTS. The proposed power line routes will be assessed within a 100m wide corridor except where existing lines are already located where it should be approximately 150m.
- Electrical reticulation network – An internal electrical reticulation network will be required and will be lain ~2-4m underground as far as practically possible.

- Supporting Infrastructure – Auxiliary buildings (including office, switch gear and relay room, staff lockers and changing room and security control) with basic services including water and electricity will be required.
- Battery storage – A Battery Storage Facility with a maximum height of 8m and a maximum volume of 1,740m^3 of batteries and associated operational, safety and control infrastructure will be required.
- Roads – Access will be obtained via the R505 Regional Road onto a proposed new gravel access road situated adjacent to the development footprint where direct access will be obtained to the facility. An internal site road network will also be required to provide access to the solar field and associated infrastructure. The access and internal roads will be constructed within a 25-meter corridor.
- Fencing - For health, safety and security reasons, the facility will be required to be fenced off from the surrounding properties. Fencing with a height of 2.5 meters will be used.

4. Specialist studies to be conducted

There are a number of environmental impacts, both positive and negative that are associated with photovoltaic solar energy facilities. Specialist studies will be conducted to identify and assess these potential impacts. Specialist studies will be guided by existing information, field observations and input from the public participation process. For these projects, the following specialist studies have been identified as relevant and will be undertaken as part of the EIA processes:

- Heritage Impact Assessment
- Ecological Impact Assessment
- Visual Impact Assessment
- Soil, Land Capability and Agricultural Potential Study
- Geotechnical study
- Social Impact Assessment
- Avifaunal Study
- Palaeontological Impact Assessment
- Traffic Impact Assessment

5. The EIA process and timeline for the projects

Public participation is an integral part of the EIA process and aims to involve Interested and Affected Parties (I&APs) in the process by notifying them of the proposed project and encouraging them to voice their issues and concerns.

The process undertaken will be transparent and allow I&APs to comment on the projects or raise concerns, which will be included and considered in the respective Scoping and EIA Reports. Table 1 indicates the key steps of the EIA process and the timelines for these projects.

Table 1: Key steps of the EIA process

Activity	Prescribed timeframe	Timeframe
Public participation (BID)	30 Days	04 June – 05 July 2021
Conduct specialist studies	2 Months	May - June 2021
Submit application form and Draft Scoping Report	-	June 2021
Public participation	30 Days	July 2021
Submit Final Scoping Report	44 Days	August 2021
Approval of Final Scoping Report	43 Days	October 2021
Submit Draft EIA Report	106 Days	November 2021
Public participation	30 Days	November-December 2021
Submit Final EIA Report	-	January 2021
Decision	107 Days	April 2022
Public participation (decision) & submission of appeals	20 Days	May 2022

6. Your involvement

I&APs include individuals, communities or groups whose interest may be positively or negatively affected by the proposed developments. You may get involved in the public participation process by:

- Registering as an I&AP.
- Submitting your issues, concerns and questions in writing through sending an email to lisa@environamics.co.za.
- Attending any public meetings which may be held during the course of the EIA processes. As a registered I&AP you will automatically be invited to attend these meetings, if relevant.
- Reviewing and commenting on the reports within the stipulated public review periods.

7. Comments and queries

All comments and queries may be directed to the following contact person:

Contact person: Lisa Opperman
Telephone: 084 920 3111 (Cell)
Electronic mail: lisa@environamics.co.za