ESKOM

BRAAMHOEK INTEGRATION EIA

TRANSMISSION LINE TURN-INS
VISUAL IMPACT ASSESSMENT

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VISUAL IMPACT ASSESSMENT

1 INTRODUCTION

Margen Industrial Services / PBA International (SA) as the lead consultants for the Environmental Impact Assessment have commissioned Cave Klapwijk and Associates to undertake the visual assessment investigation for the construction of a 400 kV transmission turn-in line from the proposed Braamhoek-Venus Transmission Line to the proposed Braamhoek Substation near the De Beers Pass, Kwazulu-Natal.

2 BACKGROUND AND BRIEF

The project components will consist of the transmission lines, pylons and access roads.

This visual assessment is a specialist study to determine the visual effects of the proposed Braamhoek-Venus 400 kV Transmission Turn-in Line Project on the surrounding environment.

The purpose of this Specialist Study is to determine the impact of the proposed project on the visual and aesthetic character of the proposed alternative routes. The rationale for this Study is that the placement of transmission lines may fundamentally alter the landscape character and sense of place of the local environment. The primary objective of this Specialist Study is therefore to describe the potential impact of these structures on the visual character and sense of place of the area. This Specialist Study will have the following objectives:

- Determine the visual character of the areas along the proposed transmission line routes by evaluating environmental components such as topography, current land use activities, surrounding land use activities, etc.;

- Identify elements of particular visual quality that could be affected by the proposed developments;

- Describe and evaluate the specific visual impacts of the preferred 400 kV Transmission Line and associated infrastructure.

- Recommend mitigation measures to reduce the potential visual impacts generated by the proposed power line.

3 STUDY APPROACH

3.1 Method

In order to address the objectives of the study the following method has been used:

- A site visit to determine the setting, visual character and land uses of the areas was undertaken;

- Determine the setting, visual character and land use of the area surrounding the route, and the *Genius Loci* (sense of place);

- Discussions and meetings with the specialist consultant team and Client to identify specific aspects of the construction and development which would affect the visual quality of a setting;

- Define the extent of the affected visual environmental, the viewing distance and the critical views.

The visual impact assessment statements in this report are based on the expert opinion of the authors and attitudes that are generally accepted worldwide.

The assessment is based on the field trip and the agreed alternative routes as determined during a field inspection held on 12, 13 and 14 January 2005.

As this report is set at a scoping level with a limited budget no definitive surveys such as viewshed analysis and visual absorption capacity studies have been undertaken.

3.2 Limitations, Constraints and Assumptions

The following assumptions and limitations are applicable to this study:

- The basis for this assessment is that scenic wilderness areas form the core of eco-tourism due to the high positive aesthetic appeal;

- The assessment does not consider the ancillary project infrastructure and components such as roads, borrow pits, spoil dumps, etc. These components will be assessed in detail during the design phase should the project be implemented;

- The assessment is based on assumed demographic data. No detailed study was done to determine accurate data on potential viewers of the project components. If necessary these studies could be undertaken during the design phase of the project;

- The location and extent of the construction and labour campsites, as well as material lay-down areas will only be determined during the design and construction phases. These are, however, of a relatively temporary nature and can effectively be controlled through the Environmental Management Plan;

- Determining a visual resource in absolute terms is not achievable. Evaluating a landscape's visual quality is both complex and problematic. Various approaches have been developed but they all have one problem in common: unlike noise or air pollution, which can be measured in a relatively simple way, for the visual landscape mainly qualitative standards apply. Therefore subjectivity cannot be excluded in the assessment procedure (Lange 1994). Individually there is a great variation in the evaluation of the visual landscape based on different experiences, social level and cultural background. Exacerbating the situation is the inherent variability in natural features. Climate, season, atmospheric conditions, region, sub-region all affect the attributes that comprise the landscape. What is considered scenic to one person may not be to another (NLA, 1997).

Localised visual perceptions of the economically depressed communities of the population have not been tested as these may be influenced rather by the economic and job opportunities that will exist rather than the direct visual perception of the project.

If the study, however, determined that the negative visual impact is of such a magnitude and significance that it will seriously influence the decision on whether or not to build, it will then be necessary to test and determine the visual perceptions of neighbouring communities. Such a study is involved, costly and time consuming.

