The assessment of impacts will largely be based on the Department of Environmental Affairs and Tourism's (1998) Guideline Document: Environmental Impact Assessment Regulations. The assessment will consider impacts arising from the proposed decommissioning activities of the project both before and after the implementation of appropriate mitigation measures.

The impacts will be assessed according to the criteria outlined in this section. Each issue is ranked according to extent, duration, magnitude (intensity) and probability. From these criteria, a significance rating is obtained, the method and formula is described below. Where possible, mitigation recommendations have been made and are presented in tabular form.

The criteria given in the tables below will be used to conduct the evaluation. The nature of each impact was to be assessed and described in relation to the extent, duration, intensity, significance and probability of occurrence attached to it.

**Table 1: Methodology Used in determining the significance of potential environmental impacts**

**Status of Impact**

The impacts are assessed as either having a:

negative effect (i.e. at a `cost' to the environment),

positive effect (i.e. a `benefit' to the environment), or

Neutral effect on the environment.

**Extent of the Impact**

(**1**) Site (site only),

(**2**) Local (site boundary and immediate surrounds ),

(**3**) Regional (within the City of Johannesburg),

(**4**) National, or

(**5**) International.

**Duration of the Impact**

The length that the impact will last for is described as either:

(**1**) immediate (<1 year)

(**2**) short term (1-5 years),

(**3**) medium term (5-15 years),

(**4**) long term (ceases after the operational life span of the project),

(**5**) Permanent.

### Magnitude of the Impact

The intensity or severity of the impacts is indicated as either:

(**0**) none,

(**2**) Minor,

(**4**) Low,

(**6**) Moderate (environmental functions altered but continue),

(**8**) High (environmental functions temporarily cease), or

(**10**) Very high / Unsure (environmental functions permanently cease).

### Probability of Occurrence

The likelihood of the impact actually occurring is indicated as either:

(**0**) None (the impact will not occur),

(**1**) improbable (probability very low due to design or experience)

(**2**) low probability (unlikely to occur),

(**3**) medium probability (distinct probability that the impact will occur),

(**4**) high probability (most likely to occur), or

**(5)** Definite.

### Significance of the Impact

Based on the information contained in the points above, the potential impacts are assigned a significance rating (**S**). This rating is formulated by adding the sum of the numbers assigned to extent (**E**), duration (**D**) and magnitude (**M**) and multiplying this sum by the probability (**P**) of the impact.

$S=(E+D+M)P$

### The significance ratings are given below

(**<30**) low (i.e. where this impact would not have a direct influence on the decision to develop in the area),

(**30-60**) medium (i.e. where the impact could influence the decision to develop in the area unless it is effectively mitigated),

(**>60**) high (i.e. where the impact must have an influence on the decision process to develop in the area).

The impacts of the proposed project are assessed and rated as follows:

**IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES**

**Impacts Resulting from the Planning and Design Phase**

**Direct Impacts:**

**Employment Creation**

The planning and design of the proposed development requires input from various individuals, resulting in the employment opportunities for such persons. This employment would include both direct (e.g. Environmental Consultants, Engineers, Project Managers, Planners, etc.) and indirect (e.g. reviewing and commenting authorities such as the local authority planning authorities and the environmental authorities). The significance of this impact is medium and is typically restricted to a limited number of professionals. The No-go Alternative would differ in that this impact would not occur.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Employment Creation | No | Positive | 4 | 2 | 8 | 4 | 56 = Medium |
| | Yes | N/A | N/A | N/A | N/A | N/A | |
| Corrective Actions | • No mitigation measures have been identified. | | | | | | |

**Indirect Impacts**:

None Identified.

**Cumulative Impacts**:

No cumulative impacts were identified.

Alternative 1

Impacts Resulting from the Construction Phase

**Direct Impacts:**

**Fauna and Avifauna**

The construction phase will result in habitat destruction which will impact on the faunal communities including avifauna. The impacts identified include the following:

- The destruction of fauna/avifauna habitat, disturbance of livestock, electrocution of birds and collision with powerline, destruction of bird habitat – likely to affect Red List species and grassland habitat specialists, such as Melodious Lark, Whitebellied Korhaan and others.
- Electrocution – likely to affect large raptors, and species such as storks, and herons.
- Collision with powerline – likely to affect water birds, korhaans, storks and possible Secretary bird.
- Disturbance of birds – likely to affect breeding birds in particular.

