

ISSUE	DETAILS	GENERAL ASSESSMENT AND EMP REQUIREMENTS	
		COMMENT	EMP Requirements
1. ECONOMIC:			
1.1 National and Provincial Support	National and provincial importance of project in terms of promoting economic growth in the region and South Africa	<p>Phase of concern: Operation Intensity: Low Overall significance rating: High (positive)</p> <p>Continued national economic growth results in an associated increase in demand for electricity supply. The development of the proposed Braamhoek PSS is aimed at meeting critical peak demand that is expected to exceed existing supply capability by 2012. The associated Transmission infrastructure required to link the PSS to the National Grid is an integral part of the development. Hence the contribution to the national and provincial economy is seen to be significant.</p> <p>Mitigation/Optimisation: limited Significance after Mitigation: High (positive)</p>	

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<p>1.2 Local Benefits</p> <p><i>Also refer to: Job Creation EMP</i></p>	<p>Economic benefits that the Substation will bring to local communities</p>	<p>Phase of concern: Construction (mainly) & operation Intensity: Low to Moderate Overall significance rating: Low to Moderate (positive)</p> <p>There will be little direct benefit to local communities from the line itself. However, indirect benefits are anticipated and include improved reliability of supply and greater supply capacity, limited job creation during construction & decommissioning, limited local economic growth during construction, etc. Indirect benefits will arise from the improved regional economic growth with which this Transmission line is associated.</p> <p>Mitigation/Optimisation: Maximise use of local skills and services. Significance after Mitigation: Moderate (positive)</p>	<p>Local municipalities, and Emnambithi in particular, are eager that local labour, skills and services are used where possible. They have offered to work with Eskom in identifying local skill and services that may be relevant. Hence the following measures are recommended:</p> <ul style="list-style-type: none"> • Eskom and municipalities to identify key individuals who will co-ordinate these efforts. • Eskom to provide the various municipalities, district councils, etc., of skills and services required for powerline and substation construction. • These include: <ul style="list-style-type: none"> ○ materials, earth moving, concrete supplies ○ tourism (accommodation) ○ catering, ○ vehicle maintenance, ○ security services ○ bush clearing and vegetation rehabilitation • In turn, the authorities may provide lists of possible service providers. • Encourage contractor (by contractual conditions) to utilise local labour in unskilled and low skilled activities. • Eskom and municipalities to co-ordinate and provide training <p><i>See also below.</i></p>
<p>1.3 Tariffs</p>	<p>Increase in electricity tariffs</p>	<p>Any new Transmission infrastructure does not infer a tariff increase to local electricity supply. These tariffs are set independently by the local distribution authority (e.g. municipality)</p>	

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<p>1.4 Job Creation</p> <p><i>Also refer to: Local Benefits Validity of the EMP</i></p>	<p>Employment of local labour (South African citizens and people local to the area) and preference given to a local contractor</p> <p>Local people could be employed to do the following:</p> <ul style="list-style-type: none"> waste removal gate installation bush clearing catering <p>Local independent Environmental Officer.</p>	<p>Phase of concern: Construction (mainly) & operation Intensity: Low Overall significance rating: Low to Medium (positive)</p> <p>Local labour should be utilised where possible. Due to the specialised nature of the work required, there will be <u>limited</u> opportunity for job creation in the local market during the construction, operation and decommissioning. However, there will be some opportunity for the employment of skilled and unskilled labour during construction, and the contractors will be encouraged to recruit from the local communities. This will form part of the EMP, and therefore the construction contract documentation.</p> <p>In the past, Eskom Transmission Division has awarded the contract for the construction of its Transmission infrastructure to a single contractor and left it to the discernment of that firm to obtain the necessary sub-contractors. There is now, however, pressure from local stakeholders for Eskom Transmission Division to stipulate in the main contract that local contractors should be used.</p> <p>Training of labour is a responsibility of the contractor. Eskom Transmission Division will bring the issue of training to the attention of the contractor</p> <p>Mitigation/Optimisation: limited Significance after Mitigation: Medium (positive)</p>	<p>EMP requirements stated above apply here.</p> <p>In addition to the above:</p> <ul style="list-style-type: none"> Utilise a local contractor to undertake erosion maintenance and rehabilitation (operations phase) Encourage contractor (by contractual conditions) to utilise local labour in unskilled and low skilled activities. Provide training <p>General recommendation: It is apparent that the local authorities view this as a high priority issue and have offered their support in giving effect to any initiatives to maximise local input and job creation.</p> <p>Key to maximising local input will be advanced warning of the need for skills and services. This will allow local capacity development and preparedness .</p> <p>It is worth re-emphasising that the EIA consultant still sees job creation to be limited within the Transmission infrastructure projects. Opportunities within other aspects of the Braamhoek PSS development have not been assessed here.</p> <p>See also other issues referred.</p>
<p>1.5 Local Opportunities for electricity supply</p>	<p>Opportunities for local distribution to farmers and landowners who want to draw directly from the Transmission line</p>	<p>Local supply direct to landowners, farmers etc., will not occur from this 400kV Transmission line. Local distribution is the responsibility of the local distributor or municipality. This project is focussed on power transmission rather than local power distribution.</p>	

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1.6 Tourism	The line will detract from the aesthetic appeal of the natural environment, and will therefore negatively impact on tourism activities.	<p>Phase of concern: Construction & Operation Intensity: Low Overall significance rating: Low</p> <p>The Substation area has a high scenic value and offers opportunity for eco-tourism. However, it is understood the area has a low tourist visitation. The development of the Braamhoek P.S.S. will alter the character of the site, but may also provide opportunities for increasing visitors to the area. Any such proposals have not been developed as yet. Hence the impact is seen to be relatively low despite the potential of the area.</p> <p>Mitigation/Optimisation: see EMP requirements Significance after Mitigation: Low</p>	<ul style="list-style-type: none"> • Construction access roads to avoid these sites and the access to these sites unless agreed with the owners • Rehabilitation of the construction access roads and servitudes must be undertaken as a priority to minimise visual impact • Advise owners of construction programme and activities before construction starts • Advise and agree with owners servitude maintenance requirements.

