

**COMMENTS AND RESPONSE REPORT (EIA PHASE)**

**Proposed “PERSEUS - KRONOS” 765kV Transmission Powerline & Substations Upgrades,  
Northern Cape and Free State Provinces, DEA Ref: 14/12/16/3/3/2/438**

I&AP	Concerns & Queries	Date	Response from Mokgope / Eskom
<p>SKA Dr Adrian Tiplay (Site Bid Manager)</p>	<p>The SKA configuration took into account existing transmission line infrastructure when optimising the location of individual stations. As a result, existing transmission and distribution infrastructure does not pose a significant risk of detrimental impact on the SKA.</p> <p>In order to accurately determine the impact the development of the transmission line could have on the SKA, Electromagnetic Interference Studies are required.</p> <p>During the meeting that was held on 5th November 2013 between SKAPO, yourself and ESKOM, ESKOM committed to conducting these studies on already existing 756KV transmission lines. To date, ESKOM has not yet communicated these results to SKAPO.</p> <p>SKAPO did, however, receive an ESKOM report on radio interference in January 2013 where 400kV transmission lines were considered for the ESKOM Solar Park near Upington. Investigations indicated that 16km buffer distances would probably be appropriate for 400kV transmission line infrastructure. However, this same assumption cannot be made for 765kV line infrastructure until a proper analysis is conducted.</p> <p>The 16 kilometre protection buffer was a tentative figure, which required further investigation as information relating to the design of the transmission line and electromagnetic emission profile of 765KV transmission line was not available. In light of these, we cannot approve the protection buffer until a more rigorous analysis is conducted, which may result in some mitigation measures that could be adopted in the line design.</p> <p>The SKAPO request that further engagement be</p>	<p>28-07-2014</p>	<p><b>EAP:</b> Thank you for your comments.</p> <p><b>EAP:</b> The Radio Interference Report for 765kV by KR Hubbard from Eskom has been provided to SKA.</p> <p><b>EAP:</b> The SKA buffer zone for 765kV Transmission Lines has been established to be 22km. The buffer zone has been included in the locality maps in the EIR.</p> <p><b>EAP:</b> Our Draft EIR’s stated that the proposed 765kV power lines should be aligned outside the 16km buffer. Based on your comments, the 16km buffer is more appropriate for a 400kV power line than for a 765kV power line. To this regard, we will await for the approved protection buffer for 765kV power lines, which would be included in the final EIR. Thank you for your comments.</p> <p><b>EAP:</b> A meeting took place on the 12 February 2016</p>

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	<p>undertaken in order to not only ascertain the potential impact the development of the transmission lines could have on the SKA but also to ensure that appropriate mitigation measures are put in place to ensure its protection from EMI.</p>		<p>between the EAP, Eskom and SKA to finalise mitigation measures of the final chosen corridor based on the 22km buffer zones. Minutes to the meeting are available on request.</p>
<p><u>DENC</u> Ms D Moleko (Assistant Director, Impact Management)</p>	<p>The Department of Environmental and Nature Conservation (DENC) recommends that all the protected indigenous floral species under NCNCA may not be removed from the site without the necessary permits from DENC. This includes the removal of bird nests, especially of raptor species, no animals (including snakes) may be hunted (poached), trapped, injured or removed (transported) in any way without the necessary permits (during construction phase and thereafter). It is strongly recommended that this must be incorporated into the Environmental Management Programme (EMPr).</p> <p>Kindly include mitigation measures for the prevention of workers poaching and killing the faunal species.</p> <p>It is recommended that Critical Biodiversity Areas must be avoided at all times.</p> <p>There were no indications in the Draft EIR from where the drinking water for workers and water for the dust suppression would be obtained from.</p> <p>Fire management around the tower structures must be included in the Final EIR.</p>	<p>06-08-2014</p>	<p><b>EAP:</b> Thank you for your recommendations. I did peruse the draft EMPr and the mitigations for the prevention of workers poaching and killing faunal species were not included. However, workers poaching and killing faunal species is more about worker behavior, hence this topic will fit better during the orientation and awareness stage prior to construction and continuous monitoring during construction.</p> <p><b>EAP:</b> Your recommendations have been noted. This is noted in the EMPr under <i>Chapter 12 Construction Phase: Access to Site: Survey Points Section</i>.</p> <p><b>EAP:</b> Water supply for workers and other uses will be indicated in the EMPr and not directly in the Draft EIR. This will be included under <i>Chapter 12 Construction Phase: Water: Water Supply Section</i>.</p> <p><b>EAP:</b> Fire management around tower structures will be included be the responsibility of Eskom particularly during maintenance phase. This is indicated in the EMPr under <i>Chapter 12 Construction Phase: Risks Associated with Infrastructure / Materials on Site</i>.</p>

