

APPENDIX F

Impact Assessment

The impacts are assessed (rated) in terms of their significance (high, medium, low), status and confidence through a synthesis of the criteria in the table below. The criteria in the impact table is represented by the abbreviations for each criteria presented in brackets and bold italics.

Table 1: Criteria used to determine the significance ratings

Criteria	Description
Spatial extent	The extent of impact describes the region in which the impact will be experienced: <ul style="list-style-type: none"> • Site specific, (S) • Local, (L): < 2km from site • Regional, (R): within 30km of the site • National, (N)
Duration	The duration is the time frame in which the impact will be experienced: <ul style="list-style-type: none"> • Temporary, (T): <1 year • Short term, (ST): 1 to 6 years • Medium term, (MT): 6 to 15 years • Long term, (LT): 15 - 30 years • Permanent, (P)
Intensity or Magnitude of impact	The intensity describes the magnitude or size of the impact: <ul style="list-style-type: none"> • High, (H): Natural and/or social functions and/or processes are severely altered • Medium, (M): Natural and/or social functions and/or processes notably altered • Low, (L): Natural and/or social functions and/or processes are negligibly altered
Probability	The probability of the impact occurring: <ul style="list-style-type: none"> • Improbable, (I): Little or no chance of occurring • Probable, (P): < 50% chance of occurring • Highly probable, (HP): 50% - 90% chance of occurring • Definite, (D): >90% chance of occurring

Method for Rating of Impacts

Class	Description
Significance	<ul style="list-style-type: none"> • High, (H): impacts of high magnitude locally for longer than 6 years and/or regionally and beyond. The impact results in major alterations to the environment even if effective mitigation measures are implemented and will have an influence on decision-making. • Medium, (M): impacts of moderate magnitude locally to regionally in the short term. The impact results in medium alterations to the environment and can be reduced or eliminated by the implementation of effective mitigation measures. • Low to very low, (L): impacts will be localised and temporary. Impacts result in minor alterations to the environment and can easily be alleviated by the implementation of effective mitigation measures. • No impact, (NI): a potential concern or impact, which, upon evaluation, is found to have no significant impact at all.
Status	The status is the overall effect on the environment: <ul style="list-style-type: none"> • Positive - a 'benefit' • Negative - a 'cost' • Neutral
Confidence	The degree of confidence in predictions based on available information and specialist knowledge: <ul style="list-style-type: none"> • Low, (L) • Medium, (M) • High, (H)

All impacts significance rating given presume implementation of mitigation as suggested.

Description of impacts during planning, construction, operational and decommissioning phase.

Planning phase

Minor damage to roads (Direct): Minor damage to roads in the study area could potentially result from continued travelling of vehicles on minor and gravel roads by land surveyors, engineers and Eskom staff during route and site investigations, and land owner negotiations. It is unlikely though that damage to the roads will be noticeable over the short to medium term.

** Mitigation: Plan to build access roads on flat surface as far as possible. Restrict construction vehicle speed on access tracks to 20 km/h.*

Construction phase

Impacts identified by EAP

Increased stormwater runoff (Direct): Removal of vegetation along the route servitude may result in increased runoff of stormwater and potential associated erosion. Erosion could be further exacerbated by poor design of infrastructure, such as road or tracks, and unmanaged activities such as improper monitoring of tracks regularly used by construction vehicles.

** Mitigation: Undertake vegetation clearing during the dry season. Vegetation clearing must be weather dependent in short term. Stockpile areas will be decided and approved by the project manager and appointed ECO before construction commences on site.*

Loss of stockpiled topsoil (Direct): Soil excavated and stockpiled during the preparation of the distribution line tower foundations may be exposed to wind and rain during the construction period, resulting in the erosion and loss of a proportion of the stockpiled topsoil.

** Mitigation: Cover stock piles with heavy duty shade cloth to prevent run off. Remove all stockpiles once construction is complete.*

Disturbance of fauna during construction activities (Direct): Fauna inhabiting the natural vegetation in the corridor that is to be cleared is very likely to be disturbed, injured or killed by the bush-clearing activities during the construction phase. Fauna more vulnerable to disturbance and stress are the slow moving or breeding vertebrates (e.g. tortoise) and invertebrates.

** Mitigation: Vegetation clearance should be conducted systematically from the start to end of the route. Avoid strip clearing. A fauna expert should complete a walk through construction site prior to any work commencing to check for nesting birds and any subterranean species.*

Noise pollution (Direct): Minor noise pollution is likely to occur at the construction site for the tower structures and substation construction. Though unlikely, drilling and blasting may be necessary where bedrock is encountered at the tower structures, which will result in a more significant noise impact in these areas. The noise significance level will also be determined by the presence of different noise receptors.

