**Appendix F Impact Assessment Table**

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| **ACTIVITY** | **DESCRIPTION** | **ASSOCIATED IMPACTS** | **APPLICABLE LEGISLATION** | **MITIGATION** |
| **PRE-CONSTRUCTION PHASE** |
| Establish and demarcation of servitude extent, width and length | This is an important safety issue  | None | OSHAct | Discuss the extent of the project work area with affected landowner |
| Discuss the construction plan along powerline profile with ECO and project manager | To indicate sensitive areas and how to avoid themTo indicate palnts to be rescued | Destruction of protected plants | NEMBA | Project ecologist to walk the powerline servitu with sirveyor and identify plants to be rescued and relocated  |
| Identification of houses to be relocated | Some houses will be affected by the servitude and will need to be relocated for safety purpose | Removing people from famialir places to new placesEncounter resistance towards relocation | Constitution of the country | Liaise with affected house owners and liase with local indunas and councillors |
| Pegging of the servitude | Done to mark the powerline servitude and prevent further encroashment | Servitude encroashment  | OSHAct | Inform local authorities about peggs and for them to help with ensuring no encroashment into the servitude |
| Construction office site plan | To provide a office site plan indicating sub-divisions and dermacation of area, from parking area to storage of construction material etc | Oil ad chemical pollutionsPoor stage leading to accidents | OSHAct | Site plan is to show the office work area |
| Construction site security | For safety purposesTo prevent vandalism and theft | Work disruption and compromise of safety | Municipality by-Laws | On-site security will provide protection during and after working hours and control entry into site office |
| Establish temporary drainage | Needed to channel rain water during construction | Erosion | The Conservation of Agricultural Resource Act, 1983 (Act No. 43 of 1983) | To be maintained by contractor  |
| Check for nearest registered waste site | Only registered waste sites can be used to dispose waste | Use of unregistered sites is illegal | NEMA Waste Act | Liaise with local municipality about use of registered landfill sitePreferable write a letter as proof of communicationg with the local municipality |
| Location of office site | To discuss use of site to locate office site with site owners and local induna | Illegal use of siteconflicts |  | Liaise with rightful owner and local izinduna and councilors to discuss use of site |
| Need for water at office site | Check how water can be brought to your site | Illegal use of water | NWA | No extraction of water from a nearby watercourse is to be done without proper permits from DWAS |
| Construction staff camp site or use of local accommodation to accommodate staff | Construction staff will require accommodationPlace must be suitable and preferable have parking area for construction staff | Waste pollutionDegradadtionFire | NEMAOSHAct | Erecting or use of available accommodation for construction staff should be discussed with property owner and local izinduna in tribal areas |
| Removal of waste at campsite | Waste is to be sorted for recycling and to maintain the area clean  | Filling up of landfill siteTo promore job creation on recycling |  | Staff needs to be made aware about separation of wasteAppropriate bins need to be provided for disposing separated waste |
| Driving of construction vehicles along public roads and rural roads | Reckless driving | AccidentsDeathsConflicts |  | All road signs to be adhered to |
| Vehicle parking site along on construction areas | Construction vehicles need to be parked at some areas during construction | Oil leaks, pollution of soil | The Conservation of Agricultural Resource Act, 1983 (Act No. 43 of 1983) | Construction are not to be parked to obstruct vehicle movementVehicles are to be parked at clearly visible areasAny polluted soil to be raked lightly and treated accordingly. Chemicals or application of oil degrading bacteria |
| Demarcation of smoking area | Area with soil and fire-belt | Accidental spread of fie | The National Veld and Forest Fire Act N0 101 of 1998  | To prevent spread of fire |
| **CONSTRUCTION PHASE** |
| Location and construction of temporary construction office | Erection of perimeter fence to contain work area and as a safety requirement | Vandalism, theft, accident | OSHAct  | Liaise with affected property owner |
| Posting of all safety signs along access road and along main site gate | At indicated places  | Accidents and theft | OSHAct  | As required by applicable law |
| Digging for foundations | To accommodate steel towers | ErosionLoss of topsoilWeed invasionWater pollution | The Conservation of Agricultural Resource Act, 1983 (Act No. 43 of 1983)National Water Act | Limit digging to designated areasNot to mix sub and top soilsRehabilitate distirbed area |
| Removal and storage of soil | Topsoil and sub-soil for later use | Loss of soil if soil heap not protected from run-off | The Conservation of Agricultural Resource Act, 1983 (Act No. 43 of 1983) | Separation of topsoil from sub-soilPlacing of stones around soil heap |
| Environmental incident register | Recording of environmental incidents | Vaious impacts |  | To keep a log and closure of incidents and those responsible for closure |
| Provision of marked waste bins (domestic, recycled material) | Different waste placed in different on-site waste bins | Pollution, spread of flies | NEMA Waste Act | To encourage recyclingTo remove waste on site |
| Driving of construction vehicles along public roads and rural roads | Reckless driving | AccidentsDeathsConflicts |  | All road signs to be adhered to |
| Vehicle parking site along on construction areas | Construction vehicles will need to be parked at some areas during construction | Oil leaks, pollution of soil | The Conservation of Agricultural Resource Act, 1983 (Act No. 43 of 1983) | Construction are not to be parked to obstruct vehicle movementVehicles are to be parked at clearly visible areasAny polluted soil to be raked lightly and treated accordingly. Chemicals or application of oil degrading bacteria |
| Damage to crops  | Some of planted crops and commercial trees may be damaged or need to be cut to either access the servitude or establish the servitude | Crop damageFood securityLoss of incomeTensions | The Conservation of Agricultural Resource Act, 1983 (Act No. 43 of 1983) | Damaged crops need to be compensated accordinglyCompensation methods need to be approved by all parties involved |
| Removal of trees  | Trees along the servitude particularly along riverine and riparian areas may pose safety threat to ground clearance | Potential firesAccident | OSHAct  | Trimming or removal of identified trees should be done withproject ecologist and permit to trim or cut sought with DAFF |
| Soil excavation | According to site design plan to achieve the desired site level | Loss of soil | The Conservation of Agricultural Resource Act, 1983 (Act No. 43 of 1983) | Impact can be prevented if done outside rainy season |
| Removal of construction rubble and scrap metal | Removal of waste | Unwanted waste | The Environment Conservation Act, No. 73 of 1989 (‘the Environment Conservation Act’).  | Proper disposal and transportation to registered waste sites |
| Behaviour of construction staff in the area | Health and safety staff talks for safety and well being of staff and community members | Health risks | OSHAct | Prevention of spreading of diesease  |
| Prevent damage of local fences | Photos showing status of fences before construction and after construction | Damage to property | Fencing Act (Act no 31 of 1963) | No damage to fences should occurAny damage should be compensated accordingly  |
| Grassing of bare areas | Planting of grass to prevent scouring and erosion and growth of weeds Beautify the site | Erosion | The Conservation of Agricultural Resource Act, 1983 (Act No. 43 of 1983) | Planting suitable grass mixture of sods |
| **OPERATION PHASE** |
| Monitoring of status of rehabilitated areas | Record and report on status | Erosion | The Conservation of Agricultural Resource Act, 1983 (Act No. 43 of 1983) | Any erosion due to poor growth of grass needs to be attended  |
| Removal of remaining rubble and construction waste | Record and report on status | Waste pollution | NEMA | All remaining construction waste is to be collected and recycled |
| **DECOMMISSIONING PHASE** |
| Dismantling of the powerline | Upon closure | Theft of equipment | None | Removal of equipment and concrete stone yard |
| Removal of disposal of all equipment | Clearing of substation area | Equipment lying as waste | None | Proper disposal |
| Removal and disposal of scrap metal and rubble | Waste removal | Presence of waste | The Environment Conservation Act, No. 73 of 1989 (‘the Environment Conservation Act’).  | Proper removal of waste  |
| Leaving concrete tower foundations | No need to demolish the foundations unless its necessary or new landowner request that it be done | Damage to tractors along farms | The Occupational health and Safety Act, 1993 (Act No 85 of 1993) | Covering of HV yard hole with decomposable rubble and covered with soil |
| Grassing of bare areas | To prevent erosion and protection of soil | Erosion | The Conservation of Agricultural Resource Act, 1983 (Act No. 43 of 1983) | Planting of suitable grass mixture |