4 DESCRIPTION OF THE BASELINE CONDITIONS

4.1 Description of the Works

The proposed project comprises the following development components:

- Power line and Pylons

  Three sets of transmission lines are proposed for the Turn-in. The pylons that will support the 400 kV transmission lines will consist of two steel support structures supported by guy wires (Figure 1 Cross-rope Suspension Pylon). The transmission lines will be suspended between the supports. These 35 m tall pylons use far less steel in their structure than the commonly seen self-supporting pylons. The self-supporting pylons will only be used where the ground is unstable, where the line changes direction or where the terrain is too steep to accommodate the cross-rope suspension structure. The reduced steel quantity has the added benefit in that they are less visible and obtrusive within the landscape.

Self-supporting suspension pylons will be used where there is a change in direction greater than 3°, where space is limited or on steep slopes. These pylons contain considerably more steel than the cross-rope suspension pylons and are more visible in the landscape.

New designs of pylons are currently underway. These are expected to use less steel and hence be even less visible and obtrusive.

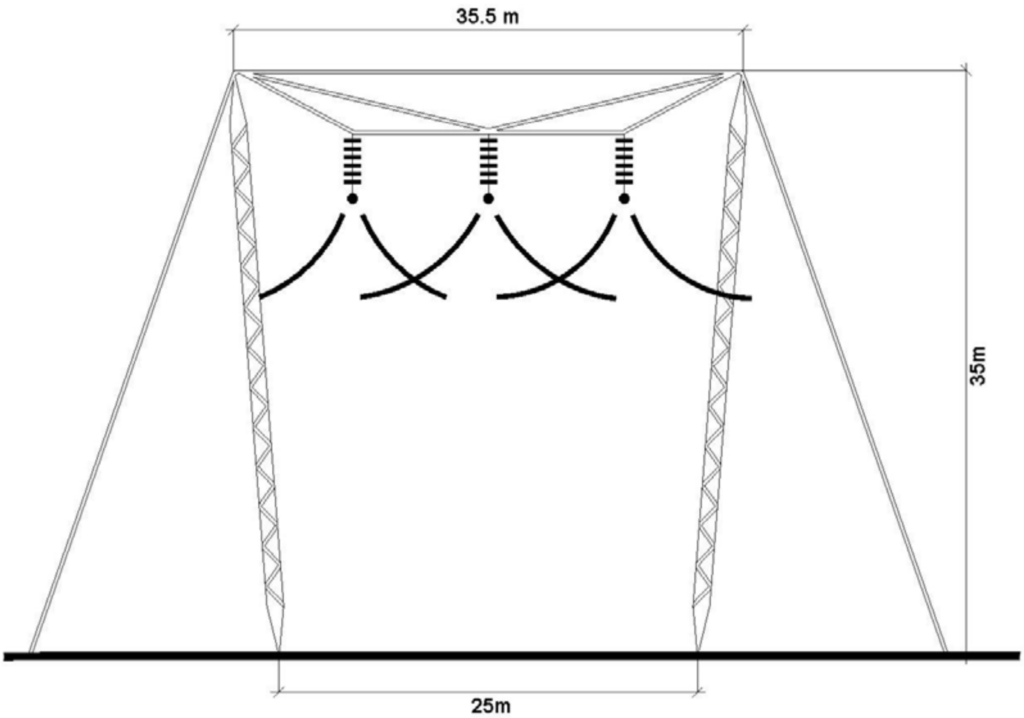

Figure 1: 400 kV Transmission Line Pylon

- Access Roads and Construction Camps

Access roads will be required to transport personnel to site and for maintenance purposes. In areas that are inaccessible materials are brought in by helicopter. During this period all gates are installed and the tower positions pegged.

Construction camps will need to be developed in strategic positions where they provide the optimum access to as much of the construction route as possible.

- Construction

  Large scraper equipment will be used to establish the access roads. Backactors are generally used to excavate for the foundations.

  Helicopters are used to deliver material and personnel to areas that cannot be accessed by road.

  Construction takes place in phases. The foundations of the towers are laid first, followed by the assembly of the towers on the ground, then the erection of the towers and finally the stringing of the conductors. These operations are not always continuous and each phase would involve a return to the site by the contractors.