** Mitigation: Plant and vehicles must be in good working order and inspected daily. Use silencers on all equipment, where appropriate. Working hours must be restricted to 0700h to 1800h Monday to Friday excluding public holidays.*

Air (dust) pollution (Direct): Construction activities and road construction/upgrade is likely to cause some dust pollution at the construction site. This impact is generally exacerbated by strong winds.

** Mitigation: Apply appropriate dust suppression methods. Water to be used sparingly, and only where no water restrictions are in effect. An application for abstracting minor quantities of water from watercourses will be made through a water use licence application to the regulating authority. In the event of the application being unsuccessful, water will be sourced from an approved supplier.*

Fires (Direct): Fires may be caused through a number of actions or reasons, such as defective equipment, cigarette butts, and spilled fuels and oils. Fires are generally the result of bad or ineffective management, or negligence.

** Mitigation: Employ a fire officer for onsite control. Fire fighting equipment to be kept on site and serviced regularly. No fires to be lit on site and no smoking on site.*

Damage to roads by construction vehicles (Direct): Damage to roads in the study area could potentially result from continued travelling of vehicles on minor and gravel roads by contractors, engineers and Eskom staff during the construction phase. It is unlikely that damage to the roads will occur or be noticeable over the short to medium term.

** Mitigation: Limit construction vehicles to 20 km/h on access roads and keep to the speed limit on public roads. Regular monitoring of roads for damage must be undertaken, followed by immediate repair of any damage resulting from use of heavy machinery.*

Increase in traffic (Direct): Traffic volumes are likely to increase during the construction period due to the movement of transport and construction vehicles to and from the construction site.

** Mitigation: Arrange road travel outside peak traffic periods.*

Impacts on visual aesthetics (Direct): Negative impacts on the visual aesthetics of the surrounding environment can occur when construction sites close to roads are not managed effectively, resulting in an untidy appearance in a scenic natural environment.

** Mitigation: Follow requirement in EMPr to keep construction site presentable.*

Spillage of hazardous substances (Direct): Several activities can cause the spillage of hazardous substances, causing contamination of receiving environment at the construction site. These include spillages from unmanaged ablution facilities, spillages of fuels and oils, spillage of concrete and cement and runoff of contaminated cement wastewater. All these different types of hazardous spillages are considered under this impact.

** Mitigation: Store fuels and chemicals in a bunded area. Provide staff with hazardous materials training. Chemical toilets to be used on site, grey water should be disposed off site at a licensed waste treatment works. No storage of fuel on site, vehicles to be fuelled off site. No servicing or repair of vehicles on site. No concrete mixing on site. Water used to clean concrete off machinery should be treated as grey water and disposed of at licensed water treatment works.*

Impacts from unmanaged non-hazardous solid waste (Direct): General waste left unmanaged onsite may attract vermin and result in the environmental contamination. Incorrect storage may result in wind strewn litter and a negative visual impact, and may result in bad odour.

** Mitigation: Keep waste in vermin proof bins with lids. Waste to be removed from site regularly.*

Impacts on vegetation

Loss of vegetation cover (Direct): The proposed servitude will result in the removal of intact Fynbos and Renosterveld habitat from the servitude during construction.

** Mitigation: Mitigation will not be possible for the loss of intact vegetation where pylon and access road construction footprints are required. Relocate species of concern from site. Apply for permits for those species protected under legislation.*

Loss of Rocky Refugia (Direct): The proposed servitude may result in the disturbance of Rocky Refugia habitat from the servitude where pylon construction coincides with outcropping.

** Mitigation: Rocky Refugia should be avoided as far as reasonably possible. Relocate species of concern from site. Apply for permits for those species protected under legislation.*

Loss of thicket or forest vegetation in drainage lines (Direct): The proposed servitude could result in the clearing of Forest or Thicket vegetation along the length of the servitude where pylon construction, access road construction and laying of overhead cables require bush clearing.

** Mitigation: Clearing must be kept to the minimum necessary. Appropriate permits must be obtained from DAFF for removal of protected tree species if necessary.*

Loss of riparian vegetation along drainage lines (Direct): The servitude may result in the loss of some peripheral riparian vegetation, particularly at road crossings, where necessary.

** Mitigation: Riparian areas must be avoided as far as possible and pylons should not be constructed in riparian areas.*

Loss of seep/wetland/seasonal pan vegetation (Direct): The servitude may, but is unlikely to result in the loss of some peripheral seeps/wetland and or seasonal pan vegetation which commonly occur in the area.