**Summary of the prominent characteristics of preferred corridor**

* Commercial sugarcane and tree plantations
* Rural area with medium to dense housing north of the study area
* Human dominated landscapes in north of the study area
* Monoculture dominated landscapes in the south of study area
* Continuously expanding houses in rural area resulting from availability of serviced roads and electricity even though with deteriorating capacity
* Relatively few open areas
* Threat to invasion of servitude
* Vocal farming community
* Organised and administrative tribal authorities
* Planned development impeded by poor electricity capacity
* Public roads and rural tracks meander the area
* Big rivers cut through the area from west towards the east
* Healthy and partly weed infested riparian areas and riverine vegetation
* Steel powerlines run through the study area
* Natural and original vegetation transformed by housing, overgrazing, road networks and commercial and subsistence farming
* Poor biodiversity due to habitat transformation
* Sporadic remnants of protected and threatened plant species

**Powerline construction activities**

**Planning stage**

* Planning
* Desktop/preliminary design
* Desktop assessment of study area, GIS and other mapping methods
* Preliminary demarcation of study area
* Preliminary drawing of straight alternative powerline corridors from source to receiving end
* Initial site visit
* High level assessment of study area
* Initiation of stakeholders, affected and interested parties
* Fine tuning corridor alignment still at high level
* Production of initial map showing tentative corridors
* Compilation of background information document with a consent form
* Initiating the consultation process to solicit, record and respond to ideas, suggestions and concerns
* Various meetings with identified stakeholders
* Introducing the project, it’s need and purpose
* Discussing the alternative routes and corridor alignment
* Recording and responding to comments presented at meetings
* Repeated site visits with affected parties to align corridor according to recommendations
* Completing the consultation process for environmental assessment process
* Initiating compensation discussions
* Identifying access areas
* Identifying plants to be rescued and relocated
* Identifying trees that may need trimming or cutting
* Realigning servitude out of former wetland areas
* Geotech study to assess soil stratum stability including rock form and level of groundwater
* Pegging of preferred corridor
* Application for authorisation

**Construction phase**

* Locating temporary office and camp site
* Digging tower foundations
* Cement filling of tower bases
* Erecting of towers
* Stringing conductors
* Monitoring of construction activity
* Quantifying level of disturbance
* Rehabilitation
* End of construction

**Operational phase**

* Energising of the powerline
* Auditing of servitude status
* Rehabilitating where necessary

**Decommissioning**

* Dismantling of powerline
* Removal of powerline material for recycling and disposal
* Intact or demolishing of concrete tower bases depending on landuse

**Sensitive Environments within the Study Area**

* Nsezi wetland on the south-east of the study area
* Biodiversity area including Nsezi wetland, south-east of the study area, to be proclaimed protected area
* Riverine vegetation along Nseleni and Umfolozi river
* Riparian and flood extended areas adjacent to Umfolozi river
* Wetlands, active (Nsezi) and degraded (mainly along the rural areas)

