ASSESSMENT OF THE IMPACT OF CONSTRUCTION AND UPGRADING OF ACCESS ROADS TO THE BRAAMHOEK PUMP STORAGE SYSTEM (BPSS), ON TOURISM

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1 INTRODUCTION

The purpose of this report is to provide information on the assessment of the potential impact of the construction and or upgrading of access roads to the BPSS on Tourism. This report forms part of the environmental impact assessment for the construction and upgrading of the BPSS access roads.

2 DESCRIPTION AND ASSESSMENT OF PROJECT ALTERNATIVES MADE IN THE FINAL SCOPING REPORT

2.1 ROUTES

Four alternative external routes to the BPSS were initially considered, namely:-

- Alternative 1 – Braamhoek Pass
- Alternative 2 – De Beers Escarpment
- Alternative 3 – De Beers Skeurklip
- Alternative 4 – Kiesbeen

The three access road routes identified to be carried forward for investigation in the EIA Phase is Alternative 1 (Braamhoek), Alternative 2 (De Beers Escarpment) and Alternative 3 (De Beers Skeurklip). The choice of these three possible routes was based on predicted environmental impacts, economical considerations of road upgrade and construction, access between the Lower and Upper Reservoirs during operation, and input received from stakeholders during the Comments Period of the Scoping Phase of the EIA.

2.1.1 Alternative 1 – Braamhoek

The proposed alternative 1 route follows the Drakensberg Escarpment using the existing track, Braamhoek Pass. The new section of road will link with the existing road network to the south of the Lower Reservoir, where the Provincial Roads 48 (D48) and 275 (D275) will be upgraded to link to the R103 near Besters. The S61 from the Drakensberg Escarpment to Kiesbeen and the S790 between Kiesbeen and Swinburne would be maintained by Eskom during the construction period. This alternative will require the construction of 27 km of new road, and will result in a total road distance of 19 km between the Lower and Upper Reservoirs.

Table 2-1: Summary of access roads requiring upgrade or construction, Alternative 1

DESCRIPTION	**DISTANCE (KM)**
Total paved – upgrade and new roads	56
Gravel – upgrade and new roads	34
Travel distance from Lower to Upper Reservoir	19

2.1.2 Alternative 2 – De Beers Escarpment

As in Alternative 1, the D48 and D275 will be upgraded to link to the R103 near Besters. The S61 from the Drakensberg Escarpment to Kiesbeen and the S790 between Kiesbeen and Swinburne would be maintained by Eskom during the construction period. The existing D48 will be upgraded and a new link road along the escarpment will provide a link to the Upper Reservoir site. Another new link road will link D48 to the Lower Reservoir site. The S61 from the Drakensberg Escarpment to Kiesbeen and the S790 between Kiesbeen and Swinburne would be maintained by Eskom during the construction period. This alternative will require the construction of 23 km of new road, and will result in a total road distance of 30 km between the Lower and Upper Reservoirs.

Table 2-2: Summary of access roads requiring upgrade or construction, Alternative 2

DESCRIPTION	**DISTANCE (KM)**
Total paved – upgrade and new roads	67
Gravel – upgrade and new roads	29
Travel distance from Lower to Upper Reservoir	30

2.1.3 Alternative 3 – De Beers Skeurklip

This alternative will utilise the full length of the S61 and the D48, but will require the full upgrading of these roads. The S922 will provide the link to the Upper Reservoir site. The D48 and D275 will be upgraded to link to the R103 near Besters. The S790 between Swinburne and Kiesbeen would be maintained by Eskom during the construction period. This alternative will result in a total road distance of 58 km between the Lower and Upper Reservoirs.

Table 2-3: Summary of access roads requiring upgrade or construction, Alternative 3

DESCRIPTION	**DISTANCE (KM)**
Total paved – upgrade and new roads	93
Gravel – upgrade and new roads	16
Travel distance from Lower to Upper Reservoir	58

2.2 Preferred Alternatives

Alternative 1 (Braamhoek) and Alternative 2 (De Beers Escarpment) have been identified by Eskom as the preferred internal access road alternatives. These alternatives are the two shortest routes, and the two least costly alternatives. The third alternative (De Beers Skeurklip) is favoured by certain stakeholders in the Maluti-a-Phofung and Thabo Mofutsanyana Municipalities. From an operational point of view, all three alternatives should be considered by Eksom. From an environmental point of view, there do not, at this stage, appear to be any fatal flaws, which would prevent these alternatives from becoming the preferred road route.

Another alternative road / route considered and presented in the Background Information Document (BID) but discarded in the initial scoping phases as a possible alternative. This alternative would provide direct access from the N3 at Van Reenen and could eliminate the need for a bridge over the Wilge River on the De Beers Pass route if access were obtained from SwinBurne.

