

ENVIRONMENTAL IMPACT ASSESSMENT

**FOR THE PROPOSED ISUNDU 765/400 KV SUB-STATION AND
TURN-IN TRANSMISSION LINES (DEA EIA REF: 14/12/16/3/3/2/745;
12/12/20/1397/AM2)**

PROCEEDINGS OF PUBLIC MEETING

3 December 2014

ASHBURTON PUBLIC LIBRARY

AGENDA

No	Item	Responsible
1	Registration	ALL
2	Welcome and Introductions	ALL
3	Presentation	Environmental Assessment Practitioner – ACER
4	Discussion	ALL
5	Way Forward	Environmental Assessment Practitioner – ACER
6	Concluding Remarks	ALL
7	Closure	Environmental Assessment Practitioner – ACER

1. ATTENDANCE

An attendance register was completed by attendees (Annexure A).

Apologies

Name	Organisation
Archibold Mogokonyane	Eskom (Programme Manager: Land Development & Management)
Annah Motalane	Eskom (Senior Environmental Advisor)
Ed Bunge	Eskom
Gavin Maasdorp	Imani Development
Lorraine Hebblewaithe	Sub-station Site Landowner
Vis Pillay	Illovo Sugar Umzimkulu
David Bozas	Mayibuye Game Reserve
Dave Rigby	KZN Farm Sales

2. INTRODUCTION

Mr. Paul Scherzer of ACER (Africa) Environmental Consultants facilitated the meeting. Participants were welcomed and briefed on housekeeping. The Project Team members and their roles were introduced as follows:

Name	Organisation	Role
Paul Scherzer	ACER	Environmental Assessment Practitioner
Charlene Weber	ACER	Public Participation Consultant
Steven van Houten	Eskom	Project Development Manager
Vuledzani Thanyani	Eskom	Eskom (Senior Environmental Advisor)

3. PRESENTATION

3.1 Purpose and need

The project forms part of Eskom's KZN Strengthening Programme. To meet growing demand and to improve service quality and reliability, Eskom needs to strengthen the transmission network by constructing a number of new transmission lines, linking the main generating facilities in Mpumalanga with demand centers in the KZN Midlands and southern KZN region. In addition, the aim is to strengthen the supply between the KZN Midlands and Empangeni/Richards Bay by linking the proposed new Isundu 765 kV Sub-station and the proposed Mbewu Sub-station (near Empangeni).

3.2 Venus-Sigma-Hector-(Ariadne) study and authorisations

Since 2009, Eskom has been investigating options to bring a 765 kV transmission line from the Venus Sub-station, near Estcourt, to a new sub-station (Sigma) in the KZN Midlands, with two 400 kV transmission lines from the new Sigma Sub-station linking into the existing Hector and Ariadne Sub-stations. This infrastructure forms a key component of the overall KZN Strengthening Programme.

Following extensive environmental investigations between 2009 and 2011, the Sigma 1 Sub-station site, north-west of Wartburg, was identified as the preferred sub-station site. The most suitable transmission line corridor for both the 765 kV and 2 x 400 kV transmission lines was also identified.

The Department of Environmental Affairs (DEA) issued Environmental Authorisation in June 2012 for the Venus-Sigma-Hector-(Ariadne) (VSHA) 765/400 kV Transmission Lines and the new Sigma Sub-station (765 kV). This included the following infrastructure:

- ❑ 1 x 765 kV transmission line between Venus and Sigma Sub- stations.
- ❑ 2 x 400 kV transmission lines between the Sigma and Hector Sub-stations.
- ❑ 3 x 400 kV feeder bays at the existing Hector Sub-station.
- ❑ The new Sigma Sub-station.

Both Environmental Authorisations were appealed, subject to the concluding of a Memorandum of Understanding (MOU) between Eskom and the South African Sugar Association concerning the cultivation and burning of sugarcane within the 765 kV and 400 kV transmission line servitudes. The MOU has since been signed and the appeals withdrawn.