**Impact Assessment of Preferred Powerline Corridor**

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| **Impact** | **Impact description** |
| Generation of noise | * Noise nuisance
* Disturbance of peace
 |
| **Impact category** | **Explanation**  |
| **Extent** | Along constructed areas  | High |
| **Duration**  | During construction | High |
| **Probability** | Will occur | High |
| **Intensity** | Construction noise will be audible during construction but will be within acceptable decibelsNo construction should take place after working hours | Medium |
| **Alteration** | Powerlines do alter the landscape | High |
| **Cumulative** | No noise will occur during operation of the line | Medium |
| **Recoverability** | Noise will stop when construction is completed  | None |
| **Significance** | Noise become significance if it becomes loud and consistently loudGenerated noise only occurs during construction | Low |
| **Mitigation** |
| * Construction is to take place during allocated working hours
 |
| **Interpreting the overall score of level of significance of impacts** |
| * Overall significance is low because excavation and erection of a steel tower does not generate loud and unbearable noises
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| **Impact** | **Impact description** |
| Disturbance to propertiesDamages to fences, gardensDamages to access roads | As a result of close proximity to houses |
| **Impact category** | **Explanation** | **Impact Level** |
| **Extent** | Along the areas with dense houses | Medium |
| **Duration**  | During the construction and operation  | Low |
| **Probability** | Construction activities can accidentally disturb properties | Probable |
| **Intensity** | Less intense as precaution are implemented | Low |
| **Alteration** | None | None |
| **Recoverability** | Yes once damages properties have been compensated and repaired | Low |
| **Cumulative** | None | None |
| **Significance** | Increased due to close proximity to houses | Medium |
| **Mitigation** |
| * Care must be taken when working near houses not to damage properties
* Damages properties must be compensated
* Damages must be attended to as soon as possible and the owner contacted
* The damages must be recorded in the incident report
* Closing of damage incidents must be indicated in the accident file
 |
| **Interpreting the overall score of level of significance of impacts** |
| * Any damages to properties need to be compensated accordingly
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| **Impact** | **Impact description** |
| Relocation of houses | Removing people from their familiar environmentsPoor alignment of servitude to avoid houses and thus reduce drastically number of houses to be affected by the powerline, particularly along populated areasDue to high housing density particularly along tribal areas it will be inevitable to avoid all the houses for the entire length of the powerline |
| **Impact category** | **Explanation** | **Impact Level** |
| **Extent** | Areas where houses are within the servitude | High |
| **Duration**  | For the lifespan of the powerline | High |
| **Probability** | High | Probable |
| **Intensity** | High due to type of activity and engagement | High |
| **Alteration** | Will take place as a result of demolishment of houses and building in different places  |  |
| **Recoverability** | Yes once compensations have been done and relocation completed |  |
| **Cumulative** | Houses have been relocated within the existing powerline and rebuilt at different places | Low |
| **Significance** | Very significant | High |
| **Mitigation** |
| * Effective alignment of the servitude to minimise impact on houses to be affected by the servitude
* Houses to be relocated are to be discussed with local izinduna and affected households
* Effective handling of negotiations to relocate and rebuild houses in different places is important
* Places to be relocated to discussed with local izinduna and affected households
* Relocation process and plan be presented to tribal authority and to councillors at council meeting
* Compensation must be explained and an appropriate compensation process implemented ensuring building of houses
 |
| **No impact** |
| * No houses will be relocated without full and signed consent by affected property owners and support and guidance from local authorities such as izinduna and councillors
 |
| **Interpreting the overall score of level of significance of impacts** |
| * The significance is high due to the severity of negotiating to relocate and the actual relocation to new areas
* However Eskom has undertaken this activity in the area and other areas and affected people had been compensated accordingly
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| **Impact** | **Impact description** |
| Visual Impact | * Breaking scenery
* Visual character of the area
* High scenery area
 |
| **Impact category** | **Explanation**  |
| **Extent** | Along the length of the powerlinePowerlines already exist in the areaArea is not a tourist destinationThe area has rural character and picturesque  | High |
| **Duration**  | For the powerline lifespan | High |
| **Probability** | Will occur | High |
| **Intensity** | Steel structures do stand out, dominant, prominent and highly visible | High |
| **Alteration** | Powerlines do alter the landscape | High |
| **Cumulative** | There are no tall structures in the area except existing steel powerlines | Medium |
| **Recoverability** | The area is not a scenic area as it is not a tourist destination areaPowerline will meander along open areasYes in most scenarios as powerlines eventually become a familiar landmark in the areaBlending with landscape does not happen as there are no other types of tall structures to add to picturesque of the rural character | None |
| **Significance** | Existence of powerlines as dominant structures with high visibility have low cultural significance | Low |
| **Mitigation** |
| * There are no measures to mitigate against visibility of the powerline. However the significance of its visibility is low
* Even though the level of the impacts is high but the overall significance is low as visual impact is not regarded to threaten cultural recognised landscapes
 |
| **Interpreting the overall score of level of significance of impacts** |
| * Overall significance is low because visual intrusion of steel structures in close proximity to houses and along open farming and rural areas will have a low impacts due to low effect on cultural and social landscapes and rural picturesque as compared to tourist destination areas that value certain landscapes
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| Visual Absorption Capacity (VAC) | The VAC of powerlines is not well absorbed due to their tall and massive structuresThe landscape does not have the ability to absorb powerlinesVegetation cover is lowThe topography is diverse, relatively scenic in some areas (monoculture area) and rolling in natureLanduse is limited to farming and rural areasClutter exists in form of dense houses most neatly built and modernOpen grasslands, though low in height are able to blend with powerlines as compared to bushveld with shorter trees The ecological quality of the area, naturally should be high but habitat transformation reduced it |
| **Impact category** | **Explanation**  | **Impact Level** |
| **Extent** | Along the length of the powerline | High |
| **Duration**  | During lifespan of the powerline | High |
| **Probability** | The powerline will be taller and dominant | Highly probable |
| **Intensity** | Dominant steel structures will be visible  |  |
| **Alteration** | Farming and rural landscape will be altered |  |
| **Cumulative** | Steel powerline exist in the areaAdditional powerline will add to dominant structures traversing the area | High |
| **Recoverability** | Landscape will be recovered once the powerline has been dismantled | High |
| **Significance** | With regards to visual absorption capacity the significance is high due to the inability of the landscape to absorb the powerline  | Low |
| **Mitigation** |
| * There are no measures to mitigate against inability of the receiving landscape to absorb the powerline
 |
| **Interpreting the overall score of level of significance of impacts** |
| * Effect on cultural picturesque the significance becomes low as communities did not express concern on the inability of the landscape absorbing the powerline
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| **Impact** | **Impact description** |
| Damage to protected and threatened plant species | Loss of species |
| **Extent** | Localised to individual or group of plant species but along the length of line and extent of servitude  | Medium |
| **Duration**  | During construction | Low |
| **Probability** | In this highly transformed habitat original vegetation in the area comprises of pockets of threatened and protected species which do occur sporadically along the study area | Medium |
| **Intensity** | Since digging is a low intensity activity and is localised at tower foundation bases the intensity is low | Low |
| **Significance** | Protection of species is important  | High |
| **Mitigation** |
| * Rescue and relocation or realignment of the servitude will done by project ecologist together with project surveyor
* The survey and identification will be done prior to construction
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| **Impact** | **Impact description** |
| Degradation of habitat | * Habitat transformation is apparent while degradation is relatively low
* Many original species have been replaced by hardy grasses
* A number of intense pressures are exerted on the natural environment such clearing vegetation to accommodate houses, tracks and roads, fire, overgrazing and subsistence agriculture
 |
| **Impact category** | **Explanation** | **Impact Level** |
| **Extent** | Along the length of the servitude | Low |
| **Duration**  | During construction | Low |
| **Probability** | Activity will take place and will add to transformation to a limited extent though | Probable |
| **Intensity** | The activity will exert low intensity due to its nature which is less aggressive | Low |
| **Cumulative**  | The impact will add to existing pressures during construction and post construction if disturbance is not controlled | Low |
| **Alteration** | Land form and land use will not be altered | Low |
| **Recoverability** | Disturbed area if rehabilitated will recover and ground cover grow back | Low |
| **Significance** | Transformation of natural habitat is of concern in the province | Low  |
| **Mitigation** |
| * Clearing of vegetation should be limited to tower foundation areas
* Construction vehicles should keep to public roads and existing tracks
* Disturbed areas around tower bases should rehabilitated
* All construction waste removed and disposed at registered landfill sites
* Post construction monitoring is recommended
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| **Impact** | **Impact description** |
| Movement of construction vehicle  | Movement and parking of construction vehicles may cause traffic disturbances if safety procedures are not adhered to and may create new vehicle paths |
| **Impact category** | **Explanation** | **Impact Level** |
| **Extent** | Along the length of the servitude | Low |
| **Duration**  | During construction and operation of the powerline | Low |
| **Probability** | Construction vehicles will be driven along public roads and rural tracks | Low |
| **Intensity** | Driving will be taking place until construction is completed and will take place occasionally for odd maintenance or checking of the line | Low |
| **Alteration** | There will be no alteration of land and change in landuse | None |
| **Cumulative** | Roads already exit in the area as well as movement of vehicles | Low |
| **Recoverability** | Not applicable | None |
| **Significance** | Low as vehicles will be driven mainly along existing roads | Low |
| **Mitigation** |
| * Vehicles need to be parked safely and avoid disturbing local traffic flow
* Creation of new vehicle traffic tracks along open areas, when taking short cuts, is discouraged
* Driving is to be kept mainly along existing public and rural roads
* Excessive (back and forth) driving of construction vehicles along eroding rural roads during long rainy days is discouraged as that may deteriorate the road further
* Vehicles are to be serviced at designated service stations to avoid potential oil leaks
 |
| **No impact** |
| * There should be no reckless driving by construction vehicles
* No construction vehicles will be washed along construction areas
 |
| **Interpreting the overall score of level of significance of impacts** |
| * The overall level of significance is low because construction vehicles are normally driven within speed limits and do not cause local traffic congestion due to indiscriminate parking along the road or drive ways etc.
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Access to uMfolozi floodplain through riparian vegetation