This impact is of medium significance considering the sensitivity of the area that the line will traverse (wetland etc.).

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Fauna and avifauna | No | Negative | 3 | 4 | 8 | 4 | 60 = High |
| | Yes | Negative | 3 | 4 | 4 | 3 | 33 = Medium |
| Corrective Actions | • An Eskom approved bird friendly pole design must be used. An Eskom approved bird friendly pole design must be used. The Distribution Technical Bulletin must be used in this regard.<br>• In addition, if a monopole structure is used, a Bird Perch must be installed, to provide safe perching substrate for birds well above the dangerous hardware. | | | | | | |

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| | • Do not disturb nests, breeding sites or young ones. Do not attempt to kill or capture snakes unless directly threatening the safety of employees.<br>• No animals should be intentionally killed or destroyed and poaching and hunting must not be permitted.<br>• Fires should only be allowed in designated areas. |

**Visual Impact**

The results of the Visual Impact Assessment for the proposed Juno-Gromis powerline consequently found that the overall visual impact is summarised as being of a medium to high negative significance. Should the recommendations and mitigation measures be implemented, as proposed below, the expected impact could be reduced to medium to low negative significance.

The visual impact on tourists who are considered visual receptors of high sensitivity will be medium, whilst the impact on motorist and sparsely populated population in the small towns will be low during the operational phase.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Visual Impact | No | Negative | 2 | 4 | 6 | 4 | 48 = Medium |
| | Yes | Negative | 2 | 4 | 4 | 3 | 30 = Medium |
| Corrective Actions | • Keep disturbed areas to a minimum.<br>• No clearing of land to take place outside the demarcated footprints.<br>• The contractor should maintain good housekeeping on site to avoid litter.<br>• The steel components should not be painted but be galvanised and allowed to oxidise naturally over time. The grey colour produced in this process will help to reduce the visual impact.<br>• New road construction must be kept to a minimum. Utilise existing roads and tracks to the extent possible. | | | | | | |

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| | • All contractors to adhere to a construction phase Environmental Management Programme. |

**Impact on Heritage Resources**

The proposed deviation was comprehensively assessed from a heritage perspective on a tower to tower specific basis. There were no obvious site of heritage significance noted along the proposed deviations; however, isolated stone tools have been identified along the route.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Heritage Resources | No | Negative | 2 | 5 | 6 | 3 | 36 = Medium |
| | Yes | Negative | 1 | 5 | 2 | 3 | 24 = Low |
| Corrective Actions | • Isolated stone tools were observed on site therefore, no stone robbing or removal of any material is allowed.<br>• It is recommended that the transmission line route stay as far west as possible to avoid impacts on the scenic N7 route.<br>• Vehicles must be restricted to drive only on the existing track and approved tracks and may not create new tracks in the veld during construction of the new transmission line.<br>• Where burial sites are accidentally disturbed during construction, the affected area should be demarcated as no go areas. | | | | | | |

**Impact on Agriculture**

The proposed deviation does not impact on any active agricultural lands, therefore the impact significance of this activity on agriculture is considered low.

Impacts expected particularly on grazing and dry land production areas will include loss of grazing capacity and potential arable land. This is expected mostly around the proposed deviations 2 and 3. This impact is reversible; short term in duration and will have low significance provided mitigation measures are in place.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Agriculture | No | Negative | 2 | 4 | 6 | 4 | 48 = Medium |
| | Yes | Negative | 2 | 2 | 4 | 3 | 24 = Low |
| Corrective Actions | • Approved roads must be utilised.<br>• Construction activities will only be undertaken on authorised areas.<br>• No waste will be buried on site. | | | | | | |

**Impact on Traffic**

The proposed deviation will move the line farther away from the primary access roads. Subsequently there will be an increased use of local and private dirt roads that are more prone to erosion as well as posing a higher safety risk.