3.3 Isundu site and amendment application

Following environmental authorisation, further detailed geotechnical investigations at the authorised Sigma Sub-station showed that earthworks will be exorbitantly expensive. Thus, further investigations were undertaken to identify alternative sub-station sites which could link into the authorised transmission line corridor.

The result of these investigations, which have included over 25 potential new sites since the outset of the project, show that only the proposed Isundu site was found to be a suitable alternative site that would still achieve the overall aim of having a sub-station between Estcourt and Camperdown.

The proposed Isundu 765/400 kV Sub-station is a replacement to the Sigma Sub-station previously authorised. If the Isundu Sub-station is authorised, the 765 kV transmission line from the Venus Sub-station will need to continue along the authorised transmission line corridor until the Isundu Sub-station. By implication, a single 765 kV transmission line rather than 2 x 400 kV transmission lines will be constructed in the corridor between the Sigma and Isundu sites.

3.4 Project description

The proposed project will include the following infrastructure:

- ❑ 765/400 kV Isundu Sub-station.
 - The application area is 100 ha.
 - The final sub-station footprint will be approximately 60 ha.
- ❑ Transmission lines – currently planned to and from the sub-station.
 - 1 x 765 kV (authorised VSHA transmission line).
 - 2 x 400 kV double circuit transmission lines to the existing Hector-Ariadne transmission lines approximately 4 km away.
 - 2 x 400 kV Mbewu/Empangeni transmission lines (a separate environmental authorisation process).
- ❑ To cater for future demands, space is being allowed for the following additional transmission lines:
 - 1 x 765 kV or HVDC transmission line.
 - 3 x 400 kV transmission lines.

The preferred route for the 2 x 400 kV double circuit transmission lines from the proposed Isundu Sub-station to the existing Hector-Ariadne transmission lines approximately 4 km away, is currently to follow the existing Geogedale-Mersey 275kV lines as agreed during the VSHA EIA process.

The transmission line amendment will result in a single 765 kV transmission line rather than 2 x 400 kV transmission lines being constructed in the corridor between the Sigma and Isundu Sub-station sites.

A 400 kV transmission line has a tower to tower span of between 300 - 350 m. Tower height varies between 30 and 35 m, and the conductors will have a minimum ground clearance of 8.1 m. These transmission lines require a servitude of 55 m for a single line and 110 m where they run in parallel, except if they go through forestry where the servitude increases to 131 m for two parallel 400 kV transmission lines.

A 765 kV transmission line has a tower a tower to tower span of between 400 - 500 m. Each tower is approximately 50 - 55 m high, and the conductors have a minimum ground clearance of 10.5 m. This transmission line will have a servitude of 80 m.

As a reference, the existing Geogedale-Mersey 275kV transmission lines are 25.5 m high, whilst the existing Hector – Ariadne double circuit 400 kV transmission lines are 35.98m high.

The Environmental Assessment Practitioner (EAP) is aware of surrounding developments and plans in the area and these will need to be considered during the impact assessment.

A copy of the presentation is provided in Annexure B.

4. WAY FORWARD & TIMEFRAMES

The draft Scoping Report which captures the key issues that need to be investigated is envisaged to go out for public comment in the first quarter for 2015. Stakeholders will be provided with an opportunity to ensure that their concerns have been understood and correctly captured.

Specialist study investigations will be undertaken between February and April 2015.

The draft Environmental Impact Assessment Report (DEIAR) will be available for review in June 2015. All comments submitted will be considered, responded to and incorporated in the final EIA Report which will be submitted to the Department of Environmental Affairs in September 2015 for decision making.

Registered Interested and Affected Parties (I&APs) will be notified of the availability of the draft and final reports for review and may submit comments on the final reports directly to DEA, with a copy to ACER. I&APs will be notified of DEA's decision (Environmental Authorization), once issued, and their right to appeal.