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| **Impact** | **Impact description** |
| Compaction and potential erosion of tracks | * Soils in the area are erodable
* Poor planning of access tracks
* Creation of access tracks along sensitive areas
* Ese of eroding access tracks or road without prior stabilisation of eroding sections of the track or road
* Lack of rehabilitation of temporary tracks
* Creation of multiple tracks
 |
| **Impact category** | **Explanation**  | **Impact Level** |
| **Extent** | * The soils in most part of the corridors and the study area are erodible, crumbling when dry resulting in loose unconsolidated material
* Erosion then becomes a significant risk, which can be prevented by locating pylons outside the identified boundary of wetland and riparian areas habitat where there is little opportunity for the sustained disruption to surface water flow that may initiate soil erosion
* Poor planning for access tracks may lead to erosion
 | Medium |
| **Duration**  | During construction and operation | High |
| **Probability** | Location of towers or driving near wetland areas and across riparian areas should be avoided  | Probable |
| **Intensity** | No towers will be located along wetland and riparian areas Most existing tracks and roads appear stableTrack along Nsezi wetland system (alternative corridor – along west of the study area) shows signs of erosion | High |
| **Alteration** | Creation of new tracks will not cause major alterations of the ground or the landscapeMovement of vehicles along existing tracks or new tracks will not alter ground level if potential erosion is minimised by proper construction of the track and stabilising eroding sections of existing tracks and rehabilitating temporary tracks | Low |
| **Cumulative** | Movement of vehicles along erodible soils will lead to deterioration of the track and ground cover and that may disrupt movement of local vehicles  | High |
| **Recoverability** | Any changes on ground cover can be restored by rehabilitating the disturbed areas | Low |
| **Significance** | The significance of erosion is high but it can be countered by application of mitigation measures  | Low |
| **Mitigation** |
| * Project ecologist needs to check and assess areas where new tracks are needed
* A method statement or plan for construction of the tracks need to be compiled and approved by the project engineer
* The track should facilitate movement of run-off
* The track survey should be shown on the project profile
* Ecologist needs to advise on realignment of powerline sections along sensitive areas should the proximity be close
* Tower positions should be away and outside the sensitive areas
* Long spans can avoid sensitive areas thus prevent potential erosion
* No access roads will be constructed along areas adjacent to sensitive areas
* Compacted tracks after construction need to be ripped and raked to allow growth of grass
 |
| **No impact** |
| * Powerline sections can be realigned to place towers away from sensitive areas even away from degraded wetlands to prevent potential erosion
 |
| **Interpreting the overall score of level of significance of impacts** |
| * Overall significance is low because there will be proper planning for required new tracks
* Final alignment of the powerline will be done with the recommendations from the project ecologist
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| **Impact** | **Impact description** |
| Poor plan for location of construction officeLoss of ground cover and poor drainage Poor storage planOil and chemical leaksConstruction material waste | Location of new office site can cause negative impacts such as potential erosion, dust, fire and pollution  |
| **Impact Category** | **Explanation**  | **Impact Level** |
| **Extent** | Local | Medium |
| **Duration**  | During construction | Medium |
| **Probability** | Construction of construction site office will disturb the area |  |
| **Intensity** | Construction of a temporary site office will have medium intensity due to site disturbing activity | Medium |
| **Alteration**  | There will temporary alteration of land where the temporary office will be located |  |
| **Cumulative** | Poor planning will add to the pressures already exerted on the environment | Medium |
| **Recoverability** | Effectively applied rehabilitation and rehabilitation of the office area will recover ground cover | Medium |
| **Significance** | Medium, due to site altering activity | Low |
| **Mitigation** |
| * Location of construction office is of be discussed with landowner or person of authority such as local induna
* Permission to use the land must be indicated in the office file and name of person approving the use of site
* The office is to be located away from any watercourse including outside and away from riparian areas
* Office plan is to be discussed with construction manager and ECO
* A temporary perimeter fence must be erected around the office site to secure the site
* No indigenous tree must be cut in order to accommodate the office site
* A search and rescue exercise will be undertaken with project ecologist along the length of the servitude
* No removal of plants on site, an ecologist must be contacted to identify the plant and provide appropriate measure
* A security guard must be stationed on site 24hrs to prevent vandalism and potential pollution
* Areas outside the fence should not be disturbed
* Access road to construction office must be created properly to prevent erosion
* After construction temporary access road needs to be raked, soil loosed and slightly compacted. Grass will grow naturally and will eventually eliminate any weeds as long as the area is not disturbed
* The storage areas is to be clearly marked on the plan
* Construction material is to be placed as indicated on the approved plan
* Waste must be separated and placed in different waste bins
* Recycling is to be supported and reported monthly
* General waste is to be disposed at local registered landfill site
* Hazardous waste must be removed from site and disposed at registered hazardous landfill site
* Contractor needs to identify both registered general and hazardous landfill sites by liaising with the municipality and seeking proper permits to disposed both general and hazardous waste
* A letter to municipality requesting
* Containers with oil and oil must be placed within an appropriately designated area with proper signage and emergency equipment to contain potential spills
* The containers are to be placed on impervious areas to collect potential spills
* Construction material should be placed in a designated area it must not lie around to prevent accidents
* Proper drainage must be constructed to collect draining water from the office tap and water flowing from car wash area and must dissipate water accordingly. Therefore the site needs to slope towards the drain
* Smoking area must be designated and be appropriate
* Mobile ablution facilities must be provided and emptied by a professional company
* Upon completion of construction the site must be rehabilitated accordingly and all material and waste removed
* The site needs to be raked and seeded with appropriate grass mixture
* The seeded area needs to be watered at least for one week to encourage growth
* Seeding preferable should be done during rainy season, optional
* ECO must inspect the rehabilitated office site and record approval of state of site
* Sourcing of water from the river for office use is to be discussed with Department of Water Affairs and Sanitation (DWAS) to report the amount to be extracted and purpose for use
 |
| **Interpreting the overall score of level of significance of impacts** |
| * Significance of the impacts is low because proper planning for the location of the temporary construction office will be well planned and approved by relevant project personnel
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| **Impact** | **Impact description** |
| Digging of tower foundations and removal of topsoil and associated ground cover | * Digging involved removing both sub and topsoil. The holes are then filled with cement and steel for anchoring the above-ground towers
* Area around the tower foundations will be disturbed due to removal of vegetation and disturbance of soil
 |
| **Impact Category** | **Explanation**  | **Impact Level** |
| **Extent** | Local | Low |
| **Duration**  | During construction | Low |
| **Probability** | Site disturbing activity | Probable |
| **Intensity** | Digging intensity is low | Medium |
| **Alteration**  | No alteration will take placeDug holes will be filled and rehabilitated | Low |
| **Cumulative** | The area is relatively stable and erection of the powerline will not increase the severity/intensity of occurring pressures | Low |
| **Recoverability** | Disturbed areas after rehabilitation will recover | Probable |
| **Significance** | Medium due to medium intensity disturbance | Low |
| **Mitigation** |
| * Digging to be limited within demarcated areas
* No digging should disturb surrounding ground cover
* Removal of trees to accommodate towers is to be discussed with the ECO and permit to cut sought from Department of Agriculture Forestry and Fisheries (DAFF)
* Removal of protected and threatened plant species must be undertaken by project ecologist prior to construction
* Dug topsoil is not to be mixed with subsoil
* Topsoil will be used to support grassing of disturbed area
* Soil must be used to backfill the tower foundations where necessary
* Excess soil is to either be spread thinly around open area or be given to locals
* A letter mentioning proper storage and use of collected soil is to be given and signed by the collector a copy of the letter be filed in the site file
* The topsoil must be applied about 10cm in thickness and compacted slightly
 |
| **Interpreting the overall score of level of significance of impacts** |
| * The significance of the impacts is low because rehabilitation of disturbed areas will prevent or minimise potential erosion and loss of habitat
 |