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	<p>On Pg 21, it is stated that stumps will be treated with herbicides; it is therefore recommended that the herbicides should be registered agro-chemicals.</p> <p>No vehicles may be allowed in the watercourse during the construction phase or thereafter.</p> <p>All the materials / dumps must be stored 500m away from the ephemeral rivers and endorheic pans.</p> <p>It is recommended that a procedure for soil pollution and handling of oil, diesel and petrol spillages should be included in the Final EIR prior to construction phase.</p> <p>Post monitoring of the transmission line effect on bird populations must be conducted to determine the areas of high bird collisions and subsequently develop possible mitigation procedures for these areas.</p> <p>Regrowth / recruitment of invasive alien plants should be monitored and eradicated. Include an alien plant control programme in the Final EIR.</p> <p>For any removal of indigenous plant species and nationally protected tree species permits need to be obtained from the Northern Cape Nature Conservation Act (NCNCA) (No.9 of 2009) DENC or the National Forest Act (NFA) (Act. 84 of 1998) DAFF respectively.</p>		<p><b>EAP:</b> Thank you for your recommendation. This will be included in the EMPr under <i>Chapter 12 Construction Phase: Conservation of the Natural Environment: Alien Plant Encroachment.</i></p> <p><b>EAP:</b> Thank you, included in the EMPr.</p> <p><b>EAP:</b> Included in the EMPr.</p> <p><b>EAP:</b> This has been included in the EMPr under <i>Chapter 11: Pre-Construction Phase: Establishing Equipment Lay-down and Storage Areas: Hazardous Substances and Materials Section.</i></p> <p><b>EAP:</b> Prior to construction, a walk-down and ground-truthing of the chosen route alignment from tower to tower, would be conducted for the various biodiversity assessments, including avifauna assessments for recommendations. In the EIA process, the Avifauna Studies identified Important Bird Areas, which need to be avoided. These areas will be verified during the walk down assessments.</p> <p><b>EAP:</b> Your concerns have been noted and are included in the EMPr under <i>Chapter 11 Construction Phase: Conservation of the Natural Environment: Fauna and Flora Section.</i></p> <p><b>EAP:</b> Thank you for the recommendation. Plant removal Permits, Water Use License Permits and any other required permits would be applied for prior to construction phase during the walk-down process.</p>

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	<p>On Pg 62, it is mentioned that there are cultural / historical significant elements present in the development area. It is of the utmost importance that these elements be protected as far as possible according to the application legislation as set out by SAHRA. The necessary permits have to be obtained from SAHRA to damage or destroy these significant elements.</p> <p>All graves may not be removed and must be seen as a no-go area. Kindly provide a detailed map of the no-go areas in the Final EIR with the final route alignment.</p> <p>The Mokala National Park (MNP) must be a no-go area in the Final EIR. Kindly provide a map that indicates where the power line avoids the MNP.</p> <p>Pans and Hills must be avoided with a 100m buffer.</p> <p>Effective bird diverters must be implemented.</p> <p>An agreement with landowners must be reached with the final route alignment prior to the project commencement phase.</p> <p>Indicate how many workers will be employed during the</p>		<p><b>EAP:</b> Prior to Construction Phase, the Heritage Specialist will be required to conduct a walk-down along the chosen route alignment from tower to tower, to assess heritage impacts and provide mitigation measures.</p> <p><b>EAP:</b> Final route alignment is provided digitally as kmz file in Appendix C in the CD for your department’s review. See Figure 17 in the EIR for protected areas. Localised no-go areas will be made available after the walk down.</p> <p><b>EAP:</b> See comment above.</p> <p><b>EAP:</b> This is included under <i>Chapter 12 Construction Phase: Conservation of the Natural Environment: Avifauna, Flora and Fauna Section.</i></p> <p><b>EAP:</b> Prior to Construction Phase, the Avifauna Specialist will be required to conduct a walk-down along the chosen route alignment from tower to tower, to assess avifauna impacts and provide mitigation measures. Bird diverters must be implemented where necessary.</p> <p><b>EAP:</b> The negotiation process between Eskom and the Landowner will take place prior to Construction Phase. Construction activities would only commence once the servitude has been obtained. The Landowners conditions on their private properties would need to be included in the Site Specific EMPr which will be compiled after the walk-down Process.</p> <p><b>EAP:</b> Unfortunately at this EIA Process Stage, Eskom is</p>

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	<p>construction phase and the operational phase? Will the workers be local or non-local?</p> <p>SKA should be avoided by the proposed power line development.</p> <p>A 10km buffer zone should be established between known White-backed vulture nesting sites and the proposed transmission line. It is essential that no section of the transmission line runs through this buffer zone. The exact locations of the vulture nests in the Kimberly Region can be obtained from Miss Beryl Wilson from the McGregor Museum.</p> <p>Important Bird habitats, such as pans, other water bodies and large <i>Acacia erioloba</i> trees stands should be avoided as far as possible.</p>		<p>not in a position to know how many workers will be employed during the construction and operational phases.</p> <p><b>EAP:</b> The final route will have to avoid impacts on SKA. However, where the avoidance is impossible, mitigation measures will be put in place to ensure minimal interference. Eskom technical team is aware of the above. See SKA minutes in Appendix K provided in the EIR.</p> <p><b>EAP:</b> Thank you, the vulture nests in the Kimberly region have also been identified by the Avifauna.</p> <p><b>EAP:</b> Thank you for your recommendations and comments. Recommendations for avoiding ecologically sensitive areas are emphasised in <i>Chapter 12 Construction Phase: Conservation of the Natural Environment: Avifauna, Flora and Fauna Section</i>.</p>
<p>Mike Birch (Property owner of Hunt The Sun, Mike Birch Safaris)</p>	<p>I operate a hunting and tourism safari lodge on the property <u>Arnotsdale 175</u> in the Herbert district. I strongly object to the proposed Kronos-Perseus power line Corridor 1 as this route runs directly over my lodge.</p> <p>From the maps it would appear as if the line for Corridor 1 would run right over my lodge. Given that the Occupational Health &amp; Safety Act dictates that a distance of 5.6m to any building must not be encroached, it is assumed then that the planned line would then be moved slightly to run adjacent to the lodge buildings and not directly over.</p>	<p>21-07-2014</p>	<p><b>EAP:</b> Your comment has been noted and brought to Eskom's attention.</p> <p><b>EAP:</b> Prior to Construction Phase, a Negotiation Process will take place between Eskom and the affected Landowner to discuss on the servitude line establishment, within the 2km corridor of the final route. The Occupational Health &amp; Safety recommendations will be adhered to during construction of the power line. The servitude to be acquired will comply with the 5.6m from the Occupational Health &amp; Safety.</p>