The proposed deviation will not have a significant impact on the N7, more so because the alignment is more to remote areas, thus increasing traffic on secondary access roads as well as private farm roads. This impact is expected to be of medium significance with and without mitigation

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Traffic | No | Negative | 3 | 2 | 8 | 4 | 52 = Medium |
| | Yes | Negative | 2 | 2 | 6 | 3 | 30 = Medium |
| Corrective Actions | • The delivery of construction material and equipment should be limited to hours outside peak traffic times (including weekends) prevailing on the surrounding roads.<br>• Access roads must be clearly marked.<br>• Delivery vehicles must comply with all traffic laws and bylaws. | | | | | | |

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| | • A speed limit of 30km per hour must be maintained on farm/dirt roads. |

**Impact on Flora**

The proposed deviation will definitely impact on the vegetation during construction of new access roads as well as at the footprint of the towers. Vegetation clearance will be required to accommodate the foundations of the two optic fibre repeater stations which will be built along the powerline (approximately 15m$^2$ each).

The alignment will traverse both terrestrial and aquatic CBA.

The anticipated impact will not significantly differ from that of the approved route. However, this assessment was more tower specific and mitigation measures have been made for each tower. The general impact on vegetation is expected to be definite, negative, long term, local but of national importance and high in significance.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Flora | No | Negative | 3 | 5 | 8 | 4 | 64 = High |
| | Yes | Negative | 3 | 4 | 6 | 3 | 39 = Medium |
| Corrective Actions | • Search and rescue must be done by a Specialist in consultation with the ECO.<br>• It is recommended that search and rescue be done on the affected towers and permit applications made to DAFF for removal and relocation.<br>• The natural vegetation encountered on site is to be conserved and left intact as much as possible.<br>• Only flora within the construction footprint must be cleared. Clearance must be as per the approved Method statement in line with Eskom policies.<br>• Sensitive features along the power line deviations include the major drainage lines, especially, the Hol, Groen, Groot Goerap and Moedverloor rivers. Disturbance in these areas should be minimised as much as possible.<br>• The sections of line on deep sandy soils, especially along Deviation 2 are vulnerable to | | | | | | |

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| | wind erosion and the footprint of the power line should be kept as low as possible within these areas.<br>• Apart from the drainage lines, there are few features of significance along the deviations and no specific habitats of concern that would need to be avoided were observed.<br>• Search and rescue must be done by a Specialist in consultation with the ECO.<br>• No laydown areas may be located within identified areas of high ecological sensitivity.<br>• Creation of new access tracks should be minimised in all areas of natural vegetation.<br>• Point out and/or demarcate all ecologically "sensitive" areas to the construction team (e.g. red data habitats & species, water courses, sensitive soils, sand dunes, steep slopes and areas susceptible to erosion).<br>• No person shall:<br>o Uproot the plant in the process of picking the flower or any flora;<br>o Without a permit pick any endangered or protected flora, or pick any flora on a public road or on the land on either side of such road within a distance of ninety metres from the centre of the road;<br>o Pick any protected or indigenous unprotected flora on land of which he or she is not the owner, without the permission of the owner of such land or of any person authorised by such owner to grant permission.<br>o If the above-mentioned activities will be involved in project, an application for permit must be lodged with CapeNature.<br>• Where applicable, the location of fire beaks should be indicated and these fire breaks may be considered part of the development footprint.<br>• Fire-breaks must be brush-cut and vegetation must not be completely removed.<br>• Brush cutting under power lines must occur as infrequently as possible as brush cutting will lead to loss of species diversity over time.<br>• A fire risk can help inform an appropriate layout for developments adjacent to fire-prone vegetation. |

**Waste generation**

During the construction phase there will be a variety of waste material produced. The contractors must adhere to all proposed measures and provide adequate waste skips and bins around the site. This impact will last the duration of the construction and operational phases and the impact will be low in significance.