Fig1 Backfilled tower foundations

Fig1 Compacted, levelled and raked grass will cover the tower base

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| **Impact** | **Impact description** |
| Disturbance to wetlands | * Original wetlands covered most of the study area
* Changes in landuse transformed the wetland systems
* Settlements, road networks and subsistence farming altered the wetlands
* Impact on the hydrology by disturbing adjacent grounds impeding on run-off and causing soil erosion and pollution
* Alter the wetland system by draining water
* Disturb functionality of the wetland system
* Alteration of the physical, chemical and biological components of wetland ecosystems
* Cause stream channelization, dam construction, discharge of industrial wastes and municipal sewage (point source pollution) and runoff urban and agricultural areas (non-point source pollution)
* Contribute to changes in the flood regime of wetlands and the input and cycling of nutrients
 |
| **Impact category** | **Explanation**  | **Impact Level** |
| **Extent** | Wetlands have been degraded by settlement, road arteries and subsistence farmingPublic roads cut through some wetlands and streamsLocation of the powerline will not change the status of the remnants of original wetlandsNo towers will be located directly on degraded wetland systems | Medium |
| **Duration**  | During construction | Low |
| **Probability** | Location of towers or driving across degraded wetlands will not take place | None |
| **Intensity** | No towers will be located along degraded wetland systems | None |
| **Alteration** | No alteration will be done such as damaging remnants of wetland riparian areas or edges as no towers will be located along these degraded wetlands | Low |
| **Cumulative** | Temporary movement of vehicle along grounds near degraded wetlands will not cause degradation to the wetlands | Low |
| **Recoverability** | Degradation is caused by other landuse systems such as housing and road networks including subsistence farming | High |
| **Significance** | Degradation or damage to wetland impacts negatively to these systems | Low |
| **Mitigation** |
| * Project ecologist needs to provide coordinates of degraded wetlands along or adjacent or nearby the servitude and determine the proximity of towers
* Servitude location can be realigned should the proximity be close
* No access roads will be constructed along areas adjacent to these degraded wetlands which can add cumulative impacts
 |
| No impact |
| * No towers will be located with wetland system
 |
| **Interpreting the overall score of level of significance of impacts** |
| * Overall significance is low because no towers will be located along degraded or semi functioning wetlands
* Final alignment of the powerline will be done with the recommendations from the project ecologist
 |

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| **Impact** | **Impact description** |
| Destroying quality of wetland service  | Destroying the functionality of the degraded wetland systems in providing its services |
| **Impact category** | **Explanation**  | **Impact Level** |
| **Extent** | Along the extent of the powerline  | High |
| **Duration**  | Lifespan of the powerline, houses and roads | High |
| **Probability** | The powerline is existing  | Highly probable |
| **Intensity** | Minimal as towers will not impact on the destroyed functionality of the degraded wetlands  | Low |
| **Alteration** | Groundcover will not be altered by placing of towers as holes become filled and rehabilitated to prevent erosion and damage to the foundations | Low |
| **Cumulative** | Construction of powerline in areas adjacent to houses and degraded wetlands will not add to existing pressures exerted by houses, gardens and roads cutting through these degraded wetlands. Cumulative impact will result from creation of access road parallel to the wetlands along areas adjacent to the degraded wetlandsNo access road will be created  | Low |
| **Recoverability** | Housing, roads and gardens will not be removed as there is no other place to relocate to, therefore the degradation of the wetlands will remain | High |
| **Significance** | The functionality of degraded wetlands is none existing in most places and location of towers will not impact on the destroyed functionality of these degraded wetlands  | Low |
| **Mitigation** |
| * No towers will be located with wetland system
 |
| **Interpreting the overall score of level of significance of impacts** |
| * The significance of the impact is low as a result of the destroyed functionality of the wetlands
 |