  Once the construction is complete, this same representative will ensure that all restoration work has been completed satisfactorily. The landowner will be asked to sign a release from, providing written confirmation that rehabilitation was completed to his satisfaction.

  All areas that will be disturbed such as construction camps, access roads and the construction area around the pylons will be stripped of topsoil which is stockpiled for later use.

- Decommissioning

  Decommissioning of a major transmission line has yet to be undertaken in South Africa. It is assumed that the physical removal of the lines and pylons will be a reversal of the construction phase and that a rehabilitation programme of the land will need to be undertaken.

4.2 Description of the Natural Physical Elements

- Landform

  The landform consists of rolling and undulating hills and broad valleys of the Drakensberg foothills. This landform is located at relatively high altitudes that rise up to the high escarpment-type mountains of the Drakensberg. Soils are shallow, highly erodable and often rocky.

- Vegetation

  The vegetation is classified as North-eastern Mountain Grassland by Low and Rebelo (1996) and Highland Sourveld and Dohne Sourveld by Acocks (1988). The vegetation is predominantly grassveld with some forest relics in the steeper gorges and dongas.

- Critical Views and Visibility

  The surrounding mountain slopes and the De Beers Pass can be considered as major viewing points. Any physical change to the surface of the slopes would be highly visible. Views are extensive especially when viewed from the higher elevations. Views of the Turn-in Lines would be intermittent as the lines and pylons would be screened from views from time to time where they dip down behind ridges into valleys.

  The route will be generally viewed, due to its lower position in the escarpment landscape, with a backdrop. This will assist in reducing the opportunity to view the pylons in silhouette.

- Genius Loci

  The spirit of place is created by the open broad valleys and rising dramatic Drakensberg backdrop which is reinforced by the lack of visible human intrusion.

- Visual Quality and Character

  The visual quality of this higher lying grassland area is considered high. This is due to the lack of human intrusion and the very diverse topography resulting in a high visual interest.

  These visual elements have created a quality that is vivid and one that unifies the visual landscape.

- Land Use

  This section is located within a landscape utilised predominantly for stock grazing and ecotourism. Few other land uses occur. This area is sparsely populated with few homesteads scattered within the area.

- The Scale of the Landscape

  The wide and extensive horizontal scale is reinforced by the vertical definition of the massive Drakensberg Mountains in the north. The horizontal scale of the landscape continues to the distant horizon to the east, south and west.

5 IDENTIFICATION OF RISK SOURCES

Various risk sources for the visual impact have been identified for the construction and operation phases and can be classified as both negative and positive.

5.1 Construction Phase

It is anticipated that the major risk source during construction would be:

5.1.1 Negative Risk Sources

- Excessive cleaning and stripping of topsoil for site offices, servitudes and temporary access road;

- The relatively random and disorganised lay down of building materials, vehicles and offices;

- Cut and fill slopes of access roads become highly visible if not re-vegetated and shaped to blend in with the existing topography;

- The extent and intensity of the security and construction lighting at night;

- Dust from construction activities;

- Open and unrehabilitated landscape scarring leading to erosion and the formation of dongas;

- Uncontrolled exploitation of borrow pits and quarries without compliance to environmental controls related to aesthetic rehabilitation;

- High seed bank of alien species such as Black Wattle (Acacia mearnsii) in the topsoil can lead to the uncontrolled spread of this exotic invader plant species along the edges of the transmission line servitude. This could create a treed edge that is visually contrary to the low grasslands; and

- Location and layout of construction workers camp if located in proximity of works area.

5.1.2 Positive Risk Sources

- Image of construction activity could lead to a perceived view of progress and benefit to the community.

5.2 Operational Phase

5.2.1 Negative Risk Sources

- Site engineering such as cuts and fills, could remain aesthetically incompatible with surrounding landscape. Edges may not blend in with the landscape or cut slopes may be too steep to be adequately re-vegetated;

- Areas and / or specific sites of high aesthetic value may be disfigured by the introduction of project components such as pylons and power lines within the viewshed resulting in a permanent change to the existing visual quality of visually sensitive areas; and

- Need to keep servitudes clear of vegetation, especially in commercial plantation areas, will result in visual scarring.

5.2.2 Positive Risk Sources

- The Braamhoek-Venus Transmission Turn-In Line could be the visual affirmation of progress and prosperity for the region.