| Issue | Corrective | Impact rating criteria | Significance |
|---|---|---|---|

| | measures | Nature | Extent | Duration | Magnitude | Probability | |
|---|---|---|---|---|---|---|---|
| Waste generation | No | Negative | 2 | 2 | 8 | 4 | 48 = Medium |
| | Yes | Negative | 1 | 2 | 6 | 3 | 27 = Low |
| Corrective Actions | • Waste must be separated at source (e.g. containers for glass, paper, metals, plastic, organic waste and hazardous waste).<br>• An adequate number of scavenger proof refuse bins must be provided at the construction site and must be clearly labelled (general or hazardous) according to waste streams.<br>• All waste must be transported in an appropriate manner (e.g. plastic rubbish bags) and disposed of at a licensed waste disposal facility. Proof of safe disposal must be kept on site.<br>• The Contactor may not dispose of any waste and / or construction debris by burning, or burying.<br>• Waste bins must be emptied regularly (minimum weekly) such that they do not overfill.<br>• The Contractor shall maintain 'good housekeeping' practices and ensure that all work sites and the construction camp is kept tidy and litter free. | | | | | | |

**Socio-cultural Impact**

During the negotiation phase of the approved corridor, landowners along the approve alignment recommended the proposed deviations for various reasons. Subsequently in an effort to ensure that the possible socio-cultural impacts are managed, the deviation is proposed. During the construction phase socio-cultural issues must be taken into consideration.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Socio-cultural | No | Negative | 2 | 2 | 8 | 4 | 48 Medium |
| | Yes | Negative | 2 | 2 | 6 | 3 | 30 Medium |

| | |
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| Corrective Actions | • Property owners or occupiers must be treated with respect and courtesy at all times;<br>• The culture and lifestyles of the communities living in close proximity to the proposed transmission line must be respected;<br>• Removal of agricultural products is prohibited. Receipts must be obtained for any merchandise purchased or received from landowners;<br>• Tribal graves, archaeological sites and sites of historical interest are to be treated with respect and protected.<br>• No firewood is to be collected except with the written consent of the landowner; and<br>• A register must be maintained of all complaints or queries received as well as action taken. |

**Soil Erosion**

The loss of topsoil in South Africa is a national concern and thus erosion control should be taken seriously ineffective storm water management systems can result in soil erosion. The proposed development is located on an arid area prone to wind erosion. During the assessment some towers will be located on Aeolian material and sand dunes that are highly erodible particularly deviation 2 and 3.

Soil erosion is expected during the construction of the proposed project and adequate measures must be implemented to prevent undue soil erosion. It must be noted that the expected negative impact on erosion along the deviation will not be any more significant than that of the approved corridor as the geology remains the same. The impact will have medium significance without mitigation and reduced to low with mitigation.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Soil erosion | No | Negative | 2 | 2 | 8 | 4 | 48 = Medium |
| | Yes | Negative | 1 | 2 | 6 | 3 | 27 = Low |
| Corrective Actions | • During construction, the Contractor will protect areas susceptible to erosion by installing necessary temporary and / or permanent drainage and by taking suitable | | | | | | |

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| | measures to prevent surface water concentration into nearby roadways.<br>• Prior to construction, all topsoil must be stripped and stockpiled separately from subsoil and rocky material. Soil must be stripped in a phased manner so as to retain vegetation cover for as long as possible.<br>• Stockpiled topsoil must not be compacted and must be replaced as the final soil layer.<br>• Stockpiled soil must be protected by erosion-control berms if exposed for a period of greater than 14 days during the wet/windy season.<br>• Topsoil stockpiles must not be contaminated with oil, diesel, petrol, waste or any other foreign matter, which may inhibit the later growth of vegetation and micro-organisms in the soil.<br>• Soil must not be stockpiled on drainage lines or near watercourses<br>• The timing of clearing and grubbing must be co-ordinated as much as possible to avoid prolonged exposure of soils to wind and water erosion.<br>• If topsoil will be stockpiled for a longer period, it must be covered with a suitable material to prevent erosion and invasion by weeds.<br>• To limit the introduction of alien species into the area, no soil may be imported onto site.<br>• Where required, cut-off trenches can be installed to divert substantial run-off and prevent erosion as and when necessary.<br>• Where new roads are constructed, water diversion berms should be constructed to prevent erosion.<br>• Erosion risks should be assessed and minimised. |