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| **Impact** | **Impact description** |
| Concrete pollution  | Pollution of soil and nearby watercourses |
| **Impact category** | **Explanation**  | **Impact Level** |
| **Extent** | Not beyond tower foundations areas | Low |
| **Duration**  | During construction | Low |
| **Probability** | Will not happen as only ready-mix cement will be brought to construction site | Not probable |
| **Intensity** | Low as mixing of cement on site is prohibited | Low |
| **Alteration** | None | None |
| **Cumulative** | None | None |
| **Recoverability** | Yes | Low |
| **Significance** | Important that no concrete pollution occurs | Low |
| **Mitigation** |
| * Only ready mix cement is to be used to fill tower foundations
* Concrete spills are to be removed and disposed at registered landfill sites
 |
| **No impact** |
| * No mixing of cement will take place on site
 |
| **Interpreting the overall score of level of significance of impacts** |
| * The significance of the impact is low because no mixing of cement will take place on site
 |

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| **Impact** | **Impact description** |
| Air quality  | Generation of dust during construction and movement of vehicles along gravel roads |
| **Impact category** | **Explanation** | **Impact Level** |
| **Extent** | Localised | Low |
| **Duration**  | During construction. Digging is restricted to tower foundations | Short |
| **Probability** | Dust will occur during digging | Probable |
| **Intensity** | Digging goes up to 3m underground. There will be no vibrations | Low |
| **Alteration** | None | None |
| **Cumulative** | Minimal | Low |
| **Recoverability** | Yes | Low |
| **Alteration**  | Not applicable | None |
| **Cumulative** | Presently there is minimal air pollution even from local vehicles | Low |
| **Recoverability** | Once construction has stopped they will no dust generation during operation of the powerline | Low |
| **Significance** | Medium to low due to undulating terrain | Low |
| **Mitigation** |
| Since digging for tower foundation will occur in close proximity to houses dust suppression is recommendedDriving is to be kept at normal speed to minimise creation of dust smogDigging should be limited to tower foundations |
| **No impact** |
| * The low intensity and extent of dust to be generated during construction will not pose health problems to people
* There will be no clouds of dust formed during construction
 |
| **Interpreting the overall score of level of significance of impacts** |
| * The significance of the impact is low because the amount dust from moving vehicles on rural roads and from digging for tower foundations is relatively low and is short term occurring during driving and digging
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| **Impact** | **Impact description** |
| Location of towers adjacent to riparian area near Umfolozi river | * Location of towers near riparian area will involve digging for tower foundations which may lead to potential erosion
* Cutting of trees without liaising with project ecologist and seeking permit from DAFF
 |
| **Impact category** | **Explanation** | **Impact Level** |
| **Extent** | Local. Along areas outside and adjacent to riparian area along Umfolozi river |  |
| **Duration**  | During construction | Medium |
| **Probability** | Towers will located near riparian area | Medium |
| **Intensity** | Low intensity digging and backfilling where necessary and grassing of topsoil | Low |
| **Alteration** | Minimal. Location will be outside riparian areas and disturbance limited to tower bases | Low |
| **Cumulative** | Possible to add to current pressures such as grazing, effects of floodsRiparian area and area adjacent to it is covered with indigenous bush and some alien treesRehabilitation of disturbed tower bases will prevent potential erosionRemoval of affected trees needs to be discussed with project ecologist | Low |
| **Recoverability** | Yes | Low |
| **Significance** | Close proximity to riparian area | Medium |
| **Mitigation** |
| * Digging to be limited within demarcated areas
* No digging should disturb surrounding ground cover beyond tower foundation designated area
* Dug topsoil is not to be mixed with subsoil
* Topsoil will be used to support grassing of disturbed area
* Removal of trees to accommodate towers is to be discussed with the ECO and permit to cut sought from Department of Agriculture Forestry and Fisheries (DAFF)
* Search and rescue of protected and threatened plants must be done by project ecologist prior to construction
* Soil must be used to backfill the tower foundations where necessary
* Excess soil is to either be spread thinly around open area or be given to locals
* Stored topsoil must be applied to all backfilled tower foundations
* The topsoil must be applied about 10cm in thickness and compacted slightly
* The area around the towers must be seeded with appropriate seed mixture
* Post construction inspection for any potential erosion around towers must be addressed by proper grassing
* Access into the tower site is along existing vehicle track and cattle track
 |
| **No impact** |
| * No towers will be located along water ecosystems such as river bank, river bed, riparian area, floodplains
* There will be no disturbance to river system hydrology and aquatic ecology
 |
| **Interpreting the overall score of level of significance of impacts** |
| * The significance is low as no towers will be located along riparian areas
* This will be determined during survey by project ecologist to check the location of towers in relation to identified sensitive areas
 |

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| **Impact** | **Impact description** |
| Erosion of riparian areaPollution of river waterIntroduction of weeds as a result of disturbanceCutting of indigenous trees | Placing tower foundations along riparian areas and spanning across rivers, drainage lines and streams |
| **Impact category** | **Explanation** | **Impact Level** |
| **Extent** | Localised within designated construction area | Low |
| **Duration**  | During construction | Medium |
| **Probability** | Activity is site disturbing | Low |
| **Intensity** | Low intensity digging | Medium |
| **Alteration** | No alteration of riparian areas will occur | Low |
| **Recoverability** | Yes |  |
| **Cumulative** | Possible if towers are to be located along riparian areas |  |
| **Significance** | Relevant due to proximity to riparian area | Medium |
| **Mitigation** |
| * No towers are to be placed along riparian areas
* Towers are to be placed beyond these areas
* Powerline is to span across rivers
* No riverine vegetation is to be disturbed
* Removal of trees along areas adjacent to riparian areas in order to accommodate towers is to be discussed with the project ecologist and the project Environmental Control Officer and permit to cut sought from Department of Agriculture Forestry and Fisheries (DAFF)
* Preferable should a particular tree appear to pose safety threat the tree should be trimmed
* Decision on trees that pose safety threat to be discussed with project ecologist
* Disturbance should be limited and restricted to designated work area
* Driving and parking of vehicles should be limited to areas above riparian areas
* No crossing of river by vehicles
* Crossing of rivers by vehicles should take place across bridges
* Conductor must be bolted across the river during construction or airlifted
 |
| **No impact** |
| * There will be no erosion if all disturbed areas are rehabilitated, levelled, compacted and grassed
* Therefore there will no deposition of soil into the river and thus no pollution
* There will be disturbance to the flow and ecology of the river system
* There will be no need to extract water from the river
* There will be no driving across the river
 |
| **Interpreting the overall score of level of significance of impacts** |
| * The significance is low as no towers will be located along riparian areas
 |

