

IN TOUCH WITH THE AFRICAN LANDSCAPE

SEATON THOMSON & ASSOCIATES



PROPOSED MERENSKY – FOSKOR POWER LINE

ECO-TOURISM SURVEY

PREPARED FOR NSOVO ENVIRONMENTAL CONSULTING

Phase 2 - Final report

Prepared by The Sustainable Tourism Research Institute of Southern Africa cc



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TABLE OF CONTENTS

1.	PREAMBLE.....	3
2.	THE STUDY AREA	4
3.	INTRODUCTION.....	4
4.	FIELD VISITS AND INTERVIEWS	4
4.1	Balule Nature Reserve – Tuesday 17 July 2012.	4
4.1.1	Recommendations from the Balule Meeting	9
4.2	Blyde Olifants Conservancy – Telephone interviews on 18 and 19 July 2012.....	10
4.3	Makalali and Karongwe Private Nature Reserves – Thursday 19 July 2012	10
4.4	Kruger to Canyons (K2C) Biosphere Reserve – Wednesday 18 July 2012	11
4.5	Maruleng Local Municipality – Wednesday 18 July 2012	13
4.6	Sepeke Eco-tourism Centre – Wednesday 18 July 2012	14
4.7	Routes west of the Drakensberg Escarpment.....	14
5.	THE STATE OF THE TOURISM INDUSTRY AT THE PRESENT TIME	15
5.1	General Tourism Situation in South Africa	18
5.1.1	International Arrivals.....	18
5.1.2	Domestic Tourism.....	18
6.	IMPACT ASSESSMENT.....	19
6.1	Determination of Significance	19
6.2	Impact tables	21
6.3	Conclusions from impact assessment	26
6.4	Key Concerns arising from impact assessment	26
6.5	Assessment of the “no-go alternative”	27
7.	CONCLUDING COMMENTS	27
8.	KEY RECOMMENDATIONS.....	29
9.	APPENDIX A.....	31
10.	APPENDIX B	32

Acronyms used in this report

APNR	Association of Private nature Reserves
OWNR	Olifants West Nature Reserve (Part of the Balule Nature Reserve)
K2C	Kruger to Canyons Biosphere Reserve
BOC	Blyde Olifants Conservancy
IAPs	Interested and Affected Parties
PP	Public Participation
EIA	Environmental Impact Assessment

1. PREAMBLE

At various meetings held with stakeholders and other interested and affected parties, there was regular reference to the question, “Why is there a need for ESKOM to build another 275 KV power line feeding into Phalaborwa?” This included the question, **“What is the expected lifespan of the mine at Phalaborwa?”**

It was noted that this mine is heavily dependent on exports to China and the rate of growth of the Chinese economy has declined in recent months. Palabora Mining Company had also reported a 12% drop in profits during the last six months and this was equivalent to R 500 million. Would these factors influence the need to construct a new power line, or was this need for power linked to the fact that massive refrigeration units are now being installed to ensure that mining can take place at deeper levels?

The following extracts from international press agencies are relevant:

1] *Slowing Chinese growth could create a global surplus of copper and iron ore supplies in 2013, hurting mining giants that may also find future demand for raw materials expanding more slowly than the economy as China reduces infrastructure spending.*

China is the world's second biggest economy, using the most copper, aluminium, iron ore, steel and coal and the second-largest consumer of oil. Chinese demand has fuelled commodity market rallies for a decade and created a bonanza for many of the countries and companies that supply it. But after almost a decade of growing at about 10% a year, the economy is slowing, reined in by softening domestic demand and the financial and economic woes of its top two trading partners, the European Union and the US. Gauging the extent of the slowdown is crucial for the miners and producers whose expansion plans depend on China soaking up additional supplies.

For every percentage point China's economic growth rate slows, the value of its industrial commodity demand falls by about \$10-billion, according to Reuters calculations based on GDP and consumption growth over the last six years.

China's slowing consumption will also throw copper markets into surplus next year, a Reuters polls showed. The mean estimate from analysts polled was for a tiny surplus of 9 000 t, but that could widen further if Chinese growth disappoints this year. China consumes around 7.6-million tons of refined copper annually, and every percentage point less growth equates to around 64 000 t less demand

2] *The Palabora Mining Company -- one of South Africa's major producers of refined copper -- has awarded a chiller contract to Johnson Controls, the global leader in delivering energy efficiency. The contract calls for supplying YORK chiller units to cool the extended underground copper mining operation to help keep the rock temperature at workable levels and increase the life of the mine to 2030.*

If the demand for the products from Phalaborwa does decrease, it is feasible that parts of the mining operation may be closed as has been the case with a number of platinum mines. This would also affect the need for additional power to Phalaborwa.

2. THE STUDY AREA

Two maps are attached as Appendix A and B to this report.

Appendix A indicates the four possible power line corridors and also shows the boundaries of the various conservation and protected areas that would be crossed by these four corridors.

Appendix B shows the borders of the Kruger to Canyons Biosphere Reserve with the Core, Buffer and Transition zones marked in different colours.

3. INTRODUCTION

The Phase 1 Report indicated the results of the desk research that was based on a full study of the Scoping Report, minutes of PP meetings and letters and other communications between some of the affected landowners and Nsovo Environmental Consulting.

The main conclusion indicated that ‘there is widespread concern regarding the siting of a new power line that will run through conservation and officially protected areas.’

The conclusion also stated that ‘opposition from the private nature and game reserves is unlikely to simply fade away, and ESKOM could expect further objections and possible legal actions to prevent the proposed power line being built.’

Phase 2 has focussed on face-to-face discussions and telephonic interviews with a variety of affected landowners and other interested and affected parties. This consultant was able to travel to several parts of the eastern lowveld of Limpopo to study the siting of the proposed routes and to secure first hand information from some of the most prominent persons and organizations that would be affected.

December 2016 note: This report does not require detailed updates, as the proposed amendments will not affect the outcomes or recommendations of this report. We note that the original proposed Route 1 (green route) has indeed been re-located slightly to the north so that it runs immediately alongside the R 530 linking Phalaborwa to Mica and then follows the R 40 and the R 526 all the way to The Oaks, as we had suggested in our July 2012 report. Due to the fact that Route 1 has slightly changed to the suggested alignment along the road, we are of the opinion that the amendment should be supported, as eco-tourism impacts have been largely mitigated.

4. FIELD VISITS AND INTERVIEWS

4.1 Balule Nature Reserve – Tuesday 17 July 2012.

Those present included: K. Biesmeyer (Owner / General Manager: Naledi Game Lodge); Craig Ferguson (Warden: Balule Nature Reserve); Karin Kampinga (Representative: Olifants River Game Reserve);

Craig Spencer (Warden: Olifants West Nature Reserve – OOWNR) Jürgen Fechter (Owner: Cambridge Estate plots 2,3 & 4 – includes Enkoveni and Naledi Lodges).

The following information was tabled by the Warden of Olifants River West Nature Reserve to indicate the primary and secondary objectives of this particular Nature Reserve. However, it is noted that these objectives and values apply to all the private Nature Reserves that are members of the APNR (Association of Private Nature Reserves.)

The primary objective of the Private Nature Reserves that constitute the APNR, and the APNR itself, is to provide for ecologically and aesthetically sustainable (non-consumptive and consumptive) use of the area for its owners, based on wildlife focused recreation, tourism and hunting.