6 IMPACT DESCRIPTION AND ASSESSMENT

6.1 The Visual Analysis

This section describes the aspects which have been considered in order to determine the intensity of the visual impact on the area. The criteria includes the area from which the project can be seen (the viewshed), the viewing distance, the capacity of the landscape to visually absorb structures and forms placed upon it (the visual absorption capacity), and the appearance of the project from important or critical viewpoints.

The focus of this study is specifically on the main project components such as the power lines, pylons and access roads and not on the ancillary infrastructure.

6.1.1 The Viewshed

The viewshed is a topographically defined area which includes all possible observation sites from which the project will be visible. The boundary of the viewshed, which connects high points in the landscape, is the boundary of possible visual impact (Alonso, et al, 1986). Local variations in topography and man-made structures would cause local obstruction of views. The viewshed for the route based on the field work extends for the main part beyond a distance of five kilometres.

6.1.2 The Viewing Distance

The visual impact of an object in the landscape diminishes at an exponential rate as the distance between the observer and the object increases (Hull and Bishop, 1988).

Thus, the visual impact at 1000 metres would be approximately a quarter of the impact as viewed from 500 metres. Consequently, at 2000 metres, it would be one sixteenth of the impact at 500 metres. The view of the project components would appear so small from a distance of 5000 metres or more that the visual impact at this distance is insignificant. On the other hand the visual impact of the project components from a distance of 500 metres or less would be at its maximum.

6.1.3 Critical Views

Due to the linear nature of the proposed project it is not possible to provide an adequate descriptive analysis of visibility by plotting sections to determine the line of sight from the observer towards the project components to indicate the extent to which the elements are not screened by the intervening landforms or structures.

6.1.4 The Visual Absorption Capacity

The Visual Absorption Capacity (VAC) is a measure of the landscape's ability to visually accept /accommodate or embrace a development. Areas which have a high visual absorption capacity are able to easily accept objects so that their visual impact is less noticeable. Conversely areas with low visual absorption capacity will suffer a higher visual impact from structures imposed on them. In this case the VAC has been defined as a function of three factors.

Due to budgetary constraints a full VAC determination was not possible. It was, therefore, prudent to determine the VAC based on the author's field experience.

- Slope
- Visual pattern (landscape texture) with regard to vegetation and structures
- Vegetation height

It is therefore concluded that the VAC of the Turn-in routes are regarded as low.

6.2 The Visual Impact

The visual impact of the project and associated structures in the landscape is a function of many factors (Table 2). Some of the factors are measurable such as viewing distance, the visual absorption capacity of the surrounding landscape and the scale of the surrounding environment and landform. Other factors are subjective viewpoints, which are extremely difficult to consistently categorise the opinion of the community. Studies in the U.S.A. have shown that professionals and environmental groups view modification of the natural landscape more negatively than other groups (McCool, et al 1986).

The critical appraisal of the visual impact of the project and associated works on the landscape is presented from the viewpoint of the informed citizen and professional. To the community surrounding the proposed project, it may well be that they do not, or will not, object to the visual intrusion in their immediate environment. It may be that they welcome it since they could perceive it as a symbol of prosperity and personal advancement opportunity.

6.2.1 The View Distance

The visual impact of the project and associated structures will reduce exponentially as the viewer moves further away from the proposed structures (Hull and Bishop, 1988).

The pylons will exert a high visual impact within the 500 m and 1 000 m zone.

The viewshed analysis, based on the field experience, has indicated that the proposed transmission line will be visible in certain areas beyond the 5 000 m zone especially when viewed from the higher lying areas such as the De Beers Pass.

The servitude, if cleared of vegetation, and the construction access road will be visible, especially where the vegetation is diverse, for an extended distance beyond the 5 000 m zone, if viewed from an elevated position. This scar will be visible until rehabilitation is complete. Fortunately much of the vegetation is grassland.

6.2.2 Critical Viewpoints

Due to the linear nature of the proposed route specific viewpoints for the transmission line were not selected. However, areas with high volumes of traffic, areas with tourism potential and undeveloped rural areas with high scenic value were regarded as critical view zones against which the visual impact would be evaluated.

Critical views were determined during the field trip and from the 1:50 000 topographical maps. Critical views considered were those views from where the majority of people could see the lines such as the De Beers Pass.