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| **Impact** | **Impact description** |
| Bird collision | Killing of birds as a result of collision with the conductors |
| **Impact category** | **Explanation** | **Impact Level** |
| **Extent** | Along identified potential bird flight paths | Medium |
| **Duration**  | During the lifespan of the powerline | Medium |
| **Probability** | Potential for collision is possible if conductors are not marked  | Probable |
| **Intensity** | Increased due to possible poor visibility if line is not marked | Medium |
| **Alteration** | None | None |
| **Recoverability** | Marking of the conductor will improve its visibility thus prevent potential collisions | Low |
| **Cumulative** | No reports of collisions with existing powerline from local Eskom office | Low |
| **Significance** | Medium due to potential area across rivers | Low |
| **Mitigation** |
| * Conductors spanning across rivers to be marked with bird flappers
* Bird flappers to be fitted on the conductor prior to erecting of the conductors on the towers
* Bird flappers are to be purchased in time for them to be available at the time of pulling of the conductor
 |
| **Interpreting the overall score of level of significance of impacts** |
| * The significance is low as conductors will be marked with bird flappers to prevent potential collisions
 |

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| **Impact** | **Impact description** |
| Pollution at power stations due to increased electricity demands | Increased demand and use of electricity |
| **Impact category** | **Explanation** | **Impact Level** |
| **Extent** | Beyond the area to other provinces | High |
| **Duration**  | During the operational lifespan of the powerline | High |
| **Probability** | Use of electricity is continuous  | Highly probable |
| **Intensity** | Increase demand on supply | High |
| **Alteration** | Alteration of rural character as more powerlines are built | Low |
| **Recoverability** | Yes. Powerlines eventually become landmarks in the area | Low |
| **Cumulative** | Yes. Increased demand means more burning of coal | High |
| **Significance** | Great need for electricity | High |
| **Mitigation** |
| Supplement energy needs by using sustainable alternatives such as solar and gas needs to be encouraged and supportedConsumers are to be made aware of limiting the excessive use of electricity due to power shortages in the countryIncreased generation of electricity results in more air pollution at power stations |
| **Positive benefits** |
| * Provision of electricity is important in improving development and people’s lives
* Fulfilment of national development goals
 |
| **Interpreting the overall score of level of significance of impacts** |
| * The significance is high due to the type of generating stations used
* However Eskom has sustainable strategy on demand-supply of electricity
* Consumers are encouraged to reduce use of electricity by using power saving devices and to supplement energy needs by using green energy devices such as solar
 |

**Impact Assessment of Alternative Powerline Corridor**

**Summary of the prominent characteristics of alternative corridor**

* An important wetland system, Nsezi right of Impala substation
* An area to be proclaimed a protected area
* An existing Eskom powerline running along the west border of the study area
* Commercial sugarcane and tree plantations
* Rural area with high density housing west of the study area
* Continuously expanding houses in rural area resulting from availability of serviced roads and electricity even though with deteriorating capacity
* Relatively few open areas
* Organised and administrative tribal authorities
* Public roads and rural tracks meander the area
* Big rivers cut through the area from west towards the east
* Healthy and partly weed infested riparian areas and riverine vegetation
* Natural and original vegetation transformed by housing, overgrazing, road networks and commercial and subsistence farming
* Poor biodiversity north of Nsezi wetland and nature reserve
* Sporadic remnants of protected and threatened plant species

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| **Impact** | **Impact description** |
| Disturbance to Nsezi wetland system | * Nsezi is an active wetland system that channels water to nearby stream which supplies water to Richards Bay
* The wetland receives its water from Nseleni watercourse and its outlets connects to a stream
* The area north of Nsezi wetland including the wetland is to be proclaimed a protected area
* A powerline cuts along the edge of the wetland system. Parallel to it is an access road used by Eskom during maintenance and by famers and rural industry
* This access roads is presently showing signs of erosion which will impact on the wetlands
* Wetland soils are sensitive and prone to erosion
* The alternative corridor parallels this access road and the existing powerline
* Location of alternative corridor will add to cumulative impacts caused by the use of this access road
* East edge of Nsezi wetland has been impacted by commercial forest
* The existing powerline does not impede on the hydrological functions of the wetland but its presence necessitated the creation of the access road which exacerbated the collective impact along the edge of the wetland
* The second powerline will increase the footprint of disturbance thus expand area of disturbance which might lead to increased disturbance to this ecosystem
* Impact on the hydrology by disturbing adjacent grounds impeding on run-off and causing soil erosion and pollution
* Alter the wetland system by draining water
* Disturb functionality of the wetland system
* Alteration of the physical, chemical and biological components of wetland ecosystems
* Cause stream channelization, dam construction, discharge of industrial wastes and municipal sewage (point source pollution) and runoff urban and agricultural areas (non-point source pollution)
* Contribute to changes in the flood regime of wetlands and the input and cycling of nutrients
 |
| **Impact category** | **Explanation**  | **Impact Level** |
| **Extent** | Wetland is still functioning though eroding along its west edge The existing access road running parallel to the existing powerline is used by other land users therefore continuously impacting on the fragile wetland soils | Low |
| **Duration**  | During construction | High |
| **Probability** | Location of towers or driving across an active wetland system | High |
| **Intensity** | Water table is high and dug holes will be filled with waterThe existing towers do not show being affected by high groundwaterDriving along the edge of the wetland will increase impact on the wetland | High |
| **Alteration** | Additional access road will alter the edge of the wetland by increasing the area of disturbance and thus expanding erosionEven though the existing powerline not showing signs of altering the edge of the wetland per se however an additional access road to access the second parallel powerline will increase impact footprint | High |
| **Cumulative** | An additional powerline will contribute additional impacts on existing impacts negatively affecting the wetland | High |
| **Recoverability** | Preventing driving along existing access road will not be possible | High |
| **Significance** | Degradation or damage and accumulative impacts to the wetland will impact negatively to the wetland | High |
| **Mitigation** |
| * No powerline will be allowed by relevant authorities to run along the edge of a highly functioning and a wetland that provide important service of channelling water to a nearby stream
* Servitude location can be realigned should the proximity be close
 |
| No impact |
| * No powerline will be located along alternative corridor due to excessive levels of degradation to be added by an additional powerline
 |
| **Interpreting the overall score of level of significance of impacts** |
| * The significance is high due to severity of cumulative impacts on the sensitive ecosystem
 |

