



NEAS reference DEA/EIA/0001625/2013

DEA reference 14/12/16/3/3/1/800

Our reference 11707 Frankfort

Date 17th October 2013

Dear Interested and/or Affected or Party

BASIC ASSESSMENT (BA) AND ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) FOR THE PROPOSED CONSTRUCTION OF AN 88kV POWER LINE BETWEEN HEILBRON (via FRANKFORT) AND VILLIERS, NGWATHE AND MAFUBE LOCAL MUNICIPALITIES, FREE STATE PROVINCE.
DEA EIA Ref. No: 14/12/16/3/3/1/800 and NEAS Ref. No: DEA/EIA/0001625/2013

• NOTIFICATION OF PROJECT CHANGE

Eskom Holdings SOC Limited (hereafter referred to as Eskom) has appointed SiVEST, as the independent environmental consultants, to undertake the required Basic Assessment, Environmental Management Programme (EMPr) and public participation in terms of the EIA Regulations under Government Notices No R543 and R544 promulgated on 18 June 2010, in terms of Section 24 (5) read with section 44 of the National Environmental Management Act (No. 107 of 1998) (NEMA), as amended. This proposed project is registered with the Department of Environmental Affairs (DEA) under reference number **DEA 14/12/16/3/3/1/800** and NEAS reference number **DEA/EIA/0001625/2013**.

This letter serves to notify you of a project scope change for the Frankfort Strengthening Project as stipulated above. Overall, there are four main changes to be aware of in terms of the new scope for the Frankfort Strengthening Project. These are as follows:

- The proposed development will now entail the construction of a new substation;
- The proposed development will include a voltage capacity change from 88kV to 132kV;
- The need for a new substation has necessitated in two alternative locations for the substation which has subsequently resulted in further power line alternative routes to be considered;
- The Water Use License process will need to be put on hold pending the outcome of the Basic Assessment process and whether environmental authorization is issued.

The specific details for the project scope change are described below in more detail.

• OLD PROJECT SCOPE

The project was for the proposed construction of a single 88kV power line that will be approximately 95km in length. The proposed power line was to consist of four sections of power line that would connect to three existing substations via a loop-in loop-out connection. These three existing substations included Tweefort Substation, Frankfort Municipal Substation and Windfield Rural Substation. The power lines therefore would not be separate power lines but rather connecting lines between the existing substations along the greater power line network. The registered servitude width is 31 metres (15.5 metres either side of the centre line). The four sections of power lines include the following:

- Proposed construction of a power line from Heilbron Substation to Tweefort Substation (situated on Portion 1 of the farm Leeuw 162) (approximately 40km in length);
- Proposed construction of a power line from Tweefort Substation to Frankfort Municipal Substation (approximately 25km in length);
- Proposed construction of a power line from Frankfort Municipal Substation to Windfield Rural Substation (situated on the farm Wanner 1248) (approximately 15km); and

- Proposed construction of a power line from Windfield Rural Substation to Villiers Substation (approximately 15km).

For each section of the proposed power line, two alternative routes were proposed. Eight alternatives were therefore proposed in total. The environmental application sent to the Department of Environmental Affairs (DEA) included a corridor width of 1km (500m either side of the centre line) for each alternative. The width of the corridor would provide Eskom with sufficient space to negotiate and secure a servitude of 31m that would be required for the proposed 88kV power line. Each Alternative Route is outlined below:

- Alternative 1A – Heilbron to Tweefort Substation (approximately 37km in length);
- Alternative 1B – Heilbron to Tweefort Substation (approximately 40km in length);
- Alternative 2A – Tweefort Substation to Frankfort Municipal Substation (approximately 22km in length);
- Alternative 2B – Tweefort Substation to Frankfort Municipal Substation (approximately 26km in length);
- Alternative 3A – Frankfort Substation to Windfield Rural Substation (approximately 15km);
- Alternative 3B – Frankfort Substation to Windfield Rural Substation (approximately 15km);
- Alternative 4A – Windfield Rural Substation to Villiers Substation (approximately 15km); and
- Alternative 4B – Windfield Rural Substation to Villiers Substation (approximately 16km).

The tower types that are to be used will vary in relationship between the structure, the terrain transversed, ground clearance requirements, geology, etc. These tower types consist of the following:

- Mono-pole guyed intermediate suspension structures;
- Mono-pole self-supporting intermediate suspension structures;
- Mono-pole angle suspension structures;
- Mono-pole strain structures;
- H-Pole structures; and
- 3 Pole strain structures.

The type of tower that would be used for this proposed 88kV power line would be determined once a routing has been negotiated and a servitude has been secured.

The foundation depths will range between 1.5-2m. Spanning lengths between tower type structures will be between 225-250m. The tower type structures will vary in length from 18-24m in height. Finally, a Chickadee conductor is to be used.