3 ASSESSMENT

3.1 Context

With the view to appraise the potential impact of the respective alternative access roads to the BPSS on tourism in the Study Area cognisance must be taken of the nature and extent of tourism attractions in the area in relation to the respective alternative roads. The natural scenic beauty and fauna and flora are probably at present the main tourism attractions of the study area, lending itself towards:-

- Special Interest, nature and Adventure Tourism(including the wetlands and planned conservancy);
- Alternative tourism such as village, rural/farm or agro tourism;
- Walking and Cycling/mountain biking;
- Ecotourism;
- Transportation orientated tourism;
- Youth;
- Heritage/Historical tourism experiences, for the local ,regional and even international markets, and
- Events.

Although elements of the above exist it could be argued that its potential has not fully been developed. The development of adequate tourism infrastructure in particular good road access is regarded as a key input required for unlocking the tourism potential of the area. The development of internal access roads for purposes of the BPSS are therefore seen as an opportunity to also enhance the development of the tourism potential of the area which in turn will stimulate local economic development and job creation over the longer term. The access roads should also not impact negatively on the environment and the tourism potential of the area.

According to a draft Tourism Sector Plan of the Maluti- A- Phufong Municipality (Draft 2; 28.06.2005), the Harrismith/Swinburne areas have a rich history and are situated in a pristine natural environment, offering unique tourism opportunities including upmarket accommodation, reserves, geological and palaeontological sites, photographic wonderlands etc. De Beers pass is also mentioned for the excellent views it present. Development of the BPSS linked to a potential hiking and horse trail from Swinburne is also seen as possibly adding a unique tourism attraction. Some of the most pressing questions identified in the study relate to the development of public/ private partnerships, access to attractions, poor road condition and signage, in particular also with reference to potential attractions situated away from the main roads.

A report conducted at national level by the Department of Tourism and Environmental Affairs indicated priority areas for tourism infrastructure investment and include the Maluti area comprising Bethlehem, Golden Gate, Clarens and Harrismith as a tourism destination. It has also been identified as a local economic growth point within the National Strategy Development Framework, thereby requiring special attention to its economic sectors to minimise poverty through job creation outside of the public sector.

The applicable IDP'S identified amongst others the development of tourism networks/routes as some of its development priorities. It however does not elaborate on the specifics of these objectives.

Harrismith enjoys good regional road accessibility being situated at the intersection of the N3 and N5 national roads, with a connection to Qwaqwa.

Smaller supply routes such as Memel, via Verkykerskop to Harrismith and the feeder road from Ladysmith via De Beers Pass to Harrismith are also of importance although currently generally in poor condition. These are also considered in terms of its potential for creating circular tourist routes.

Newly paved and/or upgraded roads to the PBSS could also facilitate greater accessibility to the tourist destinations whereby the social efficiency of the project would be enhanced.

A prominent economist, John Schumpeter, observed that (infrastructure) development contains an element of 'creative destruction.' Therefore, in order to maximise social efficiency of a project (roads in this instance) it must be carried out with the least cost combinations of inputs, or, put differently, as far as environmental quality is concerned, with the least damage / destruction.

Social efficiency cannot be increased by projects where benefits are less than their costs. The issue is therefore a trade-off between competing objectives. In the instance of the BPSS it is of national importance to create additional peak electricity generation capacity by 2012. In the process a measure of damage to the environment is inevitable. In turn, conservation of the environment and the promotion of tourism are also of national interest.

The ideal solution of this issue is to strive towards creating a 'win-win' situation. A 'win-loss' situation will result when the actions of the economic agent (electricity generation) affect the welfare of another economic agent (the environment and its tourism potential) and the latter is not compensated for damages or reduced benefits.

As far as the comparison of costs and benefits in respect of environmental goods are concerned, it is rather difficult to calculate since markets do not automatically coordinate supply and demand.

Although it is difficult to attach a specific, objective value to the environment, destruction of or damage to the environment brings about a certain economic inefficiency or, put differently, external diseconomy.

As far as the development of the BPSS is concerned a given fact is that access routes must be developed bringing in its wake certain possible negative consequences for the environment. Eskom through its partnership with BirdLife South Africa and Middelpunt Wetland Trust aims to achieve benefits at international, national, regional and local levels that should offset against negative impacts that could result from the construction and

operation of the BPSS. Details on these arrangements are currently not available and still subject to investigation.