Stakeholders are encouraged to submit their written comments to:

ACER (Africa) Environmental Consultants
For attention: Paul Scherzer/Charlene Weber

P O Box 503, Mtunzini, 3867

Tel: 035 340 2715

Fax: 035 340 2232

Email: isundu@acerafrica.co.za

Project documentation is also available online: www.acerafrica.co.za under 'Current Projects'.

5. COMMENTS AND QUESTIONS

A record of comments and questions is provided in Annexure C.

6. THANKS AND CLOSURE

Mr. Paul Scherzer thanked all present for their input and participation.

7. ANNEXURES

The following annexures are provided:

- Annexure A: Attendance Register.
- Annexure B: Presentation.
- Annexure C: Record of Comments and Questions.

ANNEXURE A: ATTENDANCE REGISTER

ANNEXURE B: PRESENTATION

ANNEXURE C: RECORD OF COMMENTS AND QUESTIONS RAISED

No.	Full Name	Comment / Question	Response
1	Sanjay Maharaj - Rainbow Chickens	<p>Questions:</p> <ol style="list-style-type: none"> 1. Where will the access roads come in? 2. Do you know where the power lines coming in and out will run? 	<ol style="list-style-type: none"> 1. The access road will possibly come along the existing farm road. 2. No decision has been made. The 765 kV transmission line will come from the north in the authorised VSHA corridor whilst the preferred route for the 2 x 400 kV double circuit lines is currently alongside the existing Geordedale-Mersey 275 kV transmission lines. The location of future transmission lines will be considered in separate applications, however, cumulative impacts will be considered during this assessment.
2	Alan Reddy - Rainbow Chickens	<ol style="list-style-type: none"> 1. Commented that there was mention of a Water Use Licence Application: What will be the consumption of water and will this require a separate water pipeline or will the existing one be used? 2. What specialist studies will be undertaken? 3. Stated that Rainbow Chickens' farms are alongside the proposed sub-station, and that these are all breeding farms. Expressed concern regarding the following: <ul style="list-style-type: none"> <input type="checkbox"/> Impact of electrical voltage and microwaves on breeding birds. <input type="checkbox"/> Aesthetics of the conductors. <input type="checkbox"/> Impact of security lighting on production. <input type="checkbox"/> Noise impact during construction and operation on breeding birds. 	<ol style="list-style-type: none"> 1. A Water Use Licence (WUL) is not just required for abstraction. The WUL is required because Eskom will be building within 500 m of a wetland, or affecting a water course. The sub-station will require earthworks and the dam on the farm will be filled in. The proposed development would not be consuming more water than the normal supply. 2. Social, visual, noise, fauna, avifauna, vegetation and wetlands, EMFs and health, economic and tourism, and cultural heritage studies will be undertaken as part of the suite of specialist studies to be commissioned as part of the EIA. 3. The concerns were acknowledged. There are also other facilities, such as the Bird of Prey Center, that are concerned about impacts on the breeding of birds and these issues will be considered. All stakeholders are encouraged to write down issues formally and submit concerns, which will then be considered and incorporated into the EIA process.