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| **Impact** | **Impact description** |
| Destruction of degraded wetlands | These wetlands exist north of the study areaHousing pressures have over the years transformed natural environments and destroyed wetland systems |
| **Impact category** | **Explanation**  | **Impact Level** |
| **Extent** | Along the corridor |  |
| **Duration**  | Lifespan of the servitude |  |
| **Probability** | No towers to be located along these wetlands |  |
| **Intensity** | Minimal | Low |
| **Alteration** | No alteration will happen to the wetlands | None |
| **Cumulative** | No towers to be located within the wetland system and no access road to be created near or across the degraded wetlands | None |
| **Recoverability** | Only if houses, roads and gardens are removed | None |
| **Significance** | Since no towers are to be located within the wetlands the level of significance is low | Low |
| **Mitigation** |
| * No towers will be located along these degraded wetlands
* No access roads will be created through or along areas adjacent to the wetlands
 |
| **Interpreting the overall score of level of significance of impacts** |
| * The significance of the impact is low as no towers will be located along these degraded wetlands and no access roads will be created through or along areas adjacent to the wetlands
 |

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| **Impact** | **Preferred corridor** | **Alternative corridor** | **Short Loop-in-Loop-Out****Preferred and Alternative line** |
| Wetland status | Many wetlands are degraded due to existing landuse | Nsezi wetland is activeWetlands in the north of the study area have been degraded by expanding rural houses Wetlands have been destroyed by levelling to accommodate construction of houses  | No wetlands exist in the area |
| Level of impact | There will be no impact as the towers will be located away from degraded wetlands | Level of impact along Nsezi wetland will be highThe wetland will be impacted as the corridor runs along the edge of the wetlandDriving and construction of the powerline will increase damage to the sensitive soil along the wetland thus impact on the hydrology of the area | None |
| Functionality of the wetland | Wetlands have been transformed along the entire length of the corridorFunctionality of a wetland is its ability to provide its ecological services of sponging water, filtrating it and channelling the water to connecting water channelling systems. The functionality of these wetlands has been significantly disturbed There will no impact on the functionality as towers will be located away from the wetland area | Nsezi lake wetland system has been impacted by an existing track due to sensitivities of its soils which are erodible. Beyond Nseleni Nature Reserve the natural wetlands had been damaged by intensified housingLake Nsezi is still sponging and channelling water, however threat of erosion does pose risk of potential disruption of its services | N/A |
| Level of impact | None | High as driving along the wetland system will lead to erosion due to high sensitivity of the soils | None |
| Wetland interconnectivity | In some areas wetland interconnectivity to other water systems has been destroyed by roads and cultivation | Lake Nsezi wetlands are interconnected and supply water to Nseleni river system. Wetlands are disturbed by tracks, roads and cultivation | N/A |
| Level of impact | None as towers will not contribute to the destruction of the interconnecting wetland systems | High | N/A |
| Riparian areas | A single tower will be located along south bank of Umfolozi river. This single tower will be located on an ‘island’ of higher ground located within the Mfolozi River flood plain.A geotechnical study at location site of the tower along Umfolozi riparian area is required to determine the stability of the supporting ground material. The strength of the ground material will then determine the design of the pile foundation which will need to stand 1:100 year floods.  | Most riparian areas the powerline will span across. Where there will be some disturbance it will be minor involving trimming to allow stringing of conductor. The crossing of Umfolozi by the alternative corridor has a fairly steep drop on the south bank and a flood plain of around 200m in width requiring a span of about 500m to make the crossing without impacting on riverine and flood plain vegetation.  | No riparian areas exist within the vicinity of the loop-in-loop-out lines |
| Level of impact | Medium to low if excavation for the pile foundations is limited to the site area and appropriate ground stabilising methods such as compaction and vegetation of the disturbed area are done  | Low due to longer span and location of towers outside riparian area | N/A |
| Floodplain | A single tower is proposed to be located within Umfolozi river floodplain along an area that gets covered with water during heavy rains. A Geotech study needs to be undertaken to determine the nature of the substrate. A bedrock-controlled site will provide a substrate to anchor and secure the tower | The long length of the span across Nseleni River will compel location of towers within the 1:00 flood line | There is no watercourse near both loop-in-loop-out lines  |
| Level of impact | Medium to highAppropriate rehabilitation measures such as ground stabilising methods like vegetation of disturbed areas will prevent potential erosion that may lead to accumulative disturbance of the floodplain areaLevel of impact high if mitigation measures are not implemented  | N/A | N/A |
| Protected areas | N/A | Protected area exist along the corridor | N/A |
| Level of impact | None | HighDue to high biodiversity and presence of protected species the impact level will be high | N/A |
| Visual  | The powerline will be visible along the entire lengthThe scenic value of the area is low | The scenic value is high along the protected areaAreas outside the protected area have low scenic value  | The line is short to cause a visual impact |
| Level of impact | Low | High along nature reserve | Low |
| Possible house relocation | Some houses will require to be relocated as a result of inability of the proposed powerline avoiding them. Due to low house density along the preferred corridor relatively few houses may be relocated | Due to high house density along the alternative corridor more houses will be relocated | There are no houses along both loop-in-loop-out lines |
| Level of impact | Low | HighDense populated areas exist east of the study area. Routing of the powerline will require removal of a number of houses, a costly exercise  |  |
| Sugarcane and timber damages | Yellow corridor cuts through sugarcane and timber areas. Final location of the powerline route will be discussed with the landowner. Sections of the powerline will be located along existing tracks and roads to minimise disturbance. Damage to crops will be compensated accordingly | The corridor runs through sugarcane and timber areas  | There are no plantations to be affected by both preferred and alternative loop-in-loop-out lines  |
| Level of impact  | Medium to highRouting of the powerline along sugarcane and timber plantations will be discussed with the affected landowners/users and damages to the crops will be compensated | Low to mediumSmall sections of sugarcane and timber will be affected | Not applicable |
| Access | The areas has a number of existing tracks and road networksVehicle movement is to be kept mostly along existing track and road networks | The areas has a number of existing tracks and road networksVehicle movement is to be kept mostly along existing track and road networks | Access is available from existing road  |