**Surface and groundwater pollution**

During construction there is a risk that construction material may pollute the surface and/or ground water on site. The closest water source includes non-perennial streams and depression wetlands. Substances such as cement residue, bio fuels, and paints must be adequately controlled. Impacts on wetlands may include changing the quantity and fluctuation as well as the amount of sediment entering the water resource and associated change in turbidity. In addition exposed surfaces during construction would provide a source of sediments to be taken up by storm water and resulting in down-stream sedimentation of water resources. This impact is of medium

negative significance and can be reduced to a low significance.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Surface and ground water pollution | No | Negative | 3 | 2 | 6 | 4 | 44 = Medium |
| | Yes | Negative | 2 | 2 | 4 | 3 | 24 = Low |
| Corrective Actions | • No activities should occur within a 100m or within a 1:100 year flood line whichever is greater without approval from DWS.<br>• Care must be taken during construction to prevent leaks and spillage of materials that may detrimentally affect water quality (especially fuels and chemicals).<br>• Care must be taken to avoid destruction of water courses.<br>• Adequate measures must be put in place to prevent runoff of construction debris to nearby water bodies.<br>• Fuel must be stored in bunded areas in accordance with the legal requirements of storage of hazardous substances.<br>• During refuelling, drip trays must be placed under the equipment or vehicles to prevent contamination of soil in case of spillages.<br>• If construction takes place during the rainy season, storm water will have to be managed appropriately to reduce the opportunities of construction debris being washed off.<br>• Create stormwater channels alongside access roads and divert stormwater in the natural veld at regular intervals along the road. | | | | | | |

**Noise pollution**

An increase in noise is expected due to construction, which might have a minor impact. The proposed deviations is far removed from receptors such as communities/towns, therefore the impact should be expected to have low significance.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Noise pollution | No | Negative | 2 | 2 | 6 | 3 | 30 = Medium |
| | Yes | Negative | 1 | 2 | 2 | 2 | 10 = Low |
| Corrective Actions | • It must be ensured that all vehicles and equipment used during construction are properly maintained.<br>• Selecting equipment with lower sound power levels which is in accordance with the Health and Safety Regulations.<br>• Surrounding residents should be notified of construction schedules in advance.<br>• Working hours must be restricted to daytime only (7am – 5pm). | | | | | | |

**Fire hazards**

Onsite storage of fuel and other flammable solvents, during construction may increase the risk of fire. Uncontrolled fires on site could cause damage to infrastructure and the biophysical environment and impact on the social environment as well. With mitigation measures implemented, the significance of the impact will low.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Fire hazards | No | Negative | 2 | 2 | 6 | 3 | 30 = Medium |
| | Yes | Negative | 1 | 2 | 4 | 2 | 14 = Low |
| Corrective Actions | • The Contractor must ensure that fire-fighting equipment (e.g. fire-extinguishers, fire beaters etc.) is available at all times, on site.<br>• Areas were flammable substances are kept must have proper warning signs on display (highly flammable, No smoking etc.) to warn personnel on site of risk associated with such areas.<br>• No burning of waste or cooking will be allowed on site.<br>• Contracting personnel must be well versed in the relevant existing fire and safety | | | | | | |

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| | management procedures and activities on site.<br>• Implement fire hazard sensitive on- and offloading procedures.<br>• Designate a site safety official and ensure that personnel are adequately trained regarding fire hazards and procedures. |

**Socio-Economic Impact**

This phase will result in a positive socio-economic impact as the demand for equipment, building material and labour will increase. Secondary service provision such as food supply, toilet hire, equipment maintenance etc. would also stimulate the local economy during the construction phase. This is a positive impact of a short duration.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Socio-economic | No | Positive | 3 | 2 | 8 | 5 | 65 High |
| | Yes | N/A | N/A | N/A | N/A | N/A | |
| Corrective Actions | • Contractors should by all means practise the localisation matrix while seeking for construction equipment or building materials.<br>• For minimal jobs, the appointed contractor should by all means consider the local residents for jobs that do not need any skill transfer. | | | | | | |

**Indirect Impacts**

**Safety and Security**

The presence of the construction workforce in the area is a potential risk to the surrounding landowners in terms of safety, crime and security. The significance of the potential impacts without the corrective actions (adequate safety measures in dangerous areas) is considered to be of low significance. The implementation of corrective actions could reduce the impacts to a lower level of significance.

