BACKGROUND INFORMATION DOCUMENT

Environmental Impact Assessment for the proposed Springbok Solar Power Plant near Welkom, Free State Province

ENVIRONAMICS

1. Introduction

The activity entails the development of a photovoltaic solar facility and associated infrastructure on the Farm Weltevrede No. 638, Registration Division Theunissen, Free State Province situated within the Matjhabeng Local Municipality. The town of Welkom is located approximately 35km north-northwest and Virginia is located approximately 8km north-northeast of the proposed development (refer to the attached locality maps).

The project entails the generation of up to 150MW electrical power through photovoltaic (PV) panels. The total footprint of the project will be approximately 280 hectares (including supporting and associated infrastructure), within a 350ha EIA footprint. The property on which the facility is to be constructed will be leased by Springbok Solar Power Plant (RF) (Pty) Ltd from the property owner, for the lifespan of the project (minimum of 20 years).

The Applicant 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 Assessment (EIA);
- An overview of the proposed solar power plant;
- An overview of the EIA process and specialist studies being conducted to understand the potential impacts associated with the proposed facility; 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."*

Being listed under Listing Notices 1 and 2 (GN.R. 327 & 325) implies that the development is considered as potentially having a significant impact on the environment. Based on the activities triggered, the Application for Environmental Authorisation is subject to the completion of full Scoping and EIA (S&EIA) Process as described in Regulations 21-23. The Scoping and EIA process involves the identification and assessment of environmental impacts through specialist studies, the recommendation of appropriate mitigation measures as well as public participation.

3. Project description

The activity entails the development of a solar power plant, and associated infrastructure. The key components of the project is described below:

- PV Panel Array - To produce up to 150MW, the proposed facility 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, or using one-axis tracker structures to follow the 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. Output voltage from the inverter is 480V and this is fed into step up transformers to 132kV. 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 Springbok Solar Power Plant (RF) (Pty) Ltd has not yet received a cost estimate letter from Eskom, it is expected that generation from the facility will tie in with the Theseus MTS 400/132/22kV Substation or to any of the existing 132kV lines. The Project will inject up to 100MW into the National Grid.

  There are two possible connection line routes proposed to the Theseus MTS 400/132/22kV Substation. Option 1 (preferred) is approximately 5.25km and option 2 (alternative) is approximately 5.3km long. Both options are located north-east of the project footprint. The proposed power line routes will be assessed within a 100m wide corridor.
- 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 a gravel road off the R730 Regional Route. 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 this project, the following specialist studies have been identified as relevant and will be undertaken as part of the EIA process:

- 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 project

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 project 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 the project.

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 development. 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 process. 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