** Mitigation: No pylons and access roads should be constructed within 32 m of a seep, wetland and/or seasonal pan, unless no alternative is possible.*

Loss of habitat for Species of Special Concern (Direct): The power line is likely to result in the loss of necessary habitat for species of special concern through the servitude vegetation clearance activities.

** Mitigation: Should species of special concern be identified, all reasonable measures should be implemented to minimise destruction. Relocate flora and fauna species of concern from site, apply for permits for those protected under legislation.*

Loss of Species of Special Concern (Direct): The power line is likely to result in loss of species of special concern, due to destruction of their habitat and physical removal of these species where they occur.

** Mitigation: Search and Rescue to be implemented before any construction commences.*

Increased risk of alien invasion (Direct): Riparian areas and drainage lines already tend to be infested with alien species, although clearing has been undertaken through the Working for Water programme. Without management re-invasion is likely. Additional species may be introduced that may invade riparian habitat.

** Mitigation: An alien management plan must be implemented and long-term monitoring conducted.*

Clearing of alien invasives (Direct): The proposed power line will result in the removal of existing alien vegetation from within the servitude and drainage lines, which will reduce propagules production that may be spreading into adjacent areas.

** Mitigation: Must be conducted in accordance with the EMPr. All alien species in the servitude to be removed.*

Disruptions to ecological processes as a result of habitat fragmentation (Direct): The proposed power line will result in the removal of existing alien vegetation from within the servitude, which will reduce propagules production that may be spreading into adjacent areas.

** Mitigation: Vegetation clearance must be conducted in accordance with the EMPr.*

Impacts on avifauna

Collisions (Direct): Collision of certain bird species, particularly Blue Crane, Denham's Bustard, White-bellied Korhaan and White Stork is highly probable in the study area.

** Mitigation: An avifaunal specialist is to complete a walkthrough of the final powerline route to identify any high risk sections of line. Identified high risk sections of the power line to be installed with a suitable anti bird collision marking device approved by Eskom, and as per Eskom standards. Preliminary high risk sections for bird collisions have been identified in Table 4 of the avifauna specialist report attached as Appendix D1.*

Disturbance of birds (Direct): Construction activities impact on birds and bird communities through disturbance, particularly during bird breeding activities. Disturbance of birds is anticipated to be of low significance in this study area since it is already fairly impacted particularly in the eastern half closer to the N2, railway line and town.

** Mitigation: Strict control should be maintained over all activities during construction, in particular heavy machinery and vehicle movements, and staff. Construction to be done according to environmental best practice standards. If nests are discovered in areas to be disturbed, all efforts must be made to avoid disturbance of the nests or trees. If this is not possible, bird nests will be assessed by a avifauna specialist, whereupon actions will be based on the recommendations of the specialist.*

Habitat destruction (Direct): Habitat destruction is not anticipated to be a significant impact in this study area, as most of the natural vegetation has been removed already.

** Mitigation: Strict control should be maintained over all activities during construction, in particular heavy machinery and vehicle movements, and staff. Construction to be done according to environmental best practice standards.*

Impacts of heritage resources

Impact on Gamtoos Scenic Route (Direct): The proposed electrical infrastructure is located along the Gamtoos Scenic Route, which has high local and regional significance for its aesthetic and economic (tourism) values. If tower structures are placed on hilltops, visible against the skyline, it is likely to impact on the scenic landscape of the Gamtoos Valley.

** Mitigation: Where possible, towers should be located such that they do not interrupt skylines, and are not visible from scenic routes.*

Impact on Palaeontological Heritage Resources (Direct): Geological formations in the Melkhout-Patensie sector might contain well-preserved plant material, which might be disturbed or destroyed during the preparation and construction of tower structure foundations.

** Mitigation: A heritage practitioner should complete a 'walk-through' of the final selected power line route and all other activity areas prior to the start of any construction activities.*

Impact on traditional burial ground (Direct)

A burial site was identified outside of Hankey on the powerline route. Burial sites are of high heritage significance due to their spiritual, social and cultural values. The graves may be damaged during construction activities.

**Mitigation: Restrict development activity within 20 meters of identified burial grounds. Graves may not be altered in any way without permission from the next-of-kin and the relevant heritage and local government authorities.*

Impact on conservation status of vegetation (Indirect): The loss of vegetation and biodiversity may cause a change in the conservation status of a vegetation type, e.g. changing the conservation status from endangered to critically endangered.

** Mitigation: Minimise destruction of intact vegetation along the power line route.*

Erosion (Indirect): The increased stormwater runoff along servitude sections where vegetation has been removed may lead to erosion of the topsoil. Erosion can be prevented if cleared areas are effectively managed.