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	<p>However a 765kV power line situated directly adjacent to a tourism lodge would have a catastrophic impact on the sense of place and consequently would have a devastating impact on my business.</p> <p>The lodge has been specifically developed to take maximum advantage of the panoramic view of the surrounding area. The lodge has been built on a slight elevation and owing to the flat landscape of the area the view from the lodge extends to the topographic features on the Southern boundary of the Mokala National Park, which is truly exceptional and greatly adds to the sense of place that is an African Savannah. All three of the proposed power line corridors would be visible from the lodge, however Corridor 1 would have the greatest impact.</p> <p>We also have staff accommodation in close proximity to the proposed power line. There is a large amount of literature debating the health impacts of living close to high voltage lines.</p> <p>While research indicates that large risks are probably not present, the possibility of a relatively small risk cannot be conclusively excluded. There have been studies that show that children living in homes as far as 600m from power lines have elevated risks of leukemia. The close proximity of the proposed line to this accommodation would have to be considered by ESKOM.</p> <p>I cannot support the proposed Kronos-Perseus power line Corridor 1 without deviation 1a, as it would have a ruinous effect on my business. I therefore concur with the findings</p>		<p><b>EAP:</b> Date 14-04-16: In the recent 2015 new developments to Corridor 1, Eskom proposed to include Deviation 1c. The reasons for the deviation are included in the Final EIR in Section 3. A map showing the affected farms traversed by the corridors is provided in Appendix C of the EIR.</p> <p><b>EAP:</b> Eskom will not construct the power line very close to buildings. Eskom has to comply to various laws that protect the health and safety its surrounding environment.</p> <p><b>EAP:</b> Although the EIA process recommends the final route to be Corridor 1 with deviation 1a, b,c,d, the final decision will have to be made by Department of</p>

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	<p>in the DRAFT EIA that the application for Environmental Authorisation should only be granted for <b>Corridor 1 with Deviation 1a.</b></p> <p>Should the application be approved for corridor 1 without the proposed deviation, I would have no choice but to further pursue the objection.</p>		<p>Environmental Affairs.</p> <p><b>EAP:</b> Once the final decision has been made, you will be notified of the decision. If you have any objections to the decision, you will be given an opportunity to appeal.</p>
<p>Steven Squires: <i>Chairman Riet-River Water Users Association;</i></p> <p>Ian Conroy: <i>Land Owner Jacobsdal;</i></p> <p>Phillipus Nel: <i>Chairman Kalkfontein Water Users Association;</i></p> <p>Kempen Nel: <i>Chairman Riet River Farmers Association;</i></p> <p>Andrew Conroy: <i>Chairman Jacobsdal Pilots</i></p>	<p>This report purports to reflect on the relative impacts of three possible power line constructions between Dealesville and Copperton. All three possibilities are greenfield developments.</p>	<p>02-08-2014</p>	<p><b>EAP:</b> Your comments have been noted, thank you.</p>

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<p><i>Association</i></p>	<p>The environmental impact assessment process is amongst other things supposed to “investigate possible alternatives for the proposed development and propose recommended alternatives to the Department of Environmental Affairs.” Three greenfield routes, two of which pass through a national park can hardly be described as alternatives to one another. Investigation of alternatives has clearly not been done.</p> <p><u>No attention has been given at all to the brownfield possibility of following the existing power lines currently linking these two sites.</u> This is a primary and fundamental flaw of this entire report</p> <p>Given the fact that the three proposed routes are primarily through wild landscapes of pristine views and huge vistas, the insensitivity of this omission is astounding. Good practice in environmental planning dictates that already damaged areas should first be utilised before embarking on the irreversible defilement of virgin landscapes. This has not taken place and the omission should condemn this report as incomplete.</p> <p>A superficial calculation puts a routing between these two points via Kimberley and Douglas as slightly shorter than the current proposal and via De Aar at about 25% longer without sacrificing any virgin landscapes. These should be the two primary alternatives considered before any</p>		<p><b>EAP:</b> Investigations of route selection were done and this was the appropriate region for the Northern Alignment Phase 5.</p> <p><b>Eskom:</b> Phase 4 already has a proposed power line in areas you are suggesting. Consideration was given as having power lines in the same corridor facilitates routine maintenance. In this case however, the corridor is congested and there is a significant risk that if there is a problem with the 765kV line due to fire/lightning that this would affect other power lines which would compromise the grid to unacceptable levels.</p> <p><b>EAP:</b> After a route selection, Eskom does not end there. The EIA is undertaken to further identify sensitive areas that need to be avoided by the power line. The construction of the proposed development also triggers the activities listed in the EIA Regulations of 2010. Therefore it is mandatory to find the most feasible corridor with minimal impacts on the surrounding environment. We take into consideration the recommendations from other provincial authorities of what areas need to be avoided. Also prior to construction, the line may be required to obtain permits such as water use licenses, heritage permits, removal of protected plants, amongst others.</p>

