

TRANSMISSION LINES FOR THE HOTAZEL SOLAR PARK

NON-TECHNICAL SUMMARY: BASIC ASSESSEMENT

OVERVIEW

Hotazel Solar Farm 1 (Pty) Ltd, owned by juwi renewable Energies (Pty) Ltd (juwi), wants to build a 123kV overhead transmission line to connect their solar PV park, on the remainder of the Farm Annex Langdon (F278/0) near Hotazel, to the national grid. Aurecon South Africa (Pty) Ltd (Aurecon) was appointed to undertake the environmental authorisation process in terms of the National Environmental Management Act (No. 107 of 1998) (NEMA). This is a non-technical summary of the Basic Assessment Report (BAR) written in terms of these environmental laws.

We only talk about the main points here and so if you feel something is missing or are interested in a particular aspect and want to know more, please refer to the relevant sections of the report. The summary aims to provide an overview of the key issues and aspects covered by the study and a summary of the main results. Please note that if you want more detail on any issues read here you are encouraged to refer to the main report where it is covered in more detail. This Summary includes the following information:

- An introduction to the proposed project and an overview of the environmental legislative requirements;
- Description of the proposed Hotazel Solar Park and the alternatives being considered;
- An overview of the approach to the BA describing the public participation process;
- Outcomes of the impacts assessed by specialists in the BA Phase; and
- The way forward.

THE PROJECT

The South African Government is currently running a programme (the Department of Energy's Renewable Energy Independent Power Producer Programme or REIPPP), and if the Hotazel Solar Park project gets environmental approval, it will be submitted (together with many others) to the REIPPP. If selected and built, the government, through Eskom, then agrees to buy electricity from the facility for a certain price and for a certain number of years.

If the Hotazel solar Park gets the go ahead, then the transmission line needed to connect the solar farm to the grid will be needed.

Three transmission corridor alternatives to evacuate power from the Hotazel solar facility to the national grid were considered and assessed against the "no-go" alternative, i.e. the impacts of the project should it not proceed. Two of the transmission line alternatives connect directly to existing Eskom substations, namely the Hotazel and Umtu substations and the third Alternative is a shorter Loop-in Loop-Out (LILO) connection option connecting with Eskom's Ferrum/Umtu 132kV distribution line near the site. Whichever one is constructed, it would form part of the national grid and therefore fall under Eskom's ownership the transmission line has been constructed. For this reason, the transmission lines are the subject of this separate application and not part of the Hotazel Solar Park EIA application that is being run in parallel.

The route map shows the layout of the alternatives assessed by various specialists. All route alternatives follow alongside existing Eskom lines where possible.

The components of the three alternatives are:

Transmission line 1: Hotazel Substation (Alternative 1: Preferred Alternative)

- A $\leq 200\text{m}$ wide corridor $\leq 11\text{km}$, of a double circuit 132kV power lines will be constructed
- Servitude width 35m
- ≤ 110 monopole pylons
- $\leq 12\text{km}$ long and 4m wide service track

Transmission line 2: Umtu substation (Alternative 2)

- A $\leq 200\text{m}$ wide corridor $\leq 14\text{km}$ double circuit 132kV power lines will be constructed
- Servitude width 35m
- ≤ 140 monopole pylons
- $\leq 15\text{km}$ long and 4m service track

Transmission Line 3: LILO connection (Alternative 3)

- A 200m wide corridor in which two rows of parallel pylons $\leq 5.5\text{km}$ long, of a double circuit 132kV power lines will be constructed (not less than 21m or greater than 42m apart). The lines will tie into the existing 132kV Eskom line located to the west of the site.
- Servitude width 35m per line (70m total).
- ≤ 60 monopole pylons (i.e. ≤ 120 pylons in total)
- $\leq 6\text{km}$ long and 4m wide service track



NOTE: The Loop In Loop Out (LILO) connection depends on technical capacity upgrades to the Eskom line, which are eluded to but not guaranteed. The LILO alternative does not currently constitute a "feasible alternative" in terms of NEMA however, it has been comparatively assessed as the status might change in the near future and become feasible and the option can then be pursued through an EA amendment process. For the purposes of the current application the LILO alternative cannot be put forward as the preferred option due to the current technical infeasibility and uncertainty regarding upgrades.

THE ASSESSMENT PROCESS

In terms of the NEMA and the EIA Regulations of Government Notice (GN) R. 982 of 2014, an BA process is needed to obtain an Environmental Authorisation (EA) from the national Department of Environmental Affairs (DEA) before the project can proceed. Their decision is based on the findings presented in the final version of the BA report, the responses to, and the comments and issues raised by the public, landowners, communities, other government departments, non-governmental organisations and state owned enterprises, like Eskom, collectively refer to as Interested and Affected Parties (I&APs).