** Mitigation: Construction site and cleared areas should be monitored on an ongoing basis. Apply appropriate erosion protection measures where erosion identified.*

Impacts on agriculture potential and expansion (Indirect): Placement of the tower structures in existing and potential farm lands may result in a minor loss of arable land or potential expansion of farming activities by affected farmers. Eskom has engaged affected landowners and discussed compensation, which does possibly offset these impacts to some extent.

** Mitigation: Use self-supporting monopole structures in farming areas to minimise loss or disruption of farming activities or production.*

Establishment of side tracks (Indirect): Damage to access roads/tracks or unmanaged access roads may cause the establishment of additional tracks next to existing tracks when these tracks become difficult to navigate or inaccessible.

** Mitigation: Maintain access roads to prevent vehicles using alternative routes.*

Inhibition of vegetation re-establishment (Indirect): The compacting of soils during construction may inhibit the re-establishment of vegetation at the construction site during the construction and operational phase.

** Mitigation: Soil should be deeply ripped to loosen compacted layers.*

Creation of temporary jobs (Cumulative): The creation of temporary jobs is likely to be the net effect of implementing the proposed project. This impact is likely to be a positive impact on the local workforce.

** Mitigation: Ensure jobs created during construction phase are given to local people where possible.*

Operational phase

Strengthening of electrical supply (Direct): The current power distribution system in the area is overloaded and therefore strengthening of the network will ensure that the supply to current connections is more stable, and that growth of residential and commercial areas in this region is not compromised. This is a positive impact.

** Mitigation: No mitigation required.*

Electrocution of avifauna (Direct): Electrocution of avifaunal species may lead to loss of local biodiversity or loss of endangered species.

** Mitigation: If the guyed lattice structures proposed are installed no further mitigation is required. In the case of monopole structures the standard Eskom Perching Bracket should be used.*

Collisions (Direct): Collision of certain bird species, particularly Blue Crane, Denham's Bustard, White-bellied Korhaan and White Stork is highly probable in the study area.

** Mitigation: Identified high risk sections of the power line to be installed with a suitable anti bird collision marking device approved by Eskom, and as per Eskom standards.*

Breeding habitat for birds (Direct): Power lines may provide breeding habitat in the absence of large trees in the study area. This impact is likely to have a positive impact on smaller bird species with low electrocution risk.

** Mitigation: No mitigation required.*

Impact on Gamtoos Scenic Route (Direct): The proposed electrical infrastructure is located along the Gamtoos Scenic Route, which has high local and regional significance for its aesthetic and economic (tourism) values. If tower structures are placed on hilltops, visible above the skyline, it is likely to impact on the scenic landscape of the Gamtoos Valley.

** Mitigation: Where possible, towers should be located such that they do not interrupt skylines, and are not visible from scenic routes.*

Fires (Direct): Fires may result from a lack of maintenance of the powerline.

** Mitigation: Regular inspections and maintenance of the power line. No fires to be lit on site, no smoking on site.*

Damage to roads (Direct): Damage to roads in the study area could potentially result from continued travelling of vehicles on minor and gravel roads by engineers and Eskom staff during maintenance.

** Mitigation: Maintenance vehicles use existing roads. Vehicle speeds to be restricted to 20 km/h on access roads. Roads to be monitored for damage and maintenance conducted as required.*

Theft and vandalism: Theft and vandalism of distribution line infrastructure may lead to potential deaths, interruption in electricity supply and increased maintenance intervals.

** Mitigation: Install anti-climb wires, erect warning signs, and restrict access to the servitude. Ensure access control at substation*

Increase in crime: Increased access to private land may lead to a potential increase in crime

** Mitigation: Restrict access to the servitude by keeping all gates locked.*

Erosion (Indirect): Vegetation clearance and deterioration of access roads can lead to erosion in the surrounding environment. Erosion can be prevented if cleared areas and access roads are effectively managed.

** Mitigation: Construction site and cleared areas should be monitored on an ongoing basis. Apply appropriate erosion protection measures where erosion identified.*

Loss of property value (Indirect): The visual impact of the distribution lines across or adjacent to some properties may cause the loss of property value as potential buyers may view the presence of the power lines as a negative contributing factor in their decision to purchase resulting in a lower purchase offer. The notion of loss of property is however difficult to quantify as is based on subjective decision-making.

** Mitigation: No mitigation proposed.*

Cumulative impact of additional power lines (Cumulative): The addition of the proposed power lines in the vicinity of existing power lines in the study area may have a slight negative cumulative impact on the surrounding environment in terms of the cumulative visual impact. The additional power lines does not however change the nature of the area as the study area already contains power lines.

** Mitigation: The lattice structures to be used are designed to minimise the visual impact. Furthermore, the new power lines will be placed at least 95 m away from proclaimed public roads, which will further minimise the cumulative visual impact.*

Stimulation and Growth of local economy (Cumulative): The provision of stable electricity supply to the local and regional economy through this distribution line project will allow steady growth and development in the region.