• NEW PROJECT SCOPE

The project is for the proposed construction of a substation and a single 132kV power line. The power line will be approximately 95km in length and will consist of four sections that will connect to four existing and one newly proposed substation via a loop-in loop-out connection. The four existing substations include Frankfort Municipal Substation, Windfield Rural Substation, Villiers Municipal Substation and Heilbron Municipal Substation. The newly proposed substation will be located near to the existing Tweefort Rural Substation. The power lines therefore are not separate power lines but rather connecting lines between the existing substations and the newly proposed substation along the greater power line network. The registered servitude width is 31 metres (15.5 metres either side of the centre line). The four main sections of power lines include the following:

- Proposed construction of a power line from Heilbron Substation to Tweefort Substation (situated on Portion 1 of the farm Leeuw 162) (approximately 40km in length);
- Proposed construction of a power line from Tweefort Substation to Frankfort Municipal Substation (approximately 25km in length);

- Proposed construction of a power line from Frankfort Municipal Substation to Windfield Rural Substation (situated on the farm Wanner 1248) (approximately 15km); and
- Proposed construction of a power line from Windfield Rural Substation to Villiers Substation (approximately 15km).

For each section of the proposed power line, two alternative routes are proposed. Additionally, four sub-alternatives are proposed for the proposed power line alignments from the main power lines originating from Heilbron via Tweefort to Frankfort to the newly proposed substation in the vicinity of Tweefort Rural Substation. Twelve alternatives are therefore proposed in total. The environmental application sent to the Department of Environmental Affairs (DEA) includes a corridor width of 1km (500m either side of the centre line) for each alternative. The width of the corridor will provide Eskom with sufficient space to negotiate and secure a servitude of 31m that would be required for the proposed 132kV power line. Each Alternative Route is outlined below:

- Alternative 1C – Heilbron to New Proposed Northern Tweefort Rural Substation (approximately 37km in length);
- Alternative 1D – Heilbron to New Proposed Southern Tweefort Rural Substation (approximately 43km in length);
- Alternative 1E – Heilbron to New Proposed Northern Tweefort Rural Substation (approximately 40km in length);
- Alternative 1F – Heilbron to New Proposed Southern Tweefort Rural Substation (approximately 41km in length);
- Alternative 2C – New Proposed Northern Tweefort Rural Substation to Frankfort Municipal Substation (approximately 22km in length);
- Alternative 2D – New Proposed Southern Tweefort Rural Substation to Frankfort Municipal Substation (approximately 28km in length);
- Alternative 2E – New Proposed Southern Tweefort Rural Substation to Frankfort Municipal Substation (approximately 31km in length);
- Alternative 2F – New Proposed Northern Tweefort Rural Substation to Frankfort Municipal Substation (approximately 31.5km in length);
- Alternative 3A – Frankfort Substation to Windfield Rural Substation (approximately 15km);
- Alternative 3B – Frankfort Substation to Windfield Rural Substation (approximately 15km);
- Alternative 4A – Windfield Rural Substation to Villiers Substation (approximately 15km); and
- Alternative 4B – Windfield Rural Substation to Villiers Substation (approximately 16km).

An illustration of the alternatives above can be found in Appendix A.

The tower types, foundation depths, spanning lengths, tower heights and conductors will remain the same per original scope.

- **WATER USE LICENCE (WUL)**

Initially it was identified that some of the proposed tower positions were located within and in close proximity to water courses i.e. rivers, drainage lines and wetlands and surface water features therefore it was determined that a project of this nature therefore triggers a Water Use Licence as per authorisation from the competent authority with the Department of Water Affairs (DWA). The activities that are likely to be triggered by the proposed development are:

- Section 21 (c): Impeding or diverting the flow of water in a watercourse; and
- Section 21 (i): Altering the bed, banks, course or characteristics of a watercourse

In terms of Eskom Holdings SOC Limited (Distribution) WUL application to be applied for from the DWA, an environmental authorisation for a Basic Assessment process is required prior to the WUL application process being undertaken.

- **CONCLUSION**

We trust that the above details are in order. Should you wish to submit any comments with regards to the above, please feel free to do so by submitting comments in writing to the public participation office at:

Nicolene Venter / Shaun Taylor
SiVEST Environmental
PO Box 2921, RIVONIA, 2128
Tel (011) 798 0600
Fax (011) 803 7272
Email sivest_ppp@sivest.co.za or
nicolenev@zitholele.co.za

Yours sincerely

A handwritten signature in black ink, appearing to read "Shaun Taylor", with several horizontal strokes underneath.

Shaun Taylor
Environmental Scientist
SiVEST Environmental Division

Incl: Appendix A: Project Overview Map

Appendix A:

Proposed Power Line Alternatives (including sub-alternatives)