| Issue | Corrective | Impact rating criteria | Significance |
|---|---|---|---|

| | measures | Nature | Extent | Duration | Magnitude | Probability | |
|---|---|---|---|---|---|---|---|
| Safety and Security | No | Positive | 3 | 2 | 8 | 5 | 65 = High |
| | Yes | N/A | N/A | N/A | N/A | N/A | N/A |
| Corrective Actions | • Liaison with landowners prior to entering their properties;<br>• Access to the construction site should be controlled;<br>• Warning signs should be placed on site to make people aware of the dangers;<br>• No-go area should be clearly demarcated, marked and visible;<br>• Landowners must be kept abreast with movements in and around their properties;<br>• Health and Safety standards and guidelines must be implemented. | | | | | | |

**Cumulative impacts:**

**Habitat Destruction**

Although each tower position probably affects a relatively small proportion of the landscape, there are several existing power lines at some areas along the proposed route; additional lines will not significantly increase the cumulative impact.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Habitat destruction | No | Negative | 2 | 2 | 8 | 4 | 48 = Medium |
| | Yes | Negative | 1 | 2 | 6 | 3 | 27 = Low |
| Corrective Actions | • The project activities must be undertaken within the authorised areas;<br>• The normal suite of environmental good practices should be applied, such as ensuring strict control of staff, vehicles and machinery on site and limiting the creation of new roads as far as possible. | | | | | | |

**Alien Species Invasion**

Alien vegetation spreads easily on disturbed soil and is likely to occur on the proposed development.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Alien Species Invasion | No | Negative | 2 | 2 | 8 | 4 | 48 = Medium |
| | Yes | Negative | 1 | 2 | 6 | 3 | 27 = Low |
| Corrective Actions | • The development footprint should be kept to a minimum, especially with regards to access roads created during construction.<br>• Follow-up checks should be conducted on an annual basis to ensure that alien species have not invaded the disturbed areas and no other forms of degradation have occurred. | | | | | | |

**Fauna and Avifauna**

Construction of the powerline in close proximity to the existing line will reduce the cumulative impact of the proposed development. This area already has several existing distribution power lines.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Fauna / Avifauna | No | Negative | 2 | 4 | 6 | 3 | 36 = Medium |
| | Yes | Negative | 2 | 4 | 4 | 2 | 20 = Low |
| Corrective Actions | • Efforts should be made to ensure that the new power line is built bird friendly and results in no additional impact on birds in the area. | | | | | | |

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| | • Mark sections of line in high sensitivity areas with anti-collision marking devices to increase the visibility of the power line and reduce likelihood of collisions.<br>• The boundaries of the development footprint areas are to be clearly demarcated and it must be ensured that all activities remain within the demarcated footprint area. |

**Socio-Economic Impact**

This phase will result in a positive socio-economic impact as the demand for equipment, building material and labour will increase. Secondary service provision such as food supply, toilet hire, equipment maintenance etc. would also stimulate the local economy during the construction phase. This is a positive impact of a short duration.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Socioeconomic | No | Positive | 3 | 2 | 8 | 5 | 65 = High |
| | Yes | N/A | N/A | N/A | N/A | N/A | |
| Corrective Actions | • Contractors should by all means practise the localisation matrix while seeking for construction equipment or building materials.<br>• For minimal jobs, the appointed contractor should by all means consider the local residents for jobs that do not need any skill transfer. | | | | | | |

**No go Alternative**

**Direct Impacts:**

***Socio-economic***

Should the proposed project not proceed, there will not be sufficient electricity provision in the future given the industrial and residential developments that are taking place in the area.

The identified job opportunities will not be realised.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Socio-economic | No | Negative | 3 | 2 | 8 | 4 | 52 = Medium |
| | Yes | Positive | 3 | 2 | 8 | 5 | 65 = High |
| Corrective Actions | The proposed project must proceed and all recommendations and mitigation measures must be adhered to. | | | | | | |

***Physical Environment***

Positive impact – The area will remain intact as it will not be disturbed by the proposed development i.e. all negative impacts identified will not occur.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Physical environment | No | Positive | 3 | 5 | 8 | 4 | 64 = High |
| | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Corrective Actions | The potential impact on the physical environment is minimal and therefore the proposed project must proceed and all recommendation and mitigation measures must be adhered to. | | | | | | |