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	<p>greenfield sites are proposed.</p> <p>The report in section 3.1 identifies key determinants for identifying different routes in the receiving environments, avoiding such things as “centre-pivots, terrain, mining areas, environmentally sensitive areas (wetlands, dams, pristine areas, and national protected areas), game farms and existing infrastructure.”</p> <p>The proposed recommendation then routes the line close to or through innumerable such environments. It appears the authors of this report are only paying lip service to the act, and recommending what the client wants to hear. This is a gross prostitution of professional ethics and on these grounds this report should be withdrawn and redone.</p> <p><u>Specialist Reports</u> Some of these reports are breath-taking in both their arrogance and ignorance. They are, with few exceptions, very superficial making use of outdated and generalised data.</p> <p>In particular much of the information contained in the <u>Socio Economic Agriculture</u> report is plain wrong and the author shows a disturbing ignorance about agriculture in general and the specifics of the area in particular. It is</p>		<p><b>EAP:</b> A long linear developments like this one would rarely be able to avoid crossing ecologically sensitive areas. One of the main objectives of this process is to avoid and or minimize impacts by applying the recommended mitigation measures during construction and operational phases. Independent specialists were appointed to conduct studies and provide mitigation measures which would be outlined in the EMPr and adhered to during the construction phase.</p> <p>It needs also to be remembered that the routes/alternatives assessed are corridors approximately 2km wide. In most instances that is sufficient to ensure the actual power line as built, avoids the receptors identified. Where these cannot be avoided, local deviations would need to be negotiated and amendments to the route sought.</p> <p>The EAP and Specialists have signed a declaration of interest. We have signed to perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant.</p> <p><b>Socio-Economic Specialist:</b> As captured in the reports, the analysis of socio-economic impacts is based on data and information drawn from the existing mix of products, output and value based on survey data collected by</p>

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	<p>doubtful whether the author of this report has even set foot on a farm, never mind visited the area or lived in it, interviewed any of the residents or made any effort to acquaint himself with the realities at all. The simplistic rehashing of outdated Stats SA data in this report would be comical if it did not lead to such dangerous conclusions.</p> <p>For example, surface areas under cultivation are derived by adding up the various areas under various crops. This does not take into account double cropping practices commonly found in these areas and so effectively doubles the reported area under cultivation.</p> <p>Reporting production from areas on a gross tonnage basis is simplistic in the extreme unless calculations are for road haulage reasons. A ton of lucerne is worth R 2000 whilst a ton of nuts is worth R 20 000. The figures quoted for the value of agricultural products are even more ludicrous. A figure of R 4.3 million is quoted as being the total value of production for the entire affected area. The next paragraph quotes a figure of R 300 million for Prieska magisterial district alone! Either the author has not proof read his report or the data is seriously flawed.</p> <p>Jacobsdal is quoted as having 7000 Ha of cultivated land with a gross production value of R 58 million. Jacobsdal has roughly double this area under irrigated agriculture and just two farms in this area produce well in excess of this amount of gross value.</p>		<p>Statistics South Africa in its latest Agricultural Census.</p> <p>The budget for the socio-economic impact assessment study was too low and could not support field reconnaissance of the study area or fieldwork. This was the understanding reached with Mokgope Consulting CC, at the outset of the study.</p> <p>Every effort was made to contact operators where possible to collect data/information on specific operations. This is documented in the 8 study reports produced for this study.</p> <p><b>Socio-Economic Specialist:</b> Any reliable data and information on agriculture in the study area is welcome. This would be incorporated in the reports.</p> <p><b>Socio-Economic Specialist:</b> The figures will be checked again. Any data / information from existing operators is welcome, for revisions of the calculations.</p> <p><b>Socio-Economic Specialist:</b> Again, any data / information is welcome to revise the calculations.</p>

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	<p>The figures quoted in this report are thus grossly inaccurate and in no way reflect the state of cultivated agriculture in this area. The simplistic extrapolation of this incorrect data to calculate the cost to agriculture of this power line is thus completely wrong in both its methodology and quantum and on this basis this report should be rejected in its entirety.</p> <p>The words livestock and game are mentioned only once each and that with regards to Boshof, a town some distance from the proposed power line, and the word irrigation is not mentioned at all.</p> <p>This then misses the entire essence of agriculture in this region. The vast majority of the area is made up of livestock and game farms, with the cultivated lands mostly consisting of centre pivot irrigation. While domestic stock can be raised in proximity to high voltage power lines, game farms require unspoilt environments to attract their paying customers and centre pivot irrigation is incompatible with pylons.</p> <p>An Eskom power line is a permanent feature of the landscape and Eskom’s policy of making the land owner pay for any adjustments to them, stifles development in their vicinity. It is therefore highly undesirable to route a power line on or over any farm that has irrigation potential or water rights as this removes the land from production forever. The report does not make this point at all.</p> <p>There has been no attempt at shadow pricing to determine the land values this power line would destroy and the reader is left with the impression that this cost is entirely for the land owners account, which is why it appears to be the cheapest option for Eskom. Thus, from an economic point of view this report is also flawed.</p>		<p><b>Socio-Economic Specialist:</b> The impacts are based on average production and value statistics for the impact area and component magisterial districts. As alluded to in the report, no statistics or information was collected from individual farmers, producers or property owners. The social economic analysis did not have the scope for detailed analysis of impacts on individual farms and/or land holdings.</p> <p><b>Socio-Economic Specialist:</b> Noted (see below).</p> <p><b>Socio-Economic Specialist:</b> The prevalence of livestock and game farms is noted, including the incompatibility of irrigation systems and pylons.</p> <p>Again, data and information on performance indicators for existing livestock and game farms is welcome. This would be reviewed and incorporated in the report(s), as appropriate.</p> <p><b>Socio-Economic Specialist:</b> This is probably important in relation to the socio-economic impacts and the entire EIA process. Meetings to address these with the parties concerned would be helpful and are recommended.</p> <p>Ultimately, the impacts will have to reflect the costs and benefits accruing at the farm, property and enterprise level. The expectation is that operators on the ground would provide their view(s) of what the impact of the proposed power line would be expressed in terms of loss or gains in production, commodity/output values, employment, etc, including mitigation measures and mitigation costs, proposed or suggested routing of the power line, etc. Consulting Team would review these local</p>