** Mitigation: Infrastructure maintenance should be prioritised to ensure that the provision of stable electricity is not interrupted.*

Decommissioning phase

Loss of stable electricity supply (Direct): Dismantling of the distribution line infrastructure may result in a temporary loss of electricity to the region if new infrastructure has not been erected to replace the loss of decommissioned infrastructure.

** Mitigation: Only decommission if suitable infrastructure to replace this infrastructure is already in place to avoid disruption to the supply.*

Waste generation (Direct): The decommissioning activity will result in the generation of metal and concrete waste.

** Mitigation: Waste generation must be managed according to international best practice. Waste must be recycled where possible.*

Erosion (Direct): Decommissioning activities may result in minor erosion at the decommissioning sites.

** Mitigation: Construction site and cleared areas should be monitored on an ongoing basis. Apply appropriate erosion protection measures where erosion identified.*

No-Go Option

Landscape remains untouched. If the distribution line is not constructed the natural areas where the proposed servitude will be located and the site for expansion or construction of sub-stations will remain intact.

** Mitigation: No mitigation required.*

No additional job opportunities created. With the No-Go option no additional jobs will be created during the construction, and possibly during the operational phase.

** Mitigation: Implement the construction of the distribution lines as proposed.*

Current supply likely to inhibit economic development. The current unstable supply of electricity to the local area is likely to inhibit economic growth and development in the region in the medium to long term.

** Mitigation: Implement the construction of the distribution lines as proposed.*

Access to electricity by non-serviced households will not be achieved. The delivery of basic services such as electricity to non-services households will be seriously delayed or not achieved at all.

** Mitigation: Implement the construction of the distribution lines as proposed*

** Mitigation measures stated here represent the most important mitigation, but must be considered together with all specifications and mitigations provided in the Environmental Management Programme developed for the proposed activities of the project.*

Impact Assessment of the Preferred Route, and Alternatives.

ASPECT	IMPACT	PREFERRED ALTERNATIVE						ALTERNATIVE A						ALTERNATIVE B						SUBSTATION/S						IMPACT STATEMENT	
		SPACIAL SCALE	DURATION	PROBABILITY	INTENSITY	SIGNIFICANCE *	CONFIDENCE	SPACIAL SCALE	DURATION	PROBABILITY	INTENSITY	SIGNIFICANCE *	CONFIDENCE	SPACIAL SCALE	DURATION	PROBABILITY	INTENSITY	SIGNIFICANCE *	CONFIDENCE	SPACIAL SCALE	DURATION	PROBABILITY	INTENSITY	SIGNIFICANCE *	CONFIDENCE		
PLANNING AND DESIGN PHASE																											
DIRECT IMPACT																											
Use of vehicles during field surveying	Minor damage to roads	L	MT	I	L	L - H	L	MT	I	L	L - H	L	MT	I	L	L - H	L	MT	I	L	L - H	L	MT	I	L	L - H	The impact of deterioration of roads as a result of visiting famers during the planning phase is unlikely to occur. Accordingly the impact significance is regarded as very low.
INDIRECT IMPACT																											
No impacts identified		N/A						N/A						N/A						N/A							
CUMULATIVE IMPACT																											
No impacts identified		N/A						N/A						N/A						N/A							
CONSTRUCTION PHASE																											
DIRECT IMPACT																											
Vegetation clearing	Increased stormwater runoff	S	T	P	M-L	L - H	S	T	P	M-L	L - H	S	T	P	M-L	L - H	S	T	P	M	L - H	The impact associated with the clearing of vegetation in general can be managed and mitigated easily through effective management of construction activities and the construction site. These impacts have accordingly been rated as low assuming mitigation.					
	Loss of stockpiled topsoil	S	MT	P	M-L	L - H	S	MT	P	M-L	L - H	S	MT	P	M-L	L - H	S	MT	P	M-L	L - H						
	Disturbance of fauna during construction activities	S	T	P	L	L - H	S	T	P	L	L - H	S	T	P	L	L - H	S	T	P	L	L - H						