No.	Full Name	Comment / Question	Response
3	Sanjay Maharaj - Rainbow Chickens	<ol style="list-style-type: none"> 1. Enquired about the servitude and restrictions. 2. Concerned that no structures are allowed within the servitude. 	<ol style="list-style-type: none"> 1. Although buildings are not allowed within the servitude, certain farming activities are still permitted under the transmission lines, subject to an agreement between Eskom and the affected landowner.
4	Tim Mason – Camperdown Rate Payers' Association	Referred to the map of the surrounding area and commented that if the transmission lines coming in join the existing transmission, then the impact on the Mayibuye Game Reserve would be minimised.	The EAP responded that to follow the existing Geogedale-Mersey 275kV transmission lines is currently the preferred route (as agreed with landowners during the VSHA EIA).
5	Alistar Hobden - Rokwil Property Development	Expressed concern that the proposed sub-station would affect the layout of the Aero Estate currently being formulated as well as access to the Lion Park and Mayibuye Estate.	The sub-station will not directly affect the Aero Estate. A Visual Impact Assessment will be undertaken as part of the suite of specialist studies to be commissioned as part of the EIA. Alternative layouts are being considered to minimise impacts. Road access to the Lion Park should not be affected.
6	Dean Boswell – Lion Park	<ol style="list-style-type: none"> 1. There are three dams on the property not one. 2. What is the noise impact of the sub-station. 3. What is the minimum safe distance from the sub-station for health and EMF exposure. 	<ol style="list-style-type: none"> 1. Noted thank you. 2. The exact noise levels in terms of decibels are not available at present. Transformers do have fans for cooling which may create noise. This is one of the issues that will be investigated. 3. The area will be safe outside the boundary fence of the sub-station, but an EMF specialist study will be undertaken that considers this issue.

No.	Full Name	Comment / Question	Response
7	Elaine Donaldson – Mkhambathini Municipality	<p>Expressed serious concern in terms of the proposed development. This application is not supported by the Mkhambathini Municipality within whose area the site is located. The proposed sub-station site is an area designated 'Agri-Tourism' in terms of the 2014 SDF.</p> <p>It is immediately adjacent to the TP Scheme area zoned 'Special Zone 1' for the Mayibuye Game Reserve. The sub-station would be at the approved entrance to the Game Reserve, adjacent to the Raptor Centre and alongside the proposed Aero Estate. For the municipality, this is a no-go area and a 60ha sub-station is not in alignment with the SDF. The impact of this proposed development will be quite disastrous.</p> <p>As far as the Aero Estate is concerned, Eskom will need to take into account the landing strips as the 2 x 400 kV transmission lines are going to affect approaches. The visual impacts are a separate issue. The Ezemvelo-C Plan shows this area as having 'irreplaceable' vegetation.</p> <p>The Council questioned why the Isundu site was being considered. They also questioned the Sigma sub-station not being viable because of the astronomical costs of the earth works, and requests that the cost implications be addressed.</p>	<p>These concerns were acknowledged and will be dealt with within the Scoping Report.</p> <p>One of the specialist studies previously conducted which will be repeated, focuses on town/regional planning matters. The EAP recognises that impacts on surrounding developments as a key issue.</p> <p>The 2 x 400 kV transmission lines on the alignment previously proposed and authorised will not affect the landing strip. The Ezemvelo-C Plan shows the entire Ashburton and much of Pietermaritzburg as 'irreplaceable'.</p> <p>The reason for this new site and the cost implications have been highlighted in the presentation and will be outlined in more detail in the Scoping Report. This project forms an important part of Eskom's larger KZN Strengthening Programme, considering the future electricity demands of KZN's main demand centres.</p>
8	Alan Reddy – Rainbow Chickens	How many people will be working on site on a day to day basis?	During construction, a maximum of about 80 per day. During operations, approximately two Security and Operations staff; so, on average, at any given time, 2 to 6 people.
9	Dean Boswell	How long will the construction phase be from start to completion?	The construction phase will be approximately 3 years during which there will probably be about an 18 month period when the site will have a lot of activity and construction disturbance.