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	<p>The <u>Agricultural Report</u> on soils makes the point that the line should be routed away from irrigation areas. Irrigation can occur on any farm with water rights, either from riparian sources or from irrigation canals. The proposed line crosses the Modder River, the Riet River, the Orange River, the Kalkfontein irrigation scheme, the Riet River irrigation scheme and the Oranje Riet Canal. All of these areas support intensive irrigation farming and any proposed power line should give them a wide berth.</p> <p>The <u>Eco-Tourism Report</u> is flawed in a number of respects. While it pays lip service to the idea of keeping visual intrusions away from pristine areas it concentrates its focus on existing attractions without considering the potential that will be lost if other pristine areas are destroyed.</p> <p>There has been no quantification of wildlife or tourist related activities along the three proposed options and a subjective evaluation is made that the long term visual impact of the lines will be less in some areas than in others. This subjective rating is then used to justify the choice of a preferred route. Subjective assessments without support from hard data reflect only the opinion of the author and lack any authority. The conclusions so reached cannot be accepted and this report should be rejected for this alone.</p> <p>The sweeping statement that the greatest impact will be felt on Mokala National Park sounds reasonable but does not stand up to scrutiny as the authors admit they have little or no data for the rest of the area with which to compare. Paragraph 2.3 starts “Very limited information is</p>		<p>impacts in the context of the impacts of the study area. NB: See point below on treatment of land values.</p> <p><b>EAP:</b> Your comments have been noted. The proposed corridors impacting the areas of concern would be investigated for further realignment to avoid and be routed away from irrigation areas.</p> <p><b>Ecotourist Specialist:</b> Noted, but also refer to the extensive work conducted by ADEC along the four sections of the power line corridor, including further work/study/inputs recommended to identify tourism “hotspots” and future marketability of tourism assets/activities in the power line corridor. Information and impacts identified by specific operators and for specific facilities are welcome. Operators on the ground also need to suggest best approaches and routing of the power line to minimize negative impacts, for consideration by the consulting team.</p> <p><b>EAP:</b> The proposed development was advertised extensively and while some game/eco-tourism operators came forward, others did not, so cognizance has been taken of some areas but not others. The views of the authors of this commentary are noted.</p>

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	<p>available from a tourism and conservation perspective for the Study Area”. In fact there are probably more rare and endangered animals on private farms in the area than within the park.</p> <p>The resulting pseudo-scientific ranking of certain lines against other lines based on this paucity of information falls just short of fraudulent and should be dismissed with contempt.</p> <p>The <u>Visual Report</u> re-iterates time and again the visual intrusion all the proposed routes will create and it mentions residents of the area as being affected by the lines. It is debatable whether a tourist or a resident will be more affected by the intrusion but the point that is made is that the area provides little cover for such undertakings and that most of the proposal is through pristine views. This report should also recommend routing the lines through brownfield areas but does not.</p> <p>The <u>Wetland Report</u> is another triumph of desk top research. The preferred routing is based on the number of wetlands and watercourses crossed without any attempt being made to benchmark the quality and importance of each. The difference in numbers between the routes themselves is insignificant. Route 1 has 32% of the wetlands, Route 2 - 35% and Route 3 - 33%. These differences are trivial. A pan that is dry for years on end, on route 2, is equated with the perennial vlei systems fed by irrigation drainage that supports thousands of waterfowl year round on route 1.</p> <p>This report can be considered incomplete and based on completely unweighted evidence.</p>		<p><b>Visual Specialist:</b> The visual impact study only evaluates the proposed routes given by ESKOM but the comments about the brownfields are noted.</p> <p><b>EAP:</b> Brownfield corridors are congested with high voltage power lines (Phase 4 Project – See figure 1 in the Final EIR)</p> <p><b>Wetland Specialist:</b> The strategic assessment of wetlands allows for delineation according to visible hydrological gradients as observed on aerial images, and limited field verification. Detailed verification is very time intensive and usually not realistic at this scale of study. Prior to commencement of activities, pylon positions should be refined based on a walkdown assessment during which a fine scale delineation can be done.</p> <p>The biodiversity value of a pan versus that of a perennial vlei cannot be assessed based on the number of birds that are observed. Pans are a unique habitat to many unique invertebrate/diatom species that are adapted to the dry/wet cycles in these pans. Whereas birds can relocate to alternative wet areas, these diatoms assemblages cannot be rehabilitated or relocated. We</p>