ASP ECT	IMPACT	PREFERRED ALTERNATIVE					ALTERNATIVE A					ALTERNATIVE B					SUBSTATION/S					IMPACT STATEMENT
Usage of construction plant/vehicles	Noise pollution	L	T	P	L	L - H	L	T	P	L	L - H	L	T	P	L	L - H	L	T	P	L	L - H	The impact associated with the use of construction plant and vehicles can be managed and mitigated easily through effective management of the plant and the construction site. Resultantly, these impacts have been rated as low assuming mitigation. These impacts will have no significant influence on any of the proposed alternatives.
	Air (dust) pollution	S	T	P	M-L	L - H	S	T	P	M-L	L - H	S	T	P	M-L	L - H	S	T	P	M-L	L - H	
	Fires	L	ST	I	M	L - H	L	ST	I	M	L - H	L	ST	I	M	L - H	L	ST	I	M	L - H	
	Damage to roads by construction vehicles	L	MT	I	L	L - H	L	MT	I	L	L - H	L	MT	I	L	L - H	L	MT	I	L	L - H	
	Increase in traffic	L	T	P	M-L	L - H	L	T	P	M-L	L - H	L	T	P	M-L	L - H	L	T	P	M-L	L - H	
Construction site management	Impacts on visual aesthetics	S	T	P	L	L - H	S	T	P	L	L - H	S	T	P	L	L - H	S	T	P	L	L - H	Impact associated construction site and waste can be managed and mitigated easily through effective management of the construction site. These impacts have been rated as low assuming mitigation. These impacts will have no significant influence on any of the proposed alternatives.
	Spillage of hazardous substances	S	T	P	M	L - H	S	T	P	M	L - H	S	T	P	M	L - H	S	T	P	M	L - H	
	Impacts from unmanaged non-hazardous solid waste	S	T	P	L	L - H	S	T	P	L	L - H	S	T	P	L	L - H	S	T	P	L	L - H	
Impacts on vegetation	Loss of vegetation cover	S	P	D	M-L	L - H	S	P	D	M-L	L - H	S	P	D	M-L	L - H	S	P	D	L	L - H	A vegetation specialist was appointed to conduct an analysis and assessment of potential impacts associated with the proposed activities. The specialist found that impacts relating to pylon construction are likely to be highly reversible, while impacts relating to road construction are likely to be moderately reversible. If the recommendations of the vegetation specialist is implemented where the vegetation clearance along
	Loss of Rocky Refugia	S	P	D	M	L - H	S	P	D	M	L - H	S	P	D	M	L - H	S	P	D	M	L - H	
	Loss of Thicket or Forest Vegetation along drainage lines	L	P	HP	M	L - H	L	P	HP	M	L - H	L	P	HP	M	L - H	L	P	HP	M	L - H	
	Loss of riparian vegetation	L	P	HP	M	L - H	L	P	HP	M	L - H	L	P	HP	M	L - H	L	P	HP	M	L - H	
	Loss of seep / wetland / seasonal pan vegetation	L	P	HP	M	L - H	L	P	HP	M	L - H	L	P	HP	M	L - H	L	P	HP	M	L - H	

ASP ECT	IMPACT	PREFERRED ALTERNATIVE						ALTERNATIVE A						ALTERNATIVE B						SUBSTATION/S						IMPACT STATEMENT
	Loss of habitat for Species of Special Concern	S	P	HP	L	L -	H	S	P	HP	L	L -	H	S	P	HP	L	L -	H	S	P	HP	L	L -	H	the servitude is restricted to the tower structure footprint, the impact on the loss of endangered vegetation type will be low. In summary, the overall development of the project is predicted to result in a negative impact of low significance, given that proposed mitigation measures have been implemented.
	Loss of Species of Special Concern	S	P	HP	L	L -	H	S	P	HP	L	L -	H	S	P	HP	L	L -	H	S	P	HP	L	L -	H	
	Increased risk of alien invasion	L	P	P	M	L -	M	L	P	P	M	L -	M	L	P	P	M	L -	M	L	P	P	M	L -	M	
	Clearing of alien invasives	L	ST-P	HP	L	L +	M	L	ST-P	HP	L	L +	M	L	ST-P	HP	L	L +	M	L	ST-P	HP	L	L +	M	
	Disruptions to ecological processes	L	P	P	M	L -	M	L	P	P	M	L -	M	L	P	P	M	L -	M	L	P	P	M	L -	M	
Impacts of Avifauna	Disturbance of birds	L	ST	P	L	L -	H	L	ST	P	L	L -	H	L	ST	P	L	L -	H	L	ST	P	L	L -	H	An avifauna specialist was appointed to assess the impact of the proposed powerline on affected bird communities. The impacts on birds during construction were rated as low negative. The Preferred Alternative is favored by the bird specialist, but none of the options were considered fatally flawed or would have an unacceptably high level of impact on the bird communities. The specialist recommended that the power line can be built provided that the various mitigation measures recommended are implemented.
	Habitat destruction	L	P	P	L	L -	H	L	P	P	L	L -	H	L	P	P	L	L -	H	L	P	P	L	L -	H	
Impacts on Heritage Resources	Impact on Gamtoos Scenic Route	L	LT	HP	M	L -	H	L	LT	HP	M	L -	H	L	LT	HP	M	L -	H	L	LT	HP	M	L -	H	A heritage practitioner was appointed to conduct a HIA for the proposed development. Identified impacts were rated as having low significance. The specialist recommended commencement of the project given the recommendation made in the assessment report is implemented.
	Impact on traditional burial grounds	S	LT	P	M-L	L -	H	S	LT	P	M-L	L -	H	<i>No Impact</i>						<i>No Impact</i>						
	Impact on Palaeontological Heritage Resources	S	LT	P	M-L	L -	H	S	LT	HP	M-L	L -	H	S	LT	HP	M-L	L -	H	S	LT	HP	M-L	L -	H	