The impact of the transmission lines is tempered somewhat by the fact that the route is visually modified by existing transmissions lines within the servitude and major roads.

6.2.3 Extent and Spatial Scale

The visual impact for both the construction and operation phases will occur on a local to regional scale due to the considerable length of servitude adjacent to a national road and the view that extends to the edge of the viewshed or beyond a distance of five kilometres.

The visual impact extends beyond the 5 000 m zone for most of the route.

The general lack of effective screening in the form of existing landform and trees from critical viewpoints, does not fully assist in limiting the extent of the impact. Readjusting the alignment to the valleys, avoiding alignment along ridges and crests, rather follow necks and gaps through higher lying areas will help mitigate the impacts.

6.2.4 Duration

The duration of the impact during construction will be short term due to the relatively short construction period and the rehabilitation of the disturbed areas.

The duration of the impact during the operational phase will be long term, in other words greater than 15 years, with the impact terminating only after a possible decommissioning of the transmission line.

6.2.5 Intensity or Severity

The intensity of the visual impact during construction will be high within the 500 m zone wherever roads are encountered either alongside or crossing the route due to the fact that the majority of viewers will be exposed to the impacts within this zone.

During the operational phase the visual impact of the transmission line within the 500 m zone will be medium as the construction vehicles, camps and stockpiles will be removed and surfaces to disturbed areas will be rehabilitated and the line will be tempered by the existing line adjacent to it.

It is not possible to screen the transmission line from the majority of the viewers, namely the road users.

Beyond the 1 500 m zone the intensity of the impact becomes low due to the flat to rolling topography. The severity diminishes significantly from the 2 500 m zone to the 5 000 m zone where the impact can be regarded as insignificant due to the flat topography and extended viewing distance.

The visual impact intensity remains medium for both the construction and operational phases.

6.2.6 The Probability of Occurrence

The construction and operational impact described is probable but can be ameliorated to a certain extent by positioning the route alignment lower down in the valleys rather than along the ridge lines.

6.2.7 Magnitude and Significance

It is considered that the significance of the impact of the construction phase is medium to high due to the fact that it is of a short, but intense, duration. The extent will be the full length of the route.

The significance of the operational phase will remain high even though the route will be rehabilitated and that it will become relatively less obtrusive in the landscape where suitably aligned except where the route breaks the skyline or crosses the De Beers Pass. It must be mentioned that a highway (N3 De Beers Pass) is planned to come through this area which will have a significant impact on the visual environment.

6.2.8 Status of the Impact

The impact status of the transmission line is considered medium negative for the construction and operational phases.

6.2.9 Degree of Confidence in Predictions

The degree of confidence that the visual impacts will occur is high.

6.2.10 Legislation

There are no specific legal requirements in the NEMA Act specific to the infringement of the visual attributes of the region. The National Heritage Resources Act No 25, 1999 requires that cultural sites and landscapes are protected against physical and aesthetic change.

Table 1: Impacts on the Visual Environment

Table 1.1	**Braamhoek-Venus 400kV Transmission Line Turn-in**	
Theme	Aesthetics	
Nature of impact	***Visual Impacts***	
Stage	**Construction and Decommission**	**Operation**
Extent of impact	Regional	Regional
Duration of impact	Short term	Long term
Intensity or severity	High	Medium
Probability of occurrence	Highly probable	Highly probable
Status of the impact	Negative	Negative
Legal Requirements	National Heritage Resources Act No 25, 1999	National Heritage Resources Act No 25, 1999
Accumulative Impact	Low	Medium
Level of significance	**Medium to high**	**Medium to high**
Mitigation measures	Re-align to avoid ridges and peaks. Place route on footslopes so that topography can form a backdrop to avoid silhouette or breaking the skyline. Limit extent of landscape disturbance. Align route through areas of great visual and topographical diversity.	None
Level of significance after mitigation	**Potentially medium to high**	**Potentially medium to high**
EMP requirements	Yes – environmental rehabilitation	None
Discussion: The visual impact of the transmission line is medium to high as it is within a landscape with a high scenic value and one that does not lend itself to natural screening or blending. The impact is compounded by the fact that there will be three lines running parallel to each other. It could be said that the unspoilt visual environment would be altered significantly anyway by the proposed N3 De Beers Pass Highway. The VAC of the area is considered low and therefore that landscape has difficulty in visually absorbing the visual change.		