There are several secondary objectives:

- To manage the ecosystem, landscapes and species populations so that a meaningful contribution will be made towards their conservation;
- To cost-effectively restore and conserve the APNR's landscapes, ecosystems and biodiversity in a productive and aesthetic state that will achieve the primary objective and be considered to be sustainable within the climatic and geological constraints of the area;
- To make investment opportunities available that are compatible with the primary objective and involve the participation of members of the local community wherever appropriate;
- Where possible, to provide direct employment to local communities;
- Create opportunities for members of previously disadvantaged communities to acquire a greater involvement in the tourism industry in line with the tourism charter;
- To manage the reserve so that, without compromising the ecological and aesthetic objectives, the economic viability and investment value of the properties are maintained;
- To enlarge the APNR's sphere of influence by collaborating with other adjoining properties where the objectives and management are similar to those of the APNR.
- In accomplishing these objectives, 'Best Practices' will be implemented in natural resource management, and in forming constructive and beneficial relationships with the neighbouring communities and conservation bodies.

Therefore, within the OOWNR, sound ecological principles are applied to management within this region whilst trying to accommodate the various land-use practices mentioned later in this chapter.

Values of the Olifants West Nature Reserve:

The values that the OOWNR contribute to the region can be broadly summarized as follows:

1. **Ecological values:** Assisting national and regional authorities in meeting their objectives and conservation targets. Providing additional range for mega-herbivores and other far-ranging species such as wild dogs.
2. **Providing a buffer for the Kruger National Park:** Read in conjunction with Government Gazette, 5 March 2010: NOTICE 170 OF 2010 "Draft policy on Buffer Zones for National Parks". OOWNR provides opportunities for additional wildlife based land-use practices to be accommodated outside of the core area (Kruger National Park) and therefore provides an essential buffer for these activities. Many of these activities, especially the consumptive user-groups are not conducive to the management of

the core area.

3. **The potential security function in relation to poaching activities of high-value species (such as the rhino)** Olifants West can act as a shield for the Greater Kruger Park as the OOWNR protects and manages a substantial portion of the western boundary of the Greater Kruger National Park.
4. **Social and Economic values:** The OOWNR is in a prime position to contribute to the social and economic development of the region by providing skilled and unskilled employment opportunities within the adjacent local communities as the wildlife industry develops (commercial lodges, etc.).
5. **Providing and protecting quality of lives:** OOWNR provides property owners with a unique opportunity to enrich and add value to their lives in a clean and healthy African savannah environment
6. **Research facilitation:** There are existing research initiatives within the APNR and Balule. OOWNR contributes to these initiatives and supports legitimate research by providing opportunities to researchers and tertiary education institutes.

Also of importance is the following quote from the SA Government's Draft Policy on Buffer Zones around National Parks. These would include areas such as Balule, Klaserie, Umbabat, Timbavati and the Sabie Sand private Nature Reserves:

A buffer zone is an area surrounding a national park which has complementary legal and management restrictions placed on its use and development, aimed at providing an extra layer of protection to the integrity of the national park. National park buffer zones, defined in the park management plans, will be considered special areas in terms of section 24(2)(b) of the National Environmental Management Act, 1998.

The issue of 'Buffer Zones' is also discussed in the section dealing with the Kruger to Canyons Biosphere Reserve and it is considered to have an important bearing on any man-made developments that are located within protected areas.

Other issues discussed are summarised as follows:

- Various impacts of the proposed power line on the natural environment were discussed. These included the following:
 - The existing power line has already resulted in a 50 metre cleared strip and increasing this by another 50 metres would be very damaging to the natural plant communities and may result in the removal of rare, endangered or especially attractive trees and other plants;
 - **Since the original power line was built, the Balule Nature Reserve has been developed into a significant eco-tourism destination player and the removal of the boundary fence between Kruger Park and the various lands forming part of Balule in 2006, has allowed this land to become part of the Greater Kruger Park with a considerably enhanced conservation value;**
 - Securing an additional servitude through this officially protected area may not be an easy process in view of the enhanced conservation status now afforded to private nature reserves and other areas indicated by the Biosphere Reserve Guidelines as 'buffer' zones;

- It was agreed by all the representatives of the various nature reserves that, during the construction phase, it would not be possible for the work crews to stay overnight within the reserves. This would probably necessitate additional traffic transporting the workers between their camps and their work sites and would negatively impact on the peace and quiet of the area, one of the most important experiences sought by visitors and residents alike;
- It was also mentioned that any construction work within earshot of lodges and game viewing roads would not be permitted between 0600 and 0900 and again after 1500 as these were the prime times for game drive and bush walks;
- Rhino have recently been introduced into the Balule Nature Reserve and there are several rhino protection and anti-poaching units being funded by the private sector. There is huge concern that the presence of construction workers within this 'Big 5' area will not only require armed protection for the workers, but may also facilitate information regarding the location of rhinos being sent to 'The Syndicate' that is apparently willing to pay substantial rewards for such information;
- The process of tracking and protecting the rhino includes the use of radio communication devices that do not work well under or near the power lines. Increasing the width of the power line path would increase this problem;
- In addition, it is understood that poachers use the power lines as a guide for their nocturnal activities and any increase in poaching will almost certainly create new threats to the safety and security of residents and tourists;
- As this line would pass immediately adjacent to a new lodge, where an amount of R 60 million has recently been invested, the visual and noise impacts for guests will be unacceptable. Note: This is where the line would cross the Olifants River. This is also a sensitive bird habitat because the Pel's Fishing Owl nests here;
- It is of interest to note that several wildlife species spend the night on the cleared strip beneath the power line because this is a safer area for them to rest and sleep when predators are present. Although the impacts have never been measured, it is reasonable to assume that there may be some adverse effects on these animals in the same way that humans are prevented from living under power lines because of harmful electric and magnetic fields/ 'radiation';
- A further impact on the natural environment is the fact that these herds that sleep under the power lines start their grazing and browsing as they move away from the power line in the morning. This is causing some of the natural vegetation types to come under strain because the plants do not have time to recover from the heavy cropping that is artificially induced;
- A new power line will invariably require that new tracks will need to be constructed for inspection and maintenance purposes. Some of the existing tracks put in by ESKOM when the first power line was built have deteriorated badly as a result of poor maintenance and heavy rains etc. It would now seem to be the responsibility of the private sector operators to maintain these tracks in order to minimise future erosion problems;
- In South Africa the percentage of the total land area devoted to conservation is just 6,9%. This is well below the optimum that has been recommended by the World Conservation Union of 10%, and the South African Government is making strenuous efforts

to increase the local percentage mainly through the 'incorporation' of private conservation areas that neighbour National Parks or other designated protected areas.