"To assist in meetings its obligations with respect tot the conditions in the EIA RoD for the pumped storage scheme, and to achieve benefits at international, national, regional and local levels that will offset negative impacts that could result from the construction and operation of the Braamhoek PSS, Eskom has formed the Braamhoek Partnership with BirdLife South Africa and Middelpunt Wetland Trust. The objectives of the Braamhoek Partnership are to:

- Effectively manage environmental impacts at the Braamhoek PSS and Bedford Wetland Park site before, during and post scheme construction;
- Ensure the integration of social, economic and environmental factors into both the planning and implementation phases of the Braamhoek PSS; and
- Initiate and monitor appropriate environmental projects relating to the site and the area impacted by the scheme, in order to improve the functioning of the wetland, thereby providing a sustainable environment for the threatened and other species endemic to the site."

The planned conservancy would become a tourist attraction in itself.

From a tourism point of view it would appear that the alternative roads will impact as follows on the environment alongside their respective routes:

Alternative 1 – Braamhoek (Approx cost: R 180 million)

- Road construction could have a negative impact on the fauna and flora and heritage resources.
- New road alignment could potentially have a negative visual / aesthetic impact.
- Road construction could involve the construction of sharp "hair-pin" bends that will render them less safe than other alternative routes
- On top of the sensitive escarpment area, a further 16 km of new road will be required and which may disturb heritage areas and the aesthetics of the area , although it will provide access to scenic views of the escarpment.
- Upgrading of the existing gravel road from Swinburne to Kiesbeen and De Beers Pass will partially increase/enhance accessibility towards the escarpment and related tourism opportunities.
- It is not certain if the construction of paved roads linking De Beers Pass with the lower reservoir and the Braamhoek pass linkage between the upper and lower reservoirs will be accessible for use by tourists or if it will mainly function as private roads. Development thereof could contribute to some local accessibility to related tourism attractions/opportunities.

Alternative 2 – De Beers Escarpment (Approx cost: R 220 million)

- Follows mostly existing road/tracts for the 23 km of new road construction.
- New roads on top of the sensitive escarpment area that may disturb heritage areas, although access to scenic views would be possible.
- The gravel upgraded section from Swinburne to De Beers Pass will partially enhance accessibility towards the escarpment and related/surrounding tourism attractions/opportunities.
- The paved upgrading of De Beers Pass may significantly enhance use of this road with increased tourism attraction.
- Paved access from De Beers Pass towards the lower reservoir may contribute to increased local access.

Alternative 3 – De Beers, Skeurklip (Approx cost: R 300 million)

- Almost entirely, uses existing roads and should cause less disturbance to fauna and flora and heritage resources
- May require relatively little material from borrow pits.
- The gravel upgrading of the Swinburne Kiesbeen link will partially enhance accessibility towards tourist attractions/opportunities.
- The paved upgrading of the Besters –De Beers Pass – Kiesbeen-Skeurklip link could significantly enhance access towards tourism attractions/opportunities within the sub-region.
- This alternative supports the idea of developing road infrastructure and tourism routes to unlock the tourism potential of the area.
- The paved section of De Beers pass from Besters up to Kiesbeen will be affected by the planned N3 toll road realignment along De Beers Pass that could also enhance tourism access to the area.

From the above analysis it would appear that, from a tourism point of view, Alternatives 3, would be the best route. The N3 and the future further development of the De Beers Pass alternative to the N3 must however be fully considered. The latter road, coupled with the choice of access roads to the BPSS, which will best serve tourism, can enhance the tourism potential and experience of the surrounding areas.[1]

Eskom's core business and responsibility are to provide energy for South Africa's inhabitants and to do so in the most cost-effective way. It is not

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[1] *The N3 Toll Road Scoping Report, Final Draft, January 1999 prepared by CAVE KLAPWISJK and Associates, concluded that the new route will provide tourists with views of a very scenic landscape and improved access to the area, thereby promoting the area's tourist potential. The latter report, however, also pointed out that the De Beers Pass Route will be running directly through the area around Nelson's Kop and the Tandjiesberge and will increase awareness of the beauty of the area among motorists passing by and thus lead to increased tourism in the area. It was also noted that the new road would not improve access to the area as the then design offered only one exit from the road; that at the Lincoln interchange. It would negatively impact on the 'peaceful ambience of the area', which is seen as one of its major attractions to tourists.*

Eskom's responsibility to construct roads and will only construct roads, which will assist the organization in achieving its strategic objective.

Eskom will, however, consider community needs when deciding on alternative road routes. To this end Eskom formed the Braamhoek Partnership.

It is therefore accepted that Eskom is striving towards finding an equitable trade-off between its own objectives and, those of nature conservation, tourism potential and the affected community.

In terms of the National Environmental Management Act No 107 of 1998, an applicant in a matter such as the BPSS must consider a project holistically and to consider the cumulative effect of the different impacts. These concepts should be explained.