ASP ECT	IMPACT	PREFERRED ALTERNATIVE				ALTERNATIVE A				ALTERNATIVE B				SUBSTATION/S				IMPACT STATEMENT		
INDIRECT IMPACT																				
Vegetation clearance	Impact on conservation status of vegetation	R	LT	I	L	L -	H	R	LT	I	L	L -	H	R	LT	I	L	L -	H	Indirect impact associated with vegetation clearance can be managed and mitigated easily through effective management of clearance activity. These impacts have been rated as low assuming mitigation, and will have no significant influence on any of the proposed alternatives.
	Erosion	L	ST	I	L	L -	H	L	ST	I	L	L -	H	L	ST	I	L	L -	H	
Farming potential	Impacts on agriculture potential and expansion	S	LT	I	L	L -	H	S	LT	P	I	L -	H	S	LT	I	L	L -	H	The potential loss of arable land or agriculture potential is judged to be significantly low if the recommended structures and mitigation is implemented.
Construction vehicles	Establishment of side tracks	L	ST	P	M-L	L -	H	L	ST	P	M-L	L -	H	L	ST	P	M-L	L -	H	The establishment of side tracks will by unlikely, and thus judged as significantly low, given that the EMPr is adhered to and implemented.
Catchment hardening	Inhibition of vegetation re-establishment	S	ST	I	L	L -	H	S	ST	I	L	L -	H	S	ST	I	L	L -	H	Rehabilitation of the disturbed areas along the powerline route is expected to be successful as individual disturbed footprints will be small enough to allow recolonisation from the surrounding fringe vegetation.
CUMULATIVE IMPACT																				
Economic development	Creation of temporary jobs during construction	L	T	P	M	L +	H	L	T	P	M	L +	H	L	T	P	M	L +	H	The construction of the tower structures, and especially the sub-stations will create temporary jobs for unskilled labour. This results in a significant low to medium positive impact on the area.

ASP ECT	IMPACT	PREFERRED ALTERNATIVE				ALTERNATIVE A				ALTERNATIVE B				SUBSTATION/S				IMPACT STATEMENT								
OPERATIONAL PHASE																										
DIRECT IMPACT																										
Strengthening of electrical supply	Improved reliability of electrical supply and increased supply to region and resulting economic growth.	R	LT	H	H	H+	H	R	LT	H	H	H+	H	R	LT	H	H	H+	H	R	LT	H	H	H+	H	The current power distribution system in the area is overloaded and therefore strengthening of the network will ensure that the supply to current connections is more stable, and that growth of residential and commercial areas in this region is not compromised. This is a positive impact.
	Impacts on avifauna	Electrocution of avifauna	N	P	P	M-L	NI	H	N	P	P	M-L	NI	H	N	P	P	M-L	NI	H	N	P	P	M-L	NI	H
Collisions		N	P	P	H	L-	H	N	P	P	H	L-	H	N	P	P	H	L-M	H	N	P	P	H	L-	H	
Breeding habitat for birds		S	LT	HP	M-L	L+	H	S	LT	HP	M-L	L+	H	S	LT	HP	M-L	L+	H	S	LT	P	M-L	L+	H	
Impact on Heritage Resources	Impact on Gamtoos Scenic Route	L	LT	P	M	L-	H	L	LT	P	M	L-	H	L	LT	P	M	L-	H	L	LT	P	M	L-	H	If the recommendations of the heritage practitioner are implemented the impacts of the powerline on the Gamtoos Scenic Route is low.
Infrastructure maintenance	Fires	R	T	I	M	L-	H	R	T	I	M	L-	H	R	T	I	M	L-	H	R	T	I	M	L-	H	The potential impacts related to maintenance, or a lack thereof, is unlikely to occur, resulting in an impact of low significance.
	Damage to access roads/tracks	L	ST	I	L	L-	H	L	ST	I	L	L-	H	L	ST	I	L	L-	H	L	ST	I	L	L-	H	
Crime	Theft and vandalism	S	LT	P	M	L-	H	S	LT	P	M	L-	H	S	LT	P	M	L-	H	S	LT	P	H	L-	H	The potential impact of crime during the operational phase is considered low if