- As far as the aesthetic and economic impacts are concerned, the following points were raised:
 - An increasing number of visitors from overseas, especially from Europe, comment unfavourably on the existing power lines and ask why these structures are allowed in a protected area. Many have noted that this type of development is simply not allowed in most European countries, and lines are either put underground or routed well away from the prime natural and wildlife habitats. In the past there has been a feeling that the sensibilities of many modern people may have become blunted and have perhaps become inured to man-made structures in rural landscapes. It has also been a belief that whilst man-made structures and activities in natural environments clearly offend certain sections of the travelling public, they seem to be quite acceptable to others. However, times are changing and the attitude of most modern travellers towards any action that downgrades the quality of the natural environment is now very much more sympathetic. There is a growing body of opinion that supports the urgent need to protect what is left of the ever-shrinking natural habitats and there is no doubt that the modern tourist is far more sensitive to any man-made impacts on unspoilt countryside. This is mentioned again in the section dealing with trends and the altered behaviour patterns of the 'new' tourist;
 - It is worthy of note that some of the game lodge operators within twenty or thirty kms of Phalaborwa have made representations to the mining authorities for some action to be taken to minimise the effects of the lights that can be seen for great distances at night. This is another indication of the increasing concern by eco-tourists for wild destinations to be free from as many man-made impacts as possible;
 - It has not been possible to measure the negative economic impact on the eco-tourism sector as a direct result of increasing the number of power lines. However, there is a strong feeling that Balule (and other nature reserves such as the Blyde Olifants Conservancy, Makalali, Selati and Karongwe Nature Reserves) could attract an unfavourable image of 'being full of power lines'. It is not beyond the realms of possibility that unscrupulous competitors could spread this type of message amongst the travel trade thereby causing irreparable harm to the reputation and the income streams of those reserves affected by new power line construction;
 - The value of land within the private nature and game reserves has grown by 600% since September 1993 and the value of the game within the Olifants West Nature Reserve alone has increased from R 7 million to R 40 million over the same period. **This growth has accelerated since these areas became contracted as part of a binding agreement between the Association of Private Nature Reserves and Kruger Park.** The opinion was expressed that the value of all land will decrease should the area lose more of that intrinsic 'sense of place' that makes it such a highly desirable tourist destination. This will almost certainly affect the land used for eco-tourism, controlled hunting and residential development;
 - Within the Olifants West Nature Reserve there are 14 commercial lodges offering a total of 270 bed-nights. At an average rate of R 2 000 per person per bednight, this gives a potential income per night of R 540 000. Over a period of a year this would be just over R 197 million. At a realistic occupancy rate of 45%, the present earning power of just the one Nature Reserve is R 88 695 000 per annum;

- It was advised that ESKOM does not accept liability for any injury that may be caused to guests as a result of the presence of power lines and this risk is borne by the private sector operators. Should there be a doubling of the power line through this area it would place an additional financial and legal burden on the lodge operators to obtain increased insurance cover for their guests;
- In theory, there is little potential to create additional commercial lodges because the number of beds presently available within the Olifants West Nature Reserve, for example, is 184 compared to the 'allowable' number of 174. However, the earning power of the existing lodges is destined to rise in direct proportion to their scarcity value and to the fact that the 'new' tourists are increasingly seeking the special nature and wildlife experiences offered by destinations such as the Limpopo lowveld.
- Comments were made regarding the manner in which the public participation process was handled. Examples are as follows:
 - Those present all commented on the fact that press advertisements were apparently placed in Die Beeld, Sowetan, Letaba Herald and the Mopani Herald newspapers. None of the operators present had seen the advertisements in the two local newspapers and they were of the opinion that placing advertisements in both Die Beeld and the Sowetan would totally miss the target market. It was noted that none of the landowners in the Olifants River Nature Reserve had any knowledge of the planned PP meetings and the plans to build a new power line;
 - Three of the six persons present had attended three different meetings of IAPs and, at all three meetings, they were the only representatives of the game lodge and conservation sector present. This seemed to indicate that the process of extending invitations to all interested and affected parties had not been entirely successful;
 - The legal advisor to one of the Nature Reserve operators has indicated that, in his opinion, the process was flawed and any further progress on the planned power line(s) could be stopped on legal technicalities.

4.1.1 Recommendations from the Balule Meeting

The representatives present made the following proposals:

- It is unacceptable to allow a new power line to be built alongside the existing power line indicated on the map in green;
- The blue route between Phalaborwa and Hoedspruit is also unacceptable in view of the fact that there are already three power lines and a railway line along this section. However, if absolutely necessary, it may be possible and acceptable to create a new line further to the east along the Balule/Klaserie boundary. This would have to be submitted to an extended range of landowners for comment. The section between Hoedspruit and The Oaks will be dealt with later in this report;
- **A compromise acceptable to all stakeholders, including the respondents from the Blyde Olifants Conservancy and the Makalali and Karongwe Nature Reserves, would be to locate the green route slightly to the north and run the proposed line alongside the R 530 (Phalaborwa to Mica); down the R 40 (Mica towards Hoedspruit); along the R 526 (Mica to the R 36) and then southwards again along the R 36 to The Oaks.**

4.2 Blyde Olifants Conservancy – Telephone interviews on 18 and 19 July 2012

The two main respondents were Mrs. Hantie Topham, wife of the Conservancy Warden Mr. Steve Topham, and Mr Steve Topham himself. Mr Topham is also the General Manager of Phuza Moya Game and Nature Lodge.

Issues discussed are summarised as follows:

- ❑ The Blyde Olifants Conservancy (BOC) is not a member of the Association of Private Nature Reserves (APNR);
- ❑ There is already an ESKOM power line that runs across the middle of the Conservancy;
- ❑ An additional power line alongside the existing line is simply not acceptable;
- ❑ The planned route would pass almost directly overhead a self-catering chalet that is hired to guests, as well as the area used by Phuza Moya for breeding disease-free buffalo;
- ❑ Studies undertaken in Europe have proved that the ‘aura’ beneath a power line is ‘bad’ and may cause cancer;
- ❑ The Chairman of the Blyde Olifants Conservancy has indicated his willingness to appoint ‘a top South African environmental lawyer’ to ‘go to any length’ to fight the proposed power line route through the Conservancy and other protected areas;
- ❑ The communal land lying to the west of the Conservancy is in the process of becoming part of the Conservancy. This is regarded as very good news because it would add approximately 2 500 ha to the size of the Conservancy and introduce a conservation ethic to the local landowners. This piece of land abuts the Olifants River at a site known as Maburuburung which was mentioned in the Phase 1 Report as having some significant tourism development potential;
- ❑ It was confirmed that visitors to the lodges within the Conservancy (mainly Phuza Moya and Lissataba) frequently comment negatively on the presence of the existing power line and their reactions are very similar to those reported from the meeting at Balule;
- ❑ **Mr Topham will discuss with his Chairman the matter of the suggested route along the R 526, but he feels that this is the only acceptable alternative.**

4.3 Makalali and Karongwe Private Nature Reserves – Thursday 19 July 2012

The main respondent was Mr. Ross Kettles, Warden of the Makalali Nature Reserve. He is also a member of the Management Committee for the neighbouring Karongwe Nature Reserve

Issues discussed are summarised as follows:

- ❑ The management of Makalali had no prior knowledge of the public participation process and were only informed about the power line project on Wednesday 18 July 2012. (This could have been as a result of the meeting held with the tourism operators in Balule on Tuesday 17 July 2012, but Mr. Kettles was reluctant to say who had actually given him the news.) Therefore, they did not have an opportunity to comment on the proposed routing (the yellow option) that would cross the two reserves;

- ❑ Makalali and Karongwe Nature Reserves cannot allow construction workers to overnight within the Reserves, and management would also be very concerned for the safety of the workers and the possible information on rhino locations that the workers may leak to the rhino-poaching ‘Syndicate’;
- ❑ Noted that the proposed route would cross the Makhutswi River in very close proximity to an existing tourism camp and feed back from the management at Karongwe firmly rejected any proposal to construct a power line along that route;
- ❑ Land to the south east of Karongwe is mainly devoted to cattle although the landowners do encourage various game species that are not in competition with the cattle. It is unlikely that these landowners would qualify to join either Makalali or Karongwe Game Reserves but they owned valuable land that acted as a buffer against poaching etc.

4.4 Kruger to Canyons (K2C) Biosphere Reserve – Wednesday 18 July 2012

Those present at the meeting at the K2C Centre were Mr. Tebogo Mametja (Chairman), Ms. Debby Thomson (Projects’ Manager) and Mrs. Marie-Tinka Uys (Secretary).