7 RECOMMENDED GENERAL MITIGATION / MANAGEMENT MEASURES

7.1 Route alignment

Align the route through the lower lying landforms and off the ridge lines. This is to maximise the backdrop screening effect of the topography that will reduce presenting the transmission line in silhouette.

Plan the route so that the route crosses existing main routes is as close to 90° as possible as this will reduce the time that the line is in the viewshed of the passing motorist / viewer.

Align the route as south as possible to avoid most of the visitor access roads, this avoiding the opportunity to view the transmission lines in silhouette. However, if the alignment remains within the existing servitude this mitigation proposal is without merit.

Avoid aligning the route along the top of ridges. Should it be necessary to cross a ridge it is preferable to cross directly over rather than at an angle. This will limit the extent that the transmission line will be visible. Attempt to cross over at a depression such as a neck or saddle in the ridge. This will limit the visual effect of any pylon standing proud above the ridgeline.

Align the route, where possible, away from any main road where the two are parallel in relative pristine areas to where distance will mitigate the impact or to where the topography will form a screening backdrop.

7.2 Earthworks and Landscaping

The visual impact during construction will be moderately significant and little can be done about reducing the effect since the works cannot be screened.

The mitigation measures for the transmission line during operation will need to focus on effective rehabilitation of the construction corridor and work sites. These specifications must be explicit and detailed and included in the contract documentation (Environmental Management Plan) so that the tasks can be costed and monitored for compliance and result.

The galvanising of the pylon should be allowed to weather to a matt grey finish rather than be painted silver, as is often the case. This allows the structures to blend in with the existing environmental colours more readily than the silver which is highly reflective especially early morning and late afternoon. Should it be necessary to paint, it is recommended that a neutral matt finish be used.

Sculpturing or shaping the cut and fill slopes of access roads to angles and forms that are reflected in the adjacent landscape can reduce the visual impact. By blending the edges with the existing landforms the visual impression made, is that the project component has followed a natural route provided by the landscape, rather than been ‘engineered’ through the landscape.

For access / service roads and servitudes avoid straight edges and corridors. These lines should complement the landscape through which they pass (Litton, 1980).

Special attention should be focussed on the width of servitude actually required for the construction and operational phases. There is a tendency to make these servitudes wider than necessary and access roads built to a higher engineering specification than required for a single lane 4x4 maintenance vehicle track.

Vegetation stripping should be done in a manner where the edges are organic (non-geometric) or curvilinear rather than straight or sharp edged as viewers tend to form positive visual impressions such as “gentleness” and “delicacy” and tend to object to negative visual impressions such as “rough”, “rugged” or “violent” (Ribe, 1989). When disturbances in the landscape are viewed from a distance, those with irregular lines, rather than straight lines appear to blend in with the natural configuration and lines in the landscape (Schaefer, 1967).

It is essential that all cut and fill slopes, as well as all areas disturbed by construction activity, are suitably topsoiled and vegetated as soon as is possible after final shaping. The progressive rehabilitation measures will allow the maximum growth period before the completion of the project.

All areas affected by the construction works will need to be rehabilitated and re-vegetated. This includes the areas beyond the works area such as temporary access roads, construction campsites, workers campsites, borrow pits, laydown areas, etc.

The special conditions of contract must include for the stripping and stockpiling of topsoil from the construction areas for later re-use. Topsoil is considered to be at leas the top 300 mm of the natural soil surface and includes grass, roots and organic matter. The areas to be cleared of topsoil should be all areas that will be covered by structures, roads and construction camps. The presence of degraded and disused roads and areas left over after development that are not rehabilitated, could present a high perceptual visual impact. These areas should be topsoiled and re-vegetated.

All existing large trees that fall outside the earthworks area must be retained. These will assist in softening the forms of the structures and obscure views to them.

Dust generated by construction activity and the haulage of materials and equipment will need to be suppressed by regular wetting.

The importance of suppressing the visual aspects of dust cannot be over-stressed since the visibility will generate the impression of a polluting industry.

8 DISCUSSION

This study evaluated the visual impact of the Braamhoek-Venus Transmission Line Turn-in with a view to assessing its severity based on the author’s experience, expert opinion and accepted techniques.