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2. WELL BEING:			
2.1 Electromagnetic Fields	Impact of electromagnetic fields (EMFs) on animals, people and vegetation	Phase of concern: Operation Intensity: Low Overall significance rating: negligible The substation will not be close to any residential areas. The anticipated impact is therefore negligible. Mitigation/Optimisation: monitor occupation of land around line during operation Significance after Mitigation: negligible	
2.2 Dust & Noise	Dust & noise control during the construction phase.	Phase of concern: Construction Intensity: Moderate to low Overall significance rating: negligible There is a risk of some dust and noise generation during the construction and decommissioning phases. These will be of a temporary nature, and can be controlled through good site management. However, there are no known locations where noise or dust emissions will affect people near the substation. Similar emissions will arise from the construction of the P.S.S. Mitigation/Optimisation: general site management Significance after Mitigation: negligible	
2.3 Corona (Noise)	The effect of the corona (low “buzzing” noise) may be noticeable in properties immediately adjacent to the servitude.	Phase of concern: Operation Intensity: Moderate to Low Overall significance rating: negligible The site is remote from dwellings. Mitigation/Optimisation: None Significance after mitigation: negligible	
2.4 HIV/Aids	<i>Refer to Immigration of construction workers</i>		

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2.6 Fire <i>Also refer to: Impact on flora Access roads Erosion</i>	The construction and operation of the substation may alter the occurrence and management of fires in the area. The change in the nature of fire hazards and events can have safety, economic and ecological implications.	Phase of concern: Construction and operation Intensity: Moderate to High Overall significance rating: Low The risk of fire associated with the substation is not the same as that of the power lines. Vegetation around the substation is carefully controlled and fires within the substation itself is carefully controlled. Hence and the overall impact is seen to be low. Mitigation/Optimisation: none Significance after Mitigation: Low	

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3. AESTHETICS:			
3.1 Visual impact	Visual impacts will be significant in the local area	<p>Phase of concern: Construction & Operation Intensity: High Overall significance rating: Moderate to low</p> <p>The substation will occur in an area of high visual quality. The Visual Absorption Capacity of the area is considered to be low to moderate – ie the substation will blend into the surrounds only to a limited extent. However, the specialist assessment did not account for the construction and operation of the Braamhoek P.S.S., which will have a significant impact on the character of the area. The substation is likely to be one of the more noticeable structures above ground and the overall impact is rated as moderate to low.</p> <p>Mitigation/Optimisation: none Significance after Mitigation: Moderate to low</p>	
3.2 Loss of sense of place	Negative impact on the spiritual, aesthetic and therapeutic qualities associated with the area in the vicinity of the line	<p>Phase of concern: Operation Intensity: Moderate to high Overall significance rating: Moderate to low</p> <p>The 'Sense of Place' of the substation site will be changed by the planned Braamhoek P.S.S. however, as stated above, the substation will be one of the more noticeable features of the scheme and is therefore been assigned a significance of moderate to low.</p> <p>Mitigation/Optimisation: none Significance after Mitigation: Moderate to low</p>	

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4. SOCIAL:			
4.1 Relocation of people	Will there be a need to relocate people, and their property/houses? What are the likely impacts? Will they be compensated?	Phase of concern: Construction Intensity: low Overall significance rating: none It is understood that there will be no relocation of people as a result of the development of the substation. Mitigation/Optimisation: see EMP requirements Significance after Mitigation: none	
4.2 Disruption of social networks and daily movement patterns	The social routine and social networks may be disrupted during the construction process.	Phase of concern: Construction Intensity: High Overall significance rating: none No disruption of social networks are expected in addition to the construction of the P.S.S. Mitigation/Optimisation: see EMP requirements. Significance after Mitigation: none	
4.3 Location of construction camps	The siting of construction camps in terms of: <ul style="list-style-type: none"> • Social issues • Ecological issues • Camps should be above any 1:100 year flood line. This refers particularly to the placement of toilets. • Waste disposal management 	Phase of concern: Construction Intensity: Moderate to High Overall significance rating: none The construction of the substation is expected to be a continuation of the Braamhoek P.S.S. construction process. Hence no additional social impacts are anticipated.	

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4.4 Gravesites <i>Also refer to: Consultation</i>	Protection of gravesites, disinterment of graves	Phase of concern: Construction Intensity: Low Overall significance rating: High A number of gravesites have been identified within the footprint of the proposed substation. They will need to be exhumed and relocated to a more appropriate burial site. However, this will be required for the construction of the access tunnels and therefore the substation impact on this issue is theoretically. Nevertheless it is recorded here as a significant impact. Mitigation/Optimisation: see EMP requirements Significance after Mitigation: low	The living relatives would need to be found and their consent sought for the relocation of the graves. This is likely to require a formal ceremony. A procedure for exhumation is required to be followed, and a permit from Amafa will be required.