Key issues raised during the meeting were as follows:

- ❑ None of the three persons who attended this meeting had any previous knowledge of the plan to construct a new power line through the area. They first learnt of the project when an e-mail was addressed to them on 11 July by this consultant seeking a meeting to discuss the reaction of the Biosphere management to the proposed power line. Therefore, they had not registered as an Interested and Affected Party and had not attended any of the PP meetings;
- ❑ They expressed surprise and concern that there had been no communication from the Limpopo Department of Economic Affairs, Environment and Tourism as this Department was obliged to consult the Biosphere management and to seek support on any matter that could impact on the natural integrity of the Core, Buffer and Transition zones that constitute the Kruger to Canyons Biosphere Reserve;
- ❑ It was stressed that the Kruger to Canyons Biosphere Reserve is an internationally designated region as part of UNESCO’s Man and the Biosphere Programme (MaB). The aim of Biosphere Regions is to have areas of co-operation that promote and demonstrate a balanced relationship between people and nature, development and conservation;
- ❑ The following is quoted from a leaflet ‘Guidelines for Development within the Kruger to Canyons Biosphere Reserve’ and refers specifically to the Ideals and Goals for the three identified zones – viz. the Core, the Buffer and the Transition Zone:

CORE	BUFFER	TRANSITION
The main goal of the core zone is conservation of biological biodiversity and the associated natural processes and cycles at landscape, ecosystem, species and genetic levels.	The aim of the buffer zone is to support conservation objectives within the core zone as well as the greater region, but must also have economic viability.	The aims of the transition zone are far more complex but include sustainable development practices, poverty alleviation, skills upliftment, and sustainable agricultural and mining practices.

- The ‘Purpose’ of the Buffer Zone is noted as follows: ***“There is a need for sustainable development in the buffer zone to help make conservation areas economically viable. Development in the buffer zone takes the form of infrastructure that is tourism related as well as research and education based. All developments must be strictly environmentally sensitive and should blend in with environmental characteristics and processes with little to no compromise to the ecological integrity”***;
- In addition, the Guidelines state – under the heading of ‘Construction’ – as follows: ***“Adhere to all EIA regulations, specifically for large developments. Site surveys must be conducted and sensitive sites must be avoided. Removal of large and established trees and plants is prohibited – build around them. Construction along riparian zones to be avoided”***;
- As far as Ecosystem disturbance is concerned, the Guidelines state the following: ***“The main concern is habitat loss from mass clearings; therefore all developments, regardless of their size, must adhere to EIA regulations. They must avoid mass clearings and disturbance to the landscape and vistas and rather only clear the exact site where the buildings will be located. Additionally, they must ensure natural corridors remain intact where necessary”***;
- A buffer zone is regarded as a ‘carbon sink’, an increasingly important asset in the light of the global warming issue that the planet’s population is trying to cope with. Reducing the concentration of trees and other plants within the protected areas reduces the efficiency of the land to act as an effective ‘carbon sink’;
- The following conservation and protected areas form part of the buffer zone of the Biosphere Reserve: Balule Nature Reserve, Klaserie, Umbabat, Timbavati, Blyde Olifants Conservancy, Makalali and Karongwe Game Reserves, the Drakensberg from Lekgalameetse to the Olifants River (this includes a large number of rural villages) and land lying between the Olifants River and the Timbavati Nature Reserve. (The extent of the various zones is indicated on the attached map.)
- It was noted that the original power lines were constructed prior to the private nature reserves being given enhanced and official conservation status. Since these protected areas are now also an integral part of the Greater Kruger Park, they have assumed a higher level of importance in terms of the part they play in acting as buffer zones for the core area of the National Park;
- **This enhanced level of conservation importance, both as part of Greater Kruger Park and as part of the Biosphere Reserve, would seem to indicate quite clearly that no new power lines should be constructed through these areas;**
- The Biosphere management also supported the view expressed by respondents from Balule and Makalali that construction workers within the protected “Big 5” areas would be subjected to serious safety and security situations and could also lead to increased poaching, especially of rhinos. They stressed that all workers within protected areas are targeted by the ‘syndicate’ to provide information on the whereabouts of rhino;
- On the matter of Government’s stated intention to expand the size of protected areas in South Africa, it was noted that there is a focus on the incorporation of private conservation land (as has been done in the case of the Greater Kruger Park) as well as neighbouring communal lands and land under stewardship. The emphasis on communal lands is considered to be very important because of the need to develop an enhanced conservation understanding and ethic amongst rural communities. Therefore, certain communal lands within the Biosphere buffer

zone had a high priority in terms of their active acceptance of the Biosphere principles and guidelines;

- It was advised that power lines that passed over agricultural land can negatively affect the growth and health of crops;
- The Biosphere respondents were unanimous in supporting the proposal to move the green route to follow the roads from Phalaborwa, via Mica, the R 526 and the R 36 to The Oaks. They noted that roads already constitute a barrier to game movements and adding a power line would not have the same major adverse aesthetic impact;
- The respondents were not immediately able to identify any specific biodiversity ‘hot-spots’ along the proposed corridors outside the protected areas but suggested that the Provincial Environmental Management Plan Framework, produced by LEDET, should be consulted because it may indicate sensitive areas – especially along the Drakensberg escarpment;
- **The advice was given that the expropriation of land was not legally acceptable if there are alternatives for any proposed development such as a power line;**
- **There was a general feeling expressed by the Biosphere management team, and supported by other respondents, that ESKOM could attract very favourable public reaction if the organization took heed of the comments and objections from the interested and affected parties (especially the owners and operators of tourism facilities within protected areas) and announced that they would construct the power line along the route already suggested i.e. along the road system linking Phalaborwa to the Oaks. At a time when there is increasing public concern and attention being focussed on nature and wildlife conservation this would be a positive public relations action by ESKOM;**
- The Biosphere management insists that aesthetic qualities are essential in maintaining conservation areas. In this regard it may be relevant to note that ‘aesthetic’ values are very difficult to quantify, bearing in mind the following comments by John A Livingston in his book ‘The Fallacy of Wildlife Conservation.’ *“Aesthetics cannot be judged by popular vote – it is based almost entirely on subjective perceptions – it is a function of context and place and the product of cultural convention – it is the result of conditioning by local traditional and cultural environment – it produces an institutionalised image against which we can make some sort of measurement, but there are no universal parameters and will vary from culture to culture. The beauty of aesthetics is that, in spite of our infatuation with opinion surveys, it cannot be quantified. Aesthetics does not rely for its respectability on hard data”.*

Two maps of the Kruger 2 Canyons Biosphere reserve are contained in Appendix B to this report.

4.5 Maruleng Local Municipality – Wednesday 18 July 2012

The purpose of this visit was to seek information on any projects that are included in the Integrated Development Plan for the Municipality and whether such developments may be impacted by the proposed power line routes. The persons interviewed were Ms. Victoria Sithole the Senior Town Planner, and Ms. Promise Maila, Secretary to the Spatial Planning and Economic Development Department.

Ms. Sithole had attended one of the PP workshops and had no major inputs to offer in terms of any expected conflict between the proposed power line routes and the Integrated Development Plan. It

was accepted that Spatial Development Plans do not normally make any special provisions for power lines.

4.6 Sepeke Eco-tourism Centre – Wednesday 18 July 2012

The officials at the Municipality advised that the present buildings at Sepeke (The Oaks Village) had never been occupied or utilized and the plan was to undertake repair and maintenance work before seeking a private sector partner to manage the centre. Mr. Tebogo Mametja, who had previously approached the Municipality in terms of securing a lease over the property, confirmed this situation.

It was noted that the green route would pass very close to the erstwhile Sepeke Camp, since reduced to rubble by lack of attention and maintenance, the sun and the termites. However, although the line would pass across the view from the camp towards the Drakensberg escarpment, it should not pose any major visual problem. The existing power line is actually difficult to see from the site of the camp.