Holism does not mean looking at a matter as a whole. What it amounts to is to accept that any proposed development will be an injection into an existing region. It is inevitable that such an injection will start a chain reaction, which will either add value to the region or detract value from the region.

In considering the cumulative effects of impacts, the purpose is to avoid looking at individual impacts; of evaluating them in isolation and in finding that each can be managed on its own. The combined impact must be capable of adequate management.

3.2 Assessment of PBSS on Tourism

Up front it is necessary to introduce a caveat. A survey of tourism in the Study Area is still in process.

Conventionally, a resource economics study is initiated after the other specialist studies in an impact study have been completed. It then uses these reports, and if necessary the valuation of unquantified impacts, to evaluate the full costs and benefits of all alternatives and rates them according to their significance, magnitude, intensity, etc.

Not being part of a full EIA, this study has followed a different line; focusing only on access roads and doing so without the availability of a comprehensive socio-economic and tourism study of the affected area.

Eskom has done estimates of the alternative routes and the spin-off effects of the relative capital expenditures during the construction and operational phase of the project and can therefore be determined in respect of their:

- direct impacts
- indirect impacts

- induced impacts.

Direct impacts: Take into account direct purchases made within the region by the project (e.g. material), the number of people employed in the project, and the effect on household incomes of these people.

Indirect impacts: Impacts on all other industries that supply inputs to the project in terms of, e.g., transport, accommodation, food and beverages, etc. Account is taken of the fact that the supplying industries themselves will also have to purchase more inputs having in its wake a chain reaction or multiplier effect.

Induced impacts: Economic impacts due to the paying out of salaries and wages to employees employed by the project. This impact also takes into account the salaries and wages paid out by the sectors indirectly linked to this sector due to the supply of inputs to them. These additional salaries and wages lead to an increased demand for various consumable goods that need to be supplied by various economic sectors.

It will be realised that the magnitude of the respective impacts will show differences between the construction phase (of the BPSS) and the operational phase. As far as the community within the Study Area is concerned the greatest impact / benefit will be experienced during the construction phase of the road and scheme. During the operational phase the direct impact will decrease significantly. Should the road alternative be chosen that would be of benefit to tourism, the project will continue, or increasingly so, be also of benefit to the relevant community in the Study Area.

As was noted earlier on, tourism is fairly underdeveloped in the Study Area. As a tourist destination, the immediate surroundings of the proposed BPSS hinges on eco- and adventure tourism. After its establishment, the BPSS itself will become a tourist attraction.

Viewed against the background of its features as tourist attractions, the area in the main will draw a specific type of tourist who would want to spend some time in the area. Then there would be those who would not spend more than one day, or a few hours, in the area. It is therefore premised that the 'staying-over' tourists would form a minority of the total visitors, although this could change as tourism infrastructure is developed over time.

If rated as a tourist attraction, the area is and will be in competition with the Golden Gate Highlands National Park with its more diverse attractions.

Certainly, having said all this, the development of the Study Area as a, thus far, neglected national asset, will serve as a stimulus for the economic growth of the affected communities.

Eskom has committed itself through the Braamhoek Partnership to assist in meeting its obligations with respect to the conditions in the EIA RoD, which includes:-

The effective management of environmental impacts at BPSS and Bedford Wetland Park site before, during and past scheme construction; to initiate and monitor appropriate environmental projects relating to the site and area.

Eskom feels that these mitigation measures are sufficient to meet its aforementioned obligations. It is therefore loath to commit additional resources to a road to its BPSS that will be less cost-effective than the road of its choice. It is standard practice that public projects will be implemented when it will render a return of at least eight percent per year.

If Eskom were therefore to spend an additional R100 million on Alternative 3, the yield must be at least R8 million per year. In addition this road will have a detrimental effect on the scheme from an operational point of view.

Eskom estimates that approximately 2 000 jobs will be created during the construction period of the BPSS (approximately 90% of which will be drawn from surrounding communities), with an additional 100 created during the construction of the access roads. During this period the local economy will experience a mini-boom. Subsequent to this period, local business will be less vibrant and approximately 1 800 people will have to find new employment.

The opening up of the Study Area as a tourist destination could possibly absorb at least some of the retrenched people and perpetuate social upliftment of the area and thus ensure the further integration of the project with related social factors.

Eskom should therefore, as a measure of goodwill, consider making a contribution towards the funding of a preferred tourist route.

Although alternative 3 (and 4) could be considered as the preferred alternative from the perspective of tourism development, under the circumstances Alternative 2 represent a more equitable approach since it will contribute to improved access to the tourist attractions and opportunities of the area.