8.1 Evaluation

Table 2, Visual Assessment Criteria Ratings, rates each criteria from high, medium to low according to the specific characteristics of that criteria. Table 3 Site Evaluation, lists for each criteria the visual criteria rating and the visual impact of the component on these criteria,

The Eskom Braamhoek-Venus Transmission Line Turn-in will exert a negative influence on the visual environment. This is largely due to:

- high visibility of transmission lines from elevated positions along the De Beers Pass;
- high visibility of construction and operation activity within large areas of uniform visual pattern from scenic areas such as De Beers Pass and surrounding farms;
- the low visual absorption capacity of the setting which is attributable to:
  - relatively undulating topography;
  - the low vegetation height (less than one metre); and
  - the lack of visual diversity.
- the height of the pylons could be dominant in the landscape if mitigation is not built into the planning process.

The significance of the visual impact during construction is regarded as medium to high due to the construction activities. This is, however, of a short duration until the rehabilitation is complete.

The overall significance of the visual impact of the transmission lines during operation is regarded as remaining medium to high negative rather than moderate notwithstanding the implementation of the mitigation measures especially the route selection. Although it is not possible to screen the transmission lines, the placement of the route where it is not readily seen in silhouette, will assist in minimising the visual impact. Furthermore the lines are often viewed from extended distances which diminish considerably the visual intrusion to where it becomes insignificant at distances beyond five kilometres.

Table 2: Visual Assessment Criteria Ratings

CRITERIA	HIGH	MEDIUM	LOW
1. Visibility	Very visible from many places beyond 1000 metre zone	Visible from within the 1000 metre zone but partially obscured by intervening objects.	Only partly visible within the 1000 metre zone and beyond due to screening by intervening objects.
2. Genius Loci	A particularly definite place with an almost tangible dominant ambience or theme.	A place which projects a loosely defined theme or ambience.	A place having little or no ambience with which it can be associated.
3. Visual Quality	A very attractive setting with great variation and interest but no clutter.	A setting which has some aesthetic and visual merit.	A setting which has little aesthetic value.
4. Visible Social Structures	Housing and/or other structures as a dominant visual element.	Housing and/or other structures as a partial visual element.	Housing and/or other structures as a minor visual element.
5. Surrounding Landscape Compatibility	Cannot accommodate proposed development without it appearing totally out of place visually.	Can accommodate the proposed development without appearing totally out of place.	Ideally suits or matches the proposed development.
6. Character	The site or surrounding area exhibits a definite character.	The site or surrounding area exhibits some character.	The site or surrounding area exhibits little or no character.
7. Scale	A landscape which has horizontal and vertical elements in high contrast to the human scale.	A landscape with some horizontal and vertical elements in some contrast to the	Where vertical variation is limited and most elements are related to the human and

CRITERIA	HIGH	MEDIUM	LOW
		human scale.	horizontal scale.
8. Visual Absorption Capacity (VAC)	The ability of the landscape to easily accept visually a particular development because of its diverse landform, vegetation and texture.	The ability of the landscape to less easily accepts visually a particular development because of a less diverse landform, texture and vegetation.	The ability of the landscape not to visually accept a proposed development because of a uniform texture, flat slope and limited vegetation cover.
9. View Distance	If uninterrupted view distances to the site are > than 5 km.	If uninterrupted view distances are < 5 km but > 1 km.	If uninterrupted view distances are >500 m and < 1000 m.
10. Critical Views	Views of the project are to be seen by many people passing on main roads and from prominent areas i.e. towns / urban areas / settlements, game farms, guest farms / lodges, hiking routes.	Some views of the project from surrounding towns / urban areas / settlements, main roads and game farms / lodges.	Limited views to the project from towns / urban areas / settlements, main roads and game farms / lodges.

Table 3: Site Evaluation: Western Route

CHARACTERISTICS	VISUAL CRITERIA RATING	VISUAL IMPACT
1. Visibility	High	High
2. Genius Loci	High	High
3. Visual quality	High	High
4. Social structures	Low	Low
5. Surrounding landscape compatibility	High	Medium
6. Character	High	High
7. Scale	High	Medium
8. VAC	Low	Medium
9. View Distance	High	Medium
10. Critical Views	Medium	High

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