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	<p>The <u>Avifaunal Report</u> makes for depressing reading. The impact that Eskom is already having on the national avifauna is horrific. Were Eskom to be prosecuted for every endangered species killed on their lines, the company’s entire executive would be in custodial care.</p> <p>The author of this report clearly states that none of the proposed options are acceptable from an ecological point of view and that the new line should be routed with existing lines in order to minimise their impact on wildlife. It is unfortunate that the author has not taken the trouble to travel the routes as his objections would have been even more strident had he seen the thousands of water fowl and storks and flamingos that commute around the Oranje Riet irrigation area every evening in summer, and across who’s flight paths these lines would be strung. The periphery of the irrigation schemes also attract large numbers of Ludwigs Bustards, Blue Cranes and Sacred Ibis which feed on the margins of the irrigation scheme and return to the vleis and veld to roost at night.</p> <p>Away from the irrigation areas the line remains a death trap for large terrestrial birds. The author has omitted to mention the fire hazard when flocks of birds, geese and guinea fowl in particular, fall burning into the veld after shorting power lines. In these cases Eskom denies all responsibility and the land owner is left to manage the</p>		<p>recognize that comparisons between the value of wetlands areas should be based on collection of empirical data. However, the research involved in this level of study for the current alignment can fund several Phd’s. I doubt whether Eskom would be happy to fund this.</p> <p><b>EAP:</b> A 2km wide corridor within which to build a power line is usually sufficient to avoid most sensitive areas such as pans &amp; wetlands, ephemeral &amp; permanent.</p> <p><b>Avifauna Specialist:</b> Noted. Our role is to recommend what we think is the best placements of the power line, taking into account all relevant species, and habitats. This does not always mean a perfect, risk free placement, but in this case it is our opinion that placing the new line adjacent to existing lines would lessen the risk to avifauna.</p> <p>On transmission power lines of the voltage proposed it is not possible for birds to short circuit the line as the clearances between live phases and between live and earthed phases is spaced wider than the wing span.</p>



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	<p>research. The concluding comments in this report that “overall the specialist studies have not found any significantly detrimental issues that can be caused by constructing the proposed power transmission line” <u>Is Not True</u>. The specialists have ranked the three options and expressed opinions on these only. No brownfield options have been investigated. The greenfield recommendations are based on very superficial study and in some cases on data that is manifestly wrong.</p> <p>The decrease in value of the land to be crossed by the power line has not been calculated. This omission will make the proposed Eskom options look cheap. Landowners and residents have very strong views on this matter and are far more important in the affected party mix than tourists.</p> <p>Indeed without their good will Eskom will have difficulty accessing, constructing and maintaining any line. As the custodians and stewards of the land their views should be sought and heeded. It is perhaps time to start the process again, using feet on the ground to gather relevant information and putting the affected people and environments first.</p>		<p>EIA processes being undertaken separately for the various regions.</p> <p>Land value calculations would be focused during the Negotiation Process between the Land owner and Eskom.</p> <p>Your comments have been noted, thank you.</p>
<p>William and Martelize Faber Neels and Lydia Faber (Farmers in Jacobsdal area).</p>	<p>To whom this may concern,</p> <p>I do not agree with the proposed alternatives for the Power Line over green field areas in our district near Jacobsdal and agree with everything that Steven Squires said in his letter to you.</p> <p>I am shocked that you do not use the brown field areas already in the area and it seems that you do not care for the wild life and bird life in the area only because it is not in a National Park like Mokala.</p>	<p>22-08-2014</p>	<p><b>EAP:</b> The views of the authors’ of this commentary are noted. See responses to Steven Squires comments above.</p>

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	<p>We also did know about the meetings held as it was not advertised properly.</p> <p>This is unacceptable</p>		
<p><u>DENC</u> D Werth (Case Officer)</p>	<p>The Department confirms having received the above mentioned project on 23<sup>rd</sup> June 2014, as required in terms of the Environmental Impact Assessment Regulations, 2010.</p> <p>The application has been assigned the reference number NC/NAT/SIY/NAM/L0ER/2013. Kindly quote this reference number in any future correspondence in respect of the application. Please note that the responsible officer is going to be Ms. D. Werth and can be contacted at: 053 807 7456.</p>	<p>23-06-2014</p>	<p><b>EAP:</b> Thank for your acknowledgement of receipt. We will include Ref Number: NC/NAT/SIY/NAM/L0ER/2013, when submitting the Final EIR to your department.</p>
<p><u>DWS,</u> Free State Ms S Mdluli</p>	<p>The DSW, hereby comments with regards to potential impact on water resources as follows:</p> <ul style="list-style-type: none"> <li>• The DSW should be appropriately consulted for appropriate authorization if water will be obtained from a water resource in relation to the proposed project. The source of the water that will be used for dampening surface in order to control dust must be clearly indicated in the EMP.</li> <li>• Facilities for sanitary convenience, fuel storage or any substance which cause or is likely to cause pollution of a water resource should not be placed within the 1:50 year flood-line of any watercourse or estuary.</li> <li>• The relevant municipalities must be consulted prior to the commencing of the project if any of the waste water from the project will be disposed at the Municipal Waste Water Treatment Work (WWTW).</li> <li>• It must also be ensured that the Municipal WWTW</li> </ul>	<p>23-09-2014</p>	<p><b>EAP:</b> Comments are noted with thanks.</p>