4.7 Routes west of the Drakensberg Escarpment

Owing to the scarcity of eco-tourism operations between The Oaks and Burgersfort and the fact that a close study of Google images failed to locate any significant natural tourism resources along the three possible routes (yellow, green and pink), no field work was undertaken in this area.

However, the sites where the green route crosses the Olifants River and then traverses the escarpment close to the Strijdom Tunnel were visited to assess any significant visual impacts that may arise from the proposed new power line.

The additional line will not be attractive from an aesthetic point of view but it should be acceptable and will not deter eco-tourists from visiting the area.

Certain comments made in the Phase 1 Report in respect of the proposed routes west of the Escarpment are repeated for ease of reference:

- ❑ The escarpment adjacent to the Strijdom Tunnel is popular with birdwatchers because of the presence of certain rare raptor species. Due west of Ga-Moraba is the village of Tshwenyane and to quote from a recent report by a concerned consultant: *“There are not many such spots left in the world. It has the potential of being an icon in tourism as the most impressive portal to Limpopo - Land of Myth, Legend and Wilderness. An Old Coach Road dating from the 1840’s and the modern Abel Erasmus Pass (R36), cross each other in the centre of this rural village, situated on a small plateau, on the edge of an escarpment in the spectacular Drakensberg Mountains. It is surrounded by magnificent mountains and natural scenery, and it has clean, unpolluted air, deep red soil and ample pure fountain water. It has a relatively small community of approximately 250 families and is part of the Bapedi-ba-Dinkwanyane Traditional Council – presenting a rare opportunity for the development of a unique African destination and experience.”*
- ❑ The first part of the section between Ga-Moraba and Steelpoort is very sparsely populated tribal land. No known eco-tourism operations have been identified in this section and it is only along the road between Burgersfort and Steelpoort that a lodge, with a range of

accommodation and other tourist facilities, is located. This is Khumula Game Lodge situated on farm 'Fraaiuitzicht' approximately 10 kms north of Steelpoort. The owner, Mr. Pretorius, has registered his concern regarding the power line that would certainly obstruct the view from the lodge towards distant mountains.

- As far as the yellow route is concerned, the following should be noted: Immediately after crossing the R 36, the corridor traverses through Bulwer, a property declared as a protected area and managed by Limpopo Tourism and Parks. It has no commercial activities but it may be regarded as a potential resource for the future. The crossing of the escarpment would present some challenges for the construction team and it is possible that negative visual impacts would occur as the line passes over the skyline. However, this skyline will be at some considerable distance from any existing or potential eco-tourists and should not be considered as a problem. In this regard the following is quoted from a report by Nsovo Environmental Consulting: *“The visual impact of the power lines would be at its maximum at distances of 500 m or less. However, the visual impact of an object in the landscape decreases quickly as the distance between the observer and the object increases. The visual impact at 1 km is approximately a quarter of the impact viewed from 500 m, and at 2 km, is one eighth of the impact viewed from 500 m. Therefore, objects appear insignificant in any landscape beyond 5 km.”*
- At the same time, this section of the Drakensberg escarpment is regarded as having significant wilderness characteristics and humankind may be in need of such unspoilt landscapes at some time in the future. It would be a great pity to push a power line through a piece of countryside that is so remote (at present) and which has so much adventure and eco-tourism potential.

5. THE STATE OF THE TOURISM INDUSTRY AT THE PRESENT TIME

It was an expectation of this Phase 2 Report that an overview would be provided of existing and potential eco-tourism markets to indicate travel habits and behaviour patterns and any significant trends that may be affecting the shape and size of these market sectors. It was also suggested that some of the characteristics of the 'new' versus the 'old' tourism would be discussed to further indicate most likely trends in tourism demand in the short to medium term.

The following was contained in the Phase 1 Report and it may be convenient to repeat it here where a discussion of tourist trends etc. is indicated:

“The tourism industry is a fragile and sensitive sphere of economic activity and travellers are notorious for being of a very fickle nature. This means that a wide range of 'external' factors constantly militate against the health and well-being of the sector, basically because recreational travel is regarded as a luxury item on the household budgets of the greater majority of the population. It is only when all the basic living and household needs have been met that any remaining discretionary income may be allocated to recreational and leisure travel.

Some of these 'external' factors may be summarised as follows:

- Social or political unrest in both the market generating countries and the host destinations;
- Health scares as was evidenced by Asian Flue, Mad Cow Disease, Avian flu and many other generally short-term epidemics;

- *Recessions and other currency disorders. This is very evident at present as several European countries find themselves in economic difficulties both at a national level and amongst that sector of the population that would normally partake freely in domestic or international travel;*
- *Safety scares arising from environmental conditions.*

As with most other consumer products, tourism destinations have life cycles and, unless innovation and creativity are constantly applied to the products on offer, the interest of the buying public may easily be diverted to more attractive and exciting offers. The simple step of introducing a more effective marketing campaign by a competitive destination may have serious consequences for existing facilities and services.”

Tourism, as a social phenomenon, is constantly evolving and it has been stated that the word ‘change’ will dominate our lives in the 21st Century. Nowhere is this likely to be more evident than in the tourism and recreation sectors where changing lifestyles, education levels and economic circumstances constantly re-mould the shape and size of the tourism industry to meet new demands and expectations. One of the most important contributory factors is information technology and its enormous impact on how people learn about the world around them and take decisions.

Over the years a list has been developed of characteristics that are re-shaping the activities and expectations of the modern tourist and, whilst it is difficult to identify the exact source of some of these characteristics, there is no doubt that most operators with a ‘feel’ for their markets, agree that there are significant trends taking place that are directly affecting the operators of tourism attractions, facilities, services and experiences and the way they meet these changing trends and behaviour patterns.

Some characteristics of the ‘new’ versus the ‘old’ tourism are listed below and indicate the ‘most likely’ trends in tourism demand in the medium term. Some of the more important characteristics have been highlighted because it is believed that these will impact most heavily on the eco-tourism sector. In this context the word eco-tourism refers specifically to conservation activities that include direct or measurable indirect benefits to neighbouring communities.

- Travellers are expected to travel less often but spend more per trip. This would seem to be a reaction to the high cost of long haul travel that dictates that once a traveller has reached his destination he will need to optimise the time available to secure full value from the ‘basket’ or ‘bouquet’ of experiences offered. This will certainly involve additional spending. **In this regard it is known that the ‘new’ tourists are prepared to spend more money on ‘experiences’ rather than expensive beds and meals;**
- **Today’s tourist has a strong sense of ecological responsibility and is in search of unconventional experiences. This is a result of the fact that many well educated travellers have a more genuine respect for the heritage (natural or cultural) values of the host destinations and behave in a more ‘humble’ way when confronted by the natural and cultural values of foreign people;**
- **New tourists are better educated, environmentally aware and seek experiences that allow them to actively participate in local lifestyles that offer some learning experience to the visitor. They do have more enhanced sensibilities towards practices that are environmentally**

friendly and which create benefits for local disadvantaged communities. This does not imply that they will personally want to become actively involved in such practices on holiday, but they do often choose to stay at operations which can prove that they have 'green' management programmes and appropriate social outreach strategies;