***Indirect Impacts:***

**Business/Employment Opportunities**

Local suppliers and Contractor will not benefit from the business opportunities and job creation relating to

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Business/ Employment | No | Negative | 3 | 2 | 8 | 4 | 52 = Medium |
| | Yes | Positive | 3 | 2 | 8 | 5 | 65 = High |
| Corrective Actions | The proposed project must proceed and all recommendations and mitigation measures must be adhered. | | | | | | |

**Cumulative Impacts:**

The cumulative impacts of not constructing the proposed transmission line are significant particularly given the current electricity challenges

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Cumulative | No | Neutral | 4 | 2 | 8 | 4 | 56 = Medium |
| | Yes | Neutral | 4 | 2 | 10 | 5 | 80 = High |
| Corrective Actions | The proposed project must proceed and all recommendations and mitigation measures must be adhered. | | | | | | |

## IMPACTS ASSOCIATED WITH THE OPERATIONAL PHASE

**Alternative 1**

| **Impacts Associated with the Operational Phase** |
|---|
| Direct Impacts:<br><br>**Socio-economic** |

The operational phase of the proposed project will have significant long term positive socioeconomic impacts.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Socioeconomic | No | Positive | 3 | 4 | 8 | 5 | 75 = High |
| | | | | | | | |
| Corrective Actions | • Regular maintenance of the facility should be done continuously to ensure uninterrupted supply of energy. | | | | | | |

**Employment creation**

The employment opportunities during the operational phase will arise as a result of the maintenance work required to keep the facility running. The significance of this impact is anticipated to be positive and medium in significance.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Employment creation | No | Positive | 3 | 4 | 6 | 4 | 52= Medium |
| | N/A | | | | | | |
| Corrective Actions | • No mitigation | | | | | | |

Indirect Impacts: None identified.

Cumulative Impacts: None identified.

**Alternative 2:**

**Impacts Associated with the Operational Phase**

**Alternative 3**

**Impacts Associated with the Operational Phase**

**IMPACTS ASSOCIATED WITH THE DECOMMISSIONING PHASE**

At present it is not anticipated that the proposed infrastructure will be decommissioned. On-going maintenance and upgrades, where necessary will be carried out. In the unlikely event that decommissioning is necessary it is recommended that the potential impacts identified below are reviewed and a detailed decommissioning strategy and rehabilitation plan is prepared and implemented.

**Impacts Associated with the Decommissioning Phase**

Direct Impacts

**Waste**

The decommissioning of the proposed project will contribute to large amounts of waste material that will be produced. The decommissioning will contribute to portions of bare soil being exposed to erosion if not rehabilitated properly. This waste material should be disposed of in an appropriate manner.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Waste | No | Negative | 3 | 2 | 8 | 4 | 52 = Medium |
| | Yes | Negative | 3 | 1 | 6 | 3 | 30 = Low |
| Corrective Actions | • Disposal of waste at a registered waste disposal site.<br>• Non-hazardous material should be recycled and utilised in other construction processes.<br>• An appropriate rehabilitation plan should be in place. | | | | | | |

**Dust generation**

Decommissioning of the facility and other infrastructure may lead to an increased amount of airborne particles in the local atmosphere as the infrastructure is dismantled and transported to the disposal site. The significance of this impact will be of low negative significance.

| Issue | Corrective measures | Impact rating criteria | | | | | Significance |
|---|---|---|---|---|---|---|---|
| | | Nature | Extent | Duration | Magnitude | Probability | |
| Dust Generation | No | Negative | 3 | 1 | 6 | 4 | 40 = Medium |
| | Yes | Negative | 2 | 1 | 4 | 3 | 21 = Low |
| Corrective Actions | Use of dust suppression techniques to reduce the dust. | | | | | | |

Indirect Impacts: None Identified.

Cumulative Impacts: None identified.

**No-go alternative**

**Direct Impacts:** None of the impacts identified for the proposed activity will occur. If the proposed infrastructure is not to be decommissioned, it will require continuous maintenance and the measures identified for the operational phase must be continued. Efforts for continual improvement must be encouraged.

**Indirect Impacts:** None identified

**Cumulative Impacts**: None identified