ASP ECT	IMPACT	PREFERRED ALTERNATIVE				ALTERNATIVE A				ALTERNATIVE B				SUBSTATION/S				IMPACT STATEMENT								
	Increase in crime	L	LT	I	M	L -	H	L	LT	P	M	L -	H	L	LT	P	M	L -	H	L	LT	P	M	L -	H	properly mitigated.
INDIRECT IMPACT																										
Maintenance	Erosion	L	ST	P	L	L -	H	L	ST	P	L	L -	H	L	ST	P	L	M-L	H	L	ST	P	L	L -	H	The impact of indirect erosion occurring has been rated as low to medium assuming mitigation, and will have no significant influence on any of the proposed alternatives.
Infrastructure location	Loss of property value	L	LT	P	M	M-L	M	L	LT	P	M	M-L	M	L	LT	P	M	M-L	M	L	LT	I	M	M-L	M	The indirect potential loss of property value is considered to be medium to low as power lines are already a landscape feature in the area. The area also contains well-established farmers thus change in ownership is unlikely to occur on a regular basis.
CUMULATIVE IMPACT																										
Visual	Cumulative impact of additional power lines	L	LT	I	M	L -	H	L	LT	I	M	L -	H	L	LT	I	M	L -	H	L	LT	I	M	L -	H	The lattice structures to be used are designed to minimise the visual impact
Economic development	Stimulation and Growth of local economy	R	LT	P	M	H +	H	R	LT	P	M	H +	H	R	LT	P	M	H +	H	R	LT	P	M	H +	H	Infrastructure maintenance should be prioritised to ensure that the provision of stable electricity is not interrupted.
DECOMMISSIONING PHASE																										
DIRECT IMPACT																										
Decommissioning activity	Loss of stable electricity supply	R	T	I	M-L	L -	H	R	T	I	M-L	L -	H	R	T	I	M-L	L -	H	R	T	I	M	L -	H	The loss of stable electricity supply due to decommissioning of infrastructure is the most concerning potential impact during this phase. However, with following best practice guidelines this risk will be completely mitigated. Anticipation of all potential impacts is
	Waste generation	S	T	HP	L	L -	H	S	T	HP	L	L -	H	S	T	HP	L	L -	H	S	T	HP	L	L -	H	

ASPECT	IMPACT	PREFERRED ALTERNATIVE						ALTERNATIVE A						ALTERNATIVE B						SUBSTATION/S						IMPACT STATEMENT
	Erosion	L	ST	I	L	L -	H	L	ST	I	L	L -	H	L	ST	I	L	L -	H	L	ST	I	L	L -	H	however impossible.

Impact Assessment of the No-go Alternative.

ASPECT	IMPACT	PREFERRED ROUTE						ALTERNATIVE A						ALTERNATIVE B						SUBSTATION/S						PRIMARY MITIGATION MEASURES	
		SPACIAL SCALE	DURATION	PROBABILITY	INTENSITY	SIGNIFICANCE *	CONFIDENCE	SPACIAL SCALE	DURATION	PROBABILITY	INTENSITY	SIGNIFICANCE *	CONFIDENCE	SPACIAL SCALE	DURATION	PROBABILITY	INTENSITY	SIGNIFICANCE *	CONFIDENCE	SPACIAL SCALE	DURATION	PROBABILITY	INTENSITY	SIGNIFICANCE *	CONFIDENCE		
NO GO OPTION																											
Agriculture activities	Landscape remains untouched	S	LT	HP	L	L +	H	S	LT	HP	L	L +	H	S	LT	HP	L	L +	H	S	LT	HP	L	L +	H	If the infrastructure is not constructed the landscape will remain untouched.	
Socio-economic aspects	No additional job opportunities created	L	T	P	M	L -	H	L	T	P	M	L -	H	L	T	P	M	L -	H	L	T	P	M	L -	H	The most significant impact to be considered is the inhibition of economic growth that could ultimately result in the interruption or loss of electricity supply. This will further impact on social and economic upliftment of poor or disadvantaged communities. As a consequence the significance of the impact is regarded as high.	
	Current supply likely to inhibit economic development	R	LT	P	H	H -	H	R	LT	P	H	H -	H	R	LT	P	H	H -	H	R	LT	P	H	H -	H		
	Access to electricity by non-serviced households will not be achieved.	R	LT	P	H	H -	H	R	LT	P	H	H -	H	R	LT	P	H	H -	H	R	LT	P	H	H -	H		