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	<p>have got adequate capacity to treat additional effluent.</p> <ul style="list-style-type: none"> <li>• The applicant should ensure that erosion control and storm water management measures are put in place and adhered to especially in areas where vegetation clearing will take place.</li> <li>• The Pollution prevention measures in terms of Section 19 (1) of the National Water Act, 1998 (Act No. 36 of 1998) should be adhered to at all times as follows:               <ul style="list-style-type: none"> <li>○ 19 (1) An owner of land, a person in control of land or a person who occupies or uses the land on which any activity or process is or performed or undertaken; or any other situation exists which causes, has caused or is likely to cause pollution of a water resource, must take all reasonable measure to prevent any such pollution of a water resource, from occurring, continuing or recurring.</li> <li>○ And with regards to waste that may be generated in the different stage of the proposed development the applicant is requested to note that; National Environmental Management: Waste Act, 2008 (Act 56 of 2008) stipulates that: (1) No person may (a) dispose of waste, or knowingly or negligently cause or permit waste to be disposed of, in or on any land, waterbody or on any land, or at any facility unless the disposal of that waste is authorised by law.</li> </ul> </li> </ul> <p>In conclusion, the National Water Act, 1998 (Act 36 of 1998) and its regulations should be adhered to with regards to impacts on water resources. And the DSW should be informed of any incidents that may have a detrimental impact on water resource within 24 hours of the occurrence of such</p>		
DWS, Northern		28-08-2014	No comments have been received. Proof of Courier is

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Cape Ms Nompumelelo Mogomqwa			provided in Appendix I.
<u>Transnet</u> Burton Siljeur Geo-Spatial: Western Region Transnet Property	<p>The proposed corridors will be affecting mainly the Saldana – Sishen Ore line, from Loop 4 to Loop 12. With possibly two crossings on the Kraaifontein – Bitterfontein line between Lossand and Liebendal Stations.</p> <p>Shapefiles of Transnet land parcels that may be affected by the proposed power lines are attached for your further attention.</p> <p>Once the corridors are finalised, an official application along with plans indicating where/how rail infrastructure will be crossed, must please be forwarded to Infrastructure Maintenance, Transnet Freight Rail, who will circulate to all relevant departments for their comment/input. Specifications for plans can be provided by the Infra department.</p> <p>Please forward your application to: Annelize Harmse (Tel 011-583 0244) Andries Mouton (Tel 021 – 940 2267)</p>	25-09-2014	EAP: Thank you for the shapefiles. They have been overlaid in the projects’ locality maps and indications of crossing are highlighted for Eskom’s attention.
<u>Transnet</u> Anel Abrahams Infrastructure Maintenance Transnet Freight Rail, Bellville	<p>In order for Transnet Freight Rail to determine where we are involved, please provide this office with a route plan of the 765kV transmission power line.</p> <p>Thank you.</p>	13-11-2014	<p><b>EAP:</b> Hi Anel, this is an update of the Final Environmental Impact Assessment (EIA) Phase of the above project:</p> <p>The project has encountered delays over the past year due to some constraints which needed to be resolved. In addition, new deviations were proposed to the preferred Corridor 1. By the end of April 2016, the Final EIA Reports will be completed and sent to you for comments. Nonetheless, before the submission of the reports, we will</p>

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			send you kmz files of the final preferred Corridors considered and their deviations. We will also highlight on our maps the areas where the final preferred power line corridor crosses the various railway lines portions. Thank you for your patience to this regard.
Antoinette Fourie	Requested for maps for farms Graspan / Vrede in Belmont.	27-10-2015	The map and report were emailed via "wetransfer.com on 29 Oct 2015. Antoinette has downloaded the files.
Bruce Oehley	Requested for an electronic report.	27-10-2015	<b>EAP:</b> The map and report were emailed via "wetransfer.com on 29 Oct 2015. Bruce was further reminded 04 Nov 2015 to download the documents, which expired on 5 Nov 2015.
Grace Bay Public Works Bloemfontein	Requested for an electronic report.	27-10-2015	<b>EAP:</b> The map and report were emailed via "wetransfer.com on 04 Nov 2015. Grace was further to download the documents, which expired on 11 Nov 2015.
Guy Murdoch	I am requesting for coordinates where purple deviation or route crosses the N8 & N12 highways Southeast of Kimberley so I can ascertain if it crosses our property, the web site maps are not clear enough to do so.	27-10-2015	<b>EAP:</b> The map and report were emailed via "wetransfer.com on 29 Oct 2015. Guy has downloaded the files.
Greg Edwards landowner Magersfontein Safaris	Requested for an electronic report.	29-10-2015	<b>EAP:</b> The map and report were emailed via "wetransfer.com on 29 Oct 2015. Greg was further reminded 04 Nov 2015 to download the documents, which expired on 5 Nov 2015.
Eylana Gird	Emailed to enquire how the project affects them		<b>EAP:</b> The map and report were emailed via "wetransfer.com on 29 Oct 2015. Eylana downloaded the files on the 10 <sup>th</sup> of November.
Steven Squires <i>Chairman Riet-River Water Users</i>	Your latest EIA submission for the construction of a Perseus Kronos power line refers:  It would appear that comments on the previous version	20-11-2015	<b>EAP:</b> Maps sent to Steve via wetransfer.com on 13 Nov 2015.  The previous comments were taken into consideration.