The purpose of the BA process is to identify and evaluate the main environmental and socio-economic aspects of a project and its alternatives and using specialists, determine how much the project will impact the environment and the people living in the area, in both positive and negative ways. We mainly look at the impacts that may occur in the construction and operations phase of the project as well as consider the impacts caused by other projects happening in the area (cumulative impacts). We also make recommendations on measures that could be taken to avoid or reduce the negative impacts and improve the positive ones. These are called the post-mitigation impact significance ratings and it is what we look at when we determine if the project is acceptable or not.

A very important part of the BA process is Public Participation Process (PPP), which gives people an opportunity to have an input into the process and raise important issues that they think DEA must think about when making a decision. The studies have been completed and the BAR brings all the studies and issues and responses received so far together into a single report. The I&APs have a chance to review the results of the studies and comment on the results of the studies if they want and think it's something important the DEA should consider when making their decision on whether to approve the project.

Aurecon and juwi then have a chance to respond to any comments and make changes to the report where we think it is needed before sending it to the DEA. Once the DEA takes a decision, we will then provide all registered I&APs with a copy of their decision and what to do and how to appeal their decision if you believe they made a bad decision.

WHAT IMPACTS WERE STUDIED?

The proposed Hotazel Solar Park transmission line could result in a range of environmental and socio-economic impacts during the construction and operational phases. The following potential impacts were identified as the main ones and have been studied by specialists, as follows:

- Impact on flora (Macdonald, 2017)
- Impact on Avifauna (Van Rooyen, 2016)
- Impact on heritage resources (Orton, 2016)
- Impact on freshwater (Belcher, 2016)
- Impact on agricultural resources (Lanz, 2016)
- Visual Impacts (Stead, 2016)
- Social Economic impacts (de Bruyn, 2016)
- Traffic (Steyn, 2016)
- Hydrology (Walker, 2016)

These studies were done in line with the requirements of the NEMA. An overview of the results of these assessments are shown in the table to follow.

WHAT DID WE FIND?

In overview we found the site there were very few environmental issues that would be cause for concern. We considered vegetation types, protected areas, important bird areas, Freshwater Ecosystem Protected Areas, Critical Biodiversity Areas, National Protected Area Expansion Strategy Areas, and various other features and found none on or near the site. The only notable environmental was the Ga-Mogara River which will be crossed by the Umtu Line Alternative.

The most significant impacts were found to be to those related to Avifauna due to the potential for birds to collide with the lines or be electrocuted while nesting on the pylons. Biodiversity and the loss or fragmentation of habitat is also a concern as the route would need to be cleared. We noted that the vegetation on the site had been heavily grazed by cattle and other livestock and is not in a good natural condition. We also noted that the vegetation types are well represented in the area are not one of the "threatened" varieties and its loss is not seen as a major impact. Unfortunately, there are a number of protected tree species that may be lost in the site clearance and removal permits from DENC will be required for this.

The positive impacts are largely related to socio-economic gains of the project including diversification of the local economy, local economic development, local investment and employment creation.

Based on our study, and assuming our recommendations are followed, we see no reason for the DEA not to approve any alternatives on environmental grounds. Given that the LILO option is currently unavailable and the Umtu alternative crosses the Ga-Mogara River We recommend the Hotazel Alternative as the preferred alternative for authorisation.

NOTE: the table only shows the most significant post-mitigation impact significance rating per aspect or field of study and only the impact rating of the preferred alternative. For the detailed comparative assessment results one should refer to the BAR.

IMPACTS	CONSTRUCTION PHASE	OPERATION PHASE
Impact on botany	Medium (-)	-
Impact on avifauna	Very low (-)	Very low (-)
Impact on freshwater	Very Low (-)	-
Impact on agricultural	Very Low (-)	-
Impact on heritage	Very Low (-)	-
Visual impacts	Low (-)	Low (-)
Socio- economic impacts	Medium (-)	High Positive (+)
Impacts on hydrology	Low (-)	-
Traffic impact	Low (-)	-

THE PUBLIC PARTICIPATION PROCESS

I&APs have a 30-day period from **7 April to 11 May 2017** to review the BAR and submit comments. The report can be found [here](#):

- At the Hotazel Library & Art & Cultural Centre
- or online at:

– The Aurecon website:

<http://www.aurecongroup.com/en/public-participation.aspx>

– Dropbox location:

<https://www.dropbox.com/sh/6xwy79u7yywcrzs/AAC5VvbjtAE08hmfWVhE0a?dl=0>

I&APs may submit written comments/ issues/ concerns to Mr. Patrick Killick via email, mail or fax before 11 May 2016. Please also contact me with any questions.

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WAY FORWARD

We will respond to comments we receive, if required, and our response together with your comment will be captured in a Comments and Responses Report (CRR) and sent to the DEA to consider when taking a decision. If needed, we will also make minor changes to the BAR to address the comments before submission. If major changes are made, you will get another opportunity to review and comment. The final BAR will submitted to the DEA for decision making who must, within 107 days provide a decision. Afterwards, all registered I&APs will be given a copy of the DEA's decision.