No.	Full Name	Comment / Question	Response
10	Hannes van der Merwe – Rainbow Chickens	<p>1. How many security lights will be installed? The lighting will affect the farms.</p> <p>2. Have you justified costing on all the 16 alternative sites?</p> <p>3. What is 'Plan B' if the proposed Isundu sub-station is not authorised?</p>	<p>1. This is one of the issues under consideration: how many lights and how/where they are placed. If lighting affects breeding and the productivity of chickens (as well as all breeding birds) this needs to be noted and investigated. Security lighting can also be a visual impact. The EAP and the Eskom sub-station lighting specialists will be looking at lighting requirements and design to minimise any impacts as far as possible.</p> <p>2. The different sites present flaws at different stages, sometimes from an environmental perspective, other times from an engineering or cost perspective. With some sites, the flaws are identified early on, with others it can take more investigation. It is not only costing which is considered.</p> <p>Eskom does overlays to see what the cut and fills will be. All sites are considered and rejected for different reasons, i.e. some might be perfect but too small; thus, through the process different sites get rejected for various reasons. Advantages and disadvantages need to be assessed and weighed across a lot of aspects.</p> <p>3. Eskom will have to find another alternative site. Sigma is still authorised but not feasible from a cost perspective. If a fatal flaw is found during the Isundu EIA, the process of trying to identify another alternative site will continue until a suitable site is found. Since 2008, numerous alternative sites have been sought and considered, which has been a lengthy process of investigating alternatives.</p>

No.	Full Name	Comment / Question	Response
11	Elaine Donaldson – Mkhambathini Municipality	When investigating the Sigma site, at the same time, two other sites were investigated: Cato Ridge was one of the alternatives. If Sigma is no longer feasible, why not return to the two previous alternatives, bearing in mind that both are zoned as industrial areas. They are also adjacent to a site on the southern side of the N3 that has been proposed as a 100 ha dry port, so there is space. It is better to go for a site that is already zoned as industrial than to place the sub-station in the middle of an area zoned for tourism.	<p>The previous sites, 6 and 7, were found to be unfeasible from a size, congestion and environmental perspective. eThekweni also had plans to develop a landfill site at Site 6.</p> <p>The EAP was unsure of the exact area referred to and requested that the co-ordinates be sent to ACER.</p>
12	Nora Choveaux – Preservation Mkhondeni Mpushini Biodiversity Trust	<p>1. Intrigued by the previous site; what flaw came out after the whole EIA process?</p> <p>2. Stated that economics have to be investigated as part of the environmental process.</p>	<p>1. Fatal flaws related to geotechnical/soil/topography and cost aspects. Since geotechnical work is not done as part of the environmental assessment process, it was at this point that the site was found not to be feasible.</p> <p>2. It was agreed that economics are considered as part of the environmental process but not building costs, for example.</p>
13	Brian Boswell – Lion Park	<p>1. Will there still be another time to comment?</p> <p>2. What is Eskom's involvement with this process? Is there not a risk that information gets lost in communication between Eskom and ACER?</p>	<p>1. Request that comments be sent to ACER, preferably during December, so that they can be incorporated into the draft Scoping Report. The draft Scoping Report will be made available for comment at the end of January 2015. The specialist studies will then be undertaken and results incorporated into the draft EIA Report. There will be a number of opportunities to confirm that concerns have been appropriately considered and addressed.</p> <p>2. Eskom is the client, and ACER (EAP) and Eskom work together and discuss technical aspects. ACER advises on key issues that Eskom needs to address in designs or provide information, such as security lighting requirements and impacts on surrounding enterprises. Multiple specialist studies will be commissioned as part of the EIA. Recommendations will be made to address the issues and impacts.</p>

No.	Full Name	Comment / Question	Response
14	Nora Choveaux – Preservation Mkhondeni Mpushini Biodiversity Trust	Would this need to go through rezoning?	This would depend if the sub-station falls within the approved town planning scheme or not. This will be determined by the relevant Social and Spatial Development Specialist study.
15	Alistar Hobden - Rokwil Property Development	<ol style="list-style-type: none"> 1. The concern is that of additional power lines. Will there be further lines coming down to the Hector Sub-station? 2. Ideally, could Eskom not link into the existing Ariadne Sub-station if the Isundu Sub-station site is not viable? Why is this not possible? 	<ol style="list-style-type: none"> 1. This is not part of this application; however, it is possible in the future. 2. The Ariadne Sub-station is already too congested and would not be able to accommodate the proposed new transmission lines. The expansion of all existing sub-stations in the area was considered initially when alternatives and options were being investigated.