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<p><i>Association</i></p>	<p>have only been partially digested by yourselves. The report is supposed to take into balanced consideration the impact of the proposed power line and alternatives, on interested and affected parties. That it attempts to do this cannot be denied, but with the academic rigor of a stranded jellyfish.</p> <p>The report has been compiled by interested parties (the consultants) about affected parties with very little primary research to back their findings. The affected parties, primarily the people who live in the area and who earn their livings there, the avifauna, the eco-tourists, the hunters and the landowners have had little say. Where they have been consulted the findings are almost unanimous, “Not In My Back Yard”, nor any place nearby. Eskom disregards this public feeling at their peril.</p> <p>The brief to the consultants was undoubtedly to investigate the three proposed routes. This they have slavishly done. There has been no attempt whatsoever to investigate the case for brownfield routings despite the three most important reports (socio economic agric, socio-economic tourism and avifaunal) recommending this alternative. This oversight alone condemns the entire report as incomplete.</p> <p>A rigorous economic investigation, inclusive of property</p>		<p>Comments from I&amp;APs and findings from the various specialists were assessed and Corridor with deviations is weighed as the most preferred from an environmental perspective. Corridor 1 was closely assessed from a construction technical perspective as well, and further deviations were considered to avoid certain features such as: congested line crossings, houses, a ridge, a few irrigation center pivots, a major cell tower, an extra strain tower, a river crossing, pans, soil erosion, bad terrain, and the Mokala National Park future expansion area, amongst others.</p> <p>We have signed a declaration of interest and fully acknowledge the findings from specialists who also are independent towards this project. Affected landowners have been identified and notified of the project. There have been challenges of some addresses changed or were not updated from the deeds search, but we have extensively strived to notify I&amp;APs through newspaper adverts, posted notification letters, placed site notices at focal points at various towns and pleaded to landowners to spread the word of the notifications, and conducted public meetings. To this regard, it has been an aim to receive comments from I&amp;APs.</p> <p>See Eskom’s comment on page 8 regarding brownfield routings.</p> <p>Property evaluation assessments were not part of the EIA</p>

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	<p>devaluation in the wake of a power line, is urgently required. The socio-economic reports handle this very superficially and no attempt is made to calculate the total economic cost to the affected parties. That the power line does not benefit those whose lives it imposes on is however clearly stated.</p> <p>Pristine environments are becoming increasingly scarce in the world, and the environmental vandalism committed by Eskom in these greenfield sites is becoming socially unacceptable, especially when there are brownfield alternatives only a few kilometres away. If the true economic cost of this greenfield line, rather than just the financial cost, was born entirely by Eskom, rather than shared by Eskom and land owners, the attractiveness of brownfield sites would be overwhelming.</p> <p>I must therefore urge you to weigh the recommendations of your consultants carefully. Not all reports are equal. A report on ephemeral wetlands in what is essentially a desert area cannot be treated with the same weighting as a report on avifauna on which the proposed power line will have a direct negative impact. The personal opinion of the visual impact assessor cannot be equated with the socio economic assessment that details the effect the power line will have on local people’s lives and livelihoods.</p> <p>If the above is considered, brownfield routes should be identified as alternatives to these greenfield proposals and rigorous economic analysis performed to determine the least cost one. Then and only then will the EIA be complete.</p> <p>I hope you convey this opinion to Eskom.</p>		<p>process. Where necessary during the negotiation phase, the assessment may be undertaken. The 2km corridor has catered for local deviations for tower positioning to avoid areas of concern. See “Need and Desirability” Sec 1.1.1 in the Environmental Impact Report.</p> <p>Comments noted with thanks.</p> <p>The various specialists’ studies were carefully weighed and taking into consideration impacts after mitigations, to assist with choosing the more feasible corridor.</p> <p>See Eskom’s comment on page 8 regarding brownfield routings.</p> <p><b>Eskom:</b> Please note that Eskom is aware of the issues raised and its inputs and responses are included have</p>

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I&AP	Concerns & Queries	Date	Response from Mokgope / Eskom
			been included where necessary in this report.
Arno van der Nat (Landowner)	I would like you to forward me the electronic copy of the EIA for the project. The last correspondence I received on the upgrade to the power lines was in mid July 2015. At this stage I am not aware of any changes made, and how this would impact Arbor Acres Middelrand. I have also never been contacted by any of your agents, and I would like to appeal to you to get this sorted out. I would not like to stop the EIA from going through, but would like all relevant information so that I can make an informed decision.	18-11-2015	<p>Good day Mr Arno, I assume it is the Perseus-Kronos notification that you received? Other EIA projects that are taking place at the same time are: Kronos-Aries; Aries-Helios; and Helios-Juno. So please confirm with me as I am dealing with many affected parties from various projects.</p> <p>There is also another Project called Perseus-Gamma, that is not part of this project. It has been granted Environmental Authorisation. I know that in July 2015, notifications were sent out to landowners registered in the database. So maybe your property was crossed by Alternative Route 3 of "Perseus-Gamma", which is close to Corridor 1 of "Perseus-Kronos."</p> <p>Even if you are not impacted by the proposed power line (if your property is not crossed by the preferred route), we are obliged to comply with the Environmental Regulations of 2010, to update registered landowners of the progress of the EIA process. For the Perseus-Kronos Project, Corridor 1 is the preferred route. The Perseus-Kronos EIA Report and maps have been sent via "wetransfer.com" for downloading.</p>
SAHRA Natasha Higgitt	Interim Comments Attached	22-02-2016	<ul style="list-style-type: none"> <li>- The Palaeontological Study Report is provided in Appendix M in the Final EIR for DEA’s review. The Final EIR and Palaeontological Study Report will also be sent to SAHRA for commenting.</li> <li>- The Heritage Visual Assessment for deviation 1A will be conducted prior to construction phase as per SAHRA comments. This will be conducted during the walk down phase.</li> </ul>