- ❑ New tourists tend to travel singly or in very small groups and dislike overcrowded destinations, noise and too-close association with the 'mass' tourist markets;
- ❑ New tourists want to be active, and most are keen to participate in adventure activities. 'Adrenalin' is a key feature of modern, successful tourism activities and is linked to the fact that the majority of modern travellers are greatly concerned with health and fitness;
- ❑ As far as the health aspect is concerned, the following is relevant. There is an increasing interest amongst many sectors of the population in better and healthier life styles. This may include physical, mental or spiritual health and a major growth area revolves around tours to places that are regarded as having strong spiritual significance or even having healing powers. 'Sacred places' throughout the world are centres of spiritual vibration and those who practice, or who are in search of alternative healing, are drawn to such places in increasing numbers;
- ❑ **There is a strong need for the new tourist to see travel as an extension of his/her normal lifestyle. This results in the need for travel opportunities to offer a sense of 'individuality' to the traveller;**
- ❑ There are a growing number of people who travel to become actively involved in social upliftment or regeneration programmes;
- ❑ **The new tourist often seeks a travel experience that is unique. This may mean travelling to a region or attraction that is totally undeveloped.** In itself this may be a rewarding personal experience but it does mean that a path has then been created which others will follow. This is not always a positive attribute as it is the 'thin end of the wedge' as far as adverse environmental and/or social impacts are concerned;
- ❑ **Tourists will travel more and more to pursue their special interests. With more disposable income and time available, they may make many more short trips to places where their special interests e.g. bird-watching, mountain biking etc. can be satisfied. This does not contradict the first item on this list that states that tourists are expected to travel less but spend more. That is rather a characteristic of 'long-haul' rather than 'short-stay' excursions;**
- ❑ New tourists are discouraged by destinations or operations that fail to treat them in a personal and interactive manner. Being processed as 'a number' is unacceptable to the 'new' tourist who seeks rewarding personal experiences in everything connected with the holiday. In other words, quality of service is of major importance to the new tourist;
- ❑ New tourists demand up to date and correct information as well as professional interpretation of the sites they are visiting. This is particularly true of visits to cultural and historical sites which are often simply regarded as 'piles of dead stones' until the myth or legend is told in a manner that brings the site alive;
- ❑ Story telling is a vitally important part of modern tourism. Tourist are increasingly interested in the stories that may lie behind the experience, and the one-on-one interaction between knowledgeable guides and small groups of visitors is in high demand;
- ❑ **The 'new tourist' is very inquisitive and expects the travel experience to enrich his understanding and knowledge of the natural, cultural and historical attractions and facilities within the destination;**

- Travel must be fun! This means that destinations where political or social conditions are not safe or stable tend to be avoided. Therefore, clean, safe and friendly destinations are absolute pre-conditions for the new tourist.

5.1 **General Tourism Situation in South Africa**

The tourism sector is not in a particularly buoyant phase at present. This may be attributed mainly to the slowdown in those national economies that include the majority of South Africa's current and potential markets. Naturally, there are exceptions and certain destinations have hardly been affected by the economic 'recession'.

However, the tourism industry has gone through ups and downs over many years but, overall, the volume and value of this sector have always shown a steady increase. Therefore, any reduction in the numbers of people travelling and in the income generated by tourism operators will almost certainly be temporary.

South African tourism statistics continue to be misleading because ALL over border arrivals are counted and this includes many thousands who enter South Africa from neighbouring territories such as Mozambique, Zimbabwe, Botswana, Swaziland and Lesotho. The greater majority of these visitors do not contribute towards the 'tourism economy' although they will all make some contribution towards local restaurants, accommodation establishments and commercial retail shops.

5.1.1 **International Arrivals**

For interest the following table provides a summary of total arrivals from various regions into South Africa during 2010 and 2011.

REGION	JANUARY TO OCTOBER		% DIFF
	2010	2011	
EUROPE	1 060 037	1 000 232	- 5.6
NORTH AMERICA	284 851	286 681	+ 0.6
CENTRAL AND SOUTH AMERICA	106 364	69 174	- 35.0
AUSTRALASIA / ASIA	104 891	98 905	- 5.7
MIDDLE EAST	40 669	38 654	- 5.0
AFRICA MAINLAND	4 711 837	5 052 116	+ 7.2
INDIAN OCEAN ISLANDS	16 038	15 997	- 0.3
TOTAL AFRICA	4 727 875	5 068 113	+ 7.2
UNSPECIFIED	111 023	20 280	- 81.7
GRAND TOTAL	6 651 407	6 823 517	+ 2.6
OVERSEAS ONLY	1 812 509	1 735 124	- 4.3

The decline of 4.3% in the number of overseas arrivals is almost certainly due to the fact that 2010 was the year of the FIFA Soccer World Cup that produced many more long haul arrivals.

5.1.2 **Domestic Tourism**

As far as Domestic Travel is concerned the following table gives an indication of the trend in total trips taken etc.

INDICATORS	2007	2008	2009	2010
Total Trips (MM)	2.7	2.4	1.9	2.9
Total Annual Spend (R MM)	1,605	2,210	1,229	1,727
Average spend / trip – R	750	910	630	580
Total annual bednights (MM)	10.9	11.1	9.9	11.4
Average Nights / trip	4.0	4.6	5.2	3.9

(Source: SAT Domestic Surveys 2007 – 2010)

Commentary on these figures is given below:

- Generally, domestic tourism declined between 2007 and 2009 in terms of the number of trips taken, the total amount spent, the average spend/trip, and the total annual bed nights.
- 2009 was not a good year although the average number of nights spent per trip is the highest for the four years.
- 2010, the Year of the FIFA Soccer World Cup, shows the highest number of trips taken over the four-year period as well as the highest number of bed nights sold. However, the average spend/trip is significantly lower than the previous three years and 64% lower than in 2008.
- The average number of nights spent per trip is steadily declining and this accords with international tourist arrivals where the number of nights spent in South Africa has decreased from almost 15 nights in 1990 to 9 nights in 2010.

6. IMPACT ASSESSMENT

Each of the proposed four corridors has been broken down into smaller sections and they have been analysed using the scores in the following tables.

In addition, the suggested alternative route between Phalaborwa and the Oaks is coded in orange and has been assessed separately at the end.

6.1 Determination of Significance

The Aspect/Impact column contains the main actions or activities that will impact in some way on the eco-tourism sector. Some may be physical habitat impacts whilst others refer to the changes that may take place in terms of altering the ‘sense of place’ and the aesthetic values of the natural environment as far as eco-tourists are concerned.

The scores range from 1 to 5 and represent the severity of the impact. In summary, the scores represent the following grades of severity:

- 1 No discernible impact on the eco-tourism sector

- 2 There will be certain impacts but they would not affect the quality of the eco-tourism experience
- 3 Impacts are noticeable and may adversely affect the quality of the experience (Including change to natural habitats)
- 4 Impacts definitely affect the quality of the experience and would have negative effects on the flow of visitors to the area
- 5 Impacts are unacceptably severe and will lead to a decline in visitor arrivals and the possible closure of the tourism facilities

6.2 Impact tables

YELLOW CORRIDOR: PHALABORWA – THE ESCARPMENT – PENGE – STEELPOORT

Note: this route will pass through the heartlands of the Selati Game Reserve, the Makalali Game Reserve, the Karongwe Game Reserve and the farm Bulwer. All of these are officially protected areas.

BETWEEN PHALABORWA AND THE ESCARPMENT

Aspect/ Impact	Score				
	1	2	3	4	5
Construction phase – destruction of natural vegetation					X
Construction phase – activities arising from the presence of construction workers				X	
Maintenance phase – activities arising from the presence of maintenance crews			X		
Aesthetic impacts on the quality of the experience expected by eco-tourists				X	
Economic impacts resulting from a slowdown in eco-tourist arrivals – power line corridor					X
Economic impacts resulting from a slowdown in eco-tourist arrivals – overall destination				X	

BETWEEN THE ESCARPMENT AND PENGE AND BURGERSFORT

Aspect/ Impact	Score				
	1	2	3	4	5
Construction phase – destruction of natural vegetation		X			
Construction phase – activities arising from the presence of construction workers		X			
Maintenance phase – activities arising from the presence of maintenance crews		X			
Aesthetic impacts on the quality of the experience expected by eco-tourists			X		
Economic impacts resulting from a slowdown in eco-tourist arrivals – power line corridor	X				
Economic impacts resulting from a slowdown in eco-tourist arrivals – overall destination	X				

GREEN CORRIDOR: PHALABORWA – THE OAKS – BURGERSFORT – STEELPOORT

Note: this route will pass through the heartlands of the Balule North and Balule South Nature Reserve and the BlydeOlifants Conservancy. All of these are officially protected areas.

BETWEEN PHALABORWA AND THE OAKS

Aspect/ Impact	Score				
	1	2	3	4	5
Construction phase – destruction of natural vegetation					X
Construction phase – activities arising from the presence of construction workers				X	
Maintenance phase – activities arising from the presence of maintenance crews			X		
Aesthetic impacts on the quality of the experience expected by eco-tourists				X	
Economic impacts resulting from a slowdown in eco-tourist arrivals – power line corridor					X
Economic impacts resulting from a slowdown in eco-tourist arrivals – overall destination				X	

BETWEEN THE OAKS AND BURGERSFORT

Aspect/ Impact	Score				
	1	2	3	4	5
Construction phase – destruction of natural vegetation		X			
Construction phase – activities arising from the presence of construction workers		X			
Maintenance phase – activities arising from the presence of maintenance crews		X			
Aesthetic impacts on the quality of the experience expected by eco-tourists	X				
Economic impacts resulting from a slowdown in eco-tourist arrivals – power line corridor	X				
Economic impacts resulting from a slowdown in eco-tourist arrivals – overall destination	X				

BLUE CORRIDOR: PHALABORWA – THE OAKS

Note: This section passes through officially protected areas for virtually its entire length. A new power line will simply increase the habitat destruction, the visual and aesthetic appeal and the value of the eco-tourism operations along the route. However, it is noted that this route already includes a railway line and three power lines.

BETWEEN PHALABORWA AND HOEDSPRUIT

Aspect/ Impact	Score				
	1	2	3	4	5
Construction phase – destruction of natural vegetation					X
Construction phase – activities arising from the presence of construction workers				X	
Maintenance phase – activities arising from the presence of maintenance crews			X		
Aesthetic impacts on the quality of the experience expected by eco-tourists				X	
Economic impacts resulting from a slowdown in eco-tourist arrivals – power line corridor					X
Economic impacts resulting from a slowdown in eco-tourist arrivals – overall destination				X	

BETWEEN HOEDSPRUIT AND THE OAKS

Aspect/ Impact	Score				
	1	2	3	4	5
Construction phase – destruction of natural vegetation			X		
Construction phase – activities arising from the presence of construction workers		X			
Maintenance phase – activities arising from the presence of maintenance crews		X			
Aesthetic impacts on the quality of the experience expected by eco-tourists		X			
Economic impacts resulting from a slowdown in eco-tourist arrivals – power line corridor	X				
Economic impacts resulting from a slowdown in eco-tourist arrivals – overall destination	X				

PINK CORRIDOR: THE OAKS TO BURGERSFORT

Note: This route would follow the main roads R 36 and R 555.

BETWEEN THE OAKS AND BURGERSFORT

Aspect/ Impact	Score				
	1	2	3	4	5
Construction phase – destruction of natural vegetation		X			
Construction phase – activities arising from the presence of construction workers		X			
Maintenance phase – activities arising from the presence of maintenance crews		X			
Aesthetic impacts on the quality of the experience expected by eco-tourists	X				
Economic impacts resulting from a slowdown in eco-tourist arrivals – power line corridor	X				
Economic impacts resulting from a slowdown in eco-tourist arrivals – overall destination	X				

BETWEEN BURGERSFORT AND STEELPOORT

Aspect/ Impact	Score				
	1	2	3	4	5
Construction phase – destruction of natural vegetation			X		
Construction phase – activities arising from the presence of construction workers			X		
Maintenance phase – activities arising from the presence of maintenance crews		X			
Aesthetic impacts on the quality of the experience expected by eco-tourists				X	
Economic impacts resulting from a slowdown in eco-tourist arrivals – power line corridor				X	
Economic impacts resulting from a slowdown in eco-tourist arrivals – overall destination		X			

SUGGESTED ALTERNATIVE ROUTING BETWEEN PHALABORWA AND THE OAKS

BETWEEN PHALABORWA – MICA – THE R 526 – THE R36 – THE OAKS

Aspect/ Impact	Score				
	1	2	3	4	5
Construction phase – destruction of natural vegetation		X			
Construction phase – activities arising from the presence of construction workers		X			
Maintenance phase – activities arising from the presence of maintenance crews	X				
Aesthetic impacts on the quality of the experience expected by eco-tourists		X			
Economic impacts resulting from a slowdown in eco-tourist arrivals – power line corridor	X				
Economic impacts resulting from a slowdown in eco-tourist arrivals – overall destination	X				

6.3 Conclusions from impact assessment

it is clear from the impact assessment undertaken that the route of the power lines directly through the middle of officially protected areas will have a severe impact on eco-tourism.

Furthermore, it has been determined by means of the above impact assessment that by moving the power line to run along the R526 and R36 roads, it will have far less of an impact on eco-tourism facilities and the sense of place of the tourism destination.

6.4 Key Concerns arising from impact assessment

Certain activities and impacts are common to all corridors and these have been extracted from this report and are summarised hereunder:

- The eco-tourism industry depends totally on an environment that is natural and that has been altered in only the most minimal way by human structures and activities;
- The clearing of a 47 metre swathe beneath the power lines has significant negative impacts on the plant communities and is contrary to the Biosphere Guidelines;
- Creating a new 47 metre swathe immediately adjacent to an existing power line will create a highly negative visual impact. This is unacceptable as far as the eco-tourism operators are concerned, as well as causing offence to the sensibilities of the visitors who do not come to natural and wilderness areas to be confronted with man-made structures such as power lines;
- The impacts of construction teams within protected areas will negatively affect the atmosphere and the wildlife experiences of the visitors. These impacts will include noise and excessive vehicle movements;
- There is extreme sensitivity at present to the threats of poaching. The presence of rhino in most of the protected areas in the private nature reserves and conservancies reinforces this concern because it is widely known that workers in wildlife areas (Not just power line construction workers) are offered significant financial rewards for reporting the presence of animals such as rhino to 'The Syndicate';
- None of the private nature reserve wardens and lodge managers will permit the construction workers to stay overnight within the protected areas. This will exacerbate the problem of excessive vehicular traffic because of the need to transport workers in and out of the construction sites every day;
- It has been shown that savannah bushveld that is cleared of trees and shrubs creates areas that are sought after by many antelope species because they can rest/sleep here at night with less chance of being attacked by predators. Each morning these herds start feeding away from the cleared land and this results in excessive over-grazing and browsing. Habitat degradation has been observed in many parts of the private nature reserves;
- Today's tourist (eco-tourist) is very aware of the many threats that are facing natural and cultural environments throughout the world. This means that any actions that downgrade the quality of the bush and wildlife experience will put at risk the economic viability and sustainability of those commercial operations that are located in areas affected by intrusive man-made structures;

- Those protected areas that are now within the buffer zone for the Kruger to Canyons Biosphere Reserve are intended to provide an ‘extra layer of protection to the integrity of the national park’ and there is likely to be a problem if the conservation values of these buffer zones are compromised;
- Maintenance of the power lines after construction also poses problems for the affected landowners, not only because of the access challenges but also because any new tracks created to service the power lines will add to the habitat degradation;
- The value of the land in Balule, Olifants West and other privately owned conservation areas is predicted to decrease significantly if the natural heritage integrity of these areas is threatened;
- The Biosphere guidelines specifically state that infrastructure within the buffer zones must be tourist related and should blend in with the environmental characteristics and processes with little or to no compromise to the ecological integrity;
- Mass clearings within Buffer zones must be avoided and the removal of large and established trees and plants is prohibited;
- It has been queried whether the expropriation of land (even for a servitude) is acceptable if there is an alternative for any proposed development;
- The ‘new’ eco-tourists have a strong sense of ecological responsibility and they certainly seek destinations that are as unspoilt as possible and where the operators can indicate that they have ‘green’ management programmes;
- Many Most of the respondents felt that ESKOM could attract very favourable publicity if it takes heed of the concerns of the
- landowners and decides that it will take the alternative route that follows the main roads between Phalaborwa and The Oaks.

6.5 Assessment of the “no-go alternative”

If no new power line is built through this area, and subject to there being no major ‘external’ factors that may impact negatively on the well being of the tourism and eco-tourism sectors, then these sectors should continue to grow and contribute in ever-increasing ways to the social, environmental and economic objectives of the Province.

7. CONCLUDING COMMENTS

A selection of the major points that were included in the Phase 1 Report, as well as those gathered through the interview process, are included in this section. The intention is to link the various points into a coherent sequence that will indicate the almost unanimous opposition to the development of new power lines through the heart of conservation and protected areas.

The following conclusions are relevant.

- There is widespread concern by all affected landowners regarding any proposal to build new power lines through protected or conservation land;
- Therefore, no new power lines should be permitted within areas that have been officially protected for their conservation values. This would include land that may not yet have

official conservation status but that has been dedicated by the landowners to conservancy or biosphere ideals and values;

- Where any proposed new power line crosses land that is still in its natural state and has not been altered by agriculture, human settlements or other man-induced activities must be avoided if possible because such land may have significant value for future eco-tourism development. The process of developing eco-tourism attractions, facilities and services is on-going and increasing focus is being directed at uncovering the natural, historical and cultural heritage resources of rural communities and building appropriate tourism experiences around such resources. This requires that the utmost care should be taken not to impact negatively on the integrity of such resources because they may yet be found to have some useful development option in the future;
- As rural land becomes more populated or overrun by mining, industry, agriculture or forestry, unspoiled land assumes a very appealing and valuable aesthetic component. Although 'aesthetics' may not appear immediately to play an important part in social development, it is vital for the wellbeing of this and future generations that such areas be retained simply for their 'existence' value. All life forms have a right to exist in a state that is uncontaminated or unaltered by human activity, although the principle of 'limits to acceptable change' may need to be applied to certain landscapes and life forms. In other words, their right to existence is no different to the rights of humans;
- It is also important to preserve sufficiently large areas of land to ensure that future generations retain the option to decide for themselves, at some time in the future, how this resource could be utilized. The attitude of future generations to land and natural and cultural resources will almost certainly take new directions and it is not the function of the present generation of decision-makers to compromise the integrity of our heritage thereby reducing the options available to our descendants. Every generation develops new knowledge and skills, and the speed at which technology is transforming thinking on the man-made and the natural worlds, indicates that the next two or three generations will, undoubtedly, be very much smarter than the people living on this planet at the beginning of the 21st Century;
- All respondents agreed that ESKOM could earn very favourable publicity if it shows sensitivity towards the concerns of the landowners and it is prepared to adopt an alternative route for the new power line;
- The tourism industry is regarded as a very 'fragile' economic sector and many factors, both within the host destinations and countries and within the main market generating countries, can impact adversely on the well being of tourism operators. These factors may be grouped under the headings of economic, social, political, health and the environment;
- Under this latter heading of 'environment', it is widely accepted that there is an ever-increasing sensitivity towards any activities that impact negatively on the cultural and natural heritage integrity of this planet. Therefore, the construction of new power lines through conservation and protected areas is regarded as a most unacceptable activity **as long as there are viable alternatives**;
- Landscapes that are lost to man-made intrusions can never be returned to a pristine condition;
- There has been significant progress over recent years in trying to expand the amount of land in South Africa that is set aside for conservation and protection. The present

percentage of such land is only 6,9% which falls well below the international target of 10%. The following initiatives are relevant:

- Trans Frontier Conservation Areas – there are two that include Limpopo Province;
- The ‘expansion’ of State-owned conservation areas, such as National and Provincial Parks. This is being achieved by the creation of partnerships with neighbouring landowners that have similar conservation objectives. The Greater Kruger Park is an example of how the conservation status of those private nature and game reserves that border Kruger may be enhanced and how they become an integral part of the overall conservation and wild life management objectives;
- Creation of Conservancies that often include private, communal and State land;
- The registration of Biosphere Reserves that are afforded international recognition through UNESCO’s ‘Man in the Biosphere’ programme. Limpopo Province has three officially registered Biosphere Reserves – Soutpansberg, Waterberg and Kruger to Canyons;
- The official recognition by the Government of the importance of private nature reserves through, *inter alia*, the National Environmental Management Act, the Protected Area Management Act, Agenda 21 and the Biodiversity Convention etc.
- The reaction of nature reserve management, eco-tourism operators and landowners has been very negative in terms of accepting that a new power line has to traverse through the heart of officially protected areas;
- Various respondents have pointed out that pushing a power line through these protected areas is not as easy as it may have been when the original lines were built. This has resulted from the higher status afforded to private conservation areas and the fact that the Guidelines issued by the Kruger to Canyons Biosphere Reserve clearly indicate what is and what is not permissible within both the Core and the Buffer zones that form part of the Biosphere Reserve. **In this regard, all the private nature reserves, as well as other environmentally sensitive areas, are included within the official buffer zone;**
- Certain landowners are in opposition to the proposed routes to such an extent that they have indicated their willingness to engage top environmental lawyers to fight against these proposals;
- An opinion was given that it may not be legally acceptable to expropriate land that has been given official conservation status **if there are viable alternatives.**

8. KEY RECOMMENDATIONS

It is therefore recommended that the route for the new power line corridor should be as follows:

- The corridor should lead westwards from FOSKOR to the R 40 that links Phalaborwa to the junction with the R 526;
- At this junction it would head south towards Mica;
- Shortly after Mica, the line should follow the R 526 that connects to the R 36. NOTE: There is a major residential and golf resort under construction in this area (Kingfisher Hill) and the corridor should be routed slightly to the north of the R 526 as it passes this development so that it cannot be seen from the resort;

- The corridor should continue along the northern side of the R 526 so that it does not pass through the Blyde Olifants Conservancy until it reaches the R 36;
- At this junction it should head south along the R 36 to The Oaks village;
- It would then cross the Olifants River and follow the proposed 'green' route that climbs over the escarpment east of the Strijdom Tunnel and continues to the village of Ga-Moraba;
- Ideally, the corridor should then follow the 'pink' route because this ensures that it runs alongside both the R 36 and the R 555 to Burgersfort. This means that no new construction and maintenance tracks have to be built in relatively undeveloped and rugged countryside;
- From Burgersfort to Steelpoort it would continue to follow the R 555 but there is a commercial game lodge along this route and care will have to be taken in selecting a route that does not impact in any negative way on the eco-tourism values of this operation.

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9. APPENDIX A

Two maps showing the four proposed power line routes, with the location of nature reserves and conservancies.

10.APPENDIX B

Maps showing extent of the Kruger 2 Canyons biosphere reserve, in relation to the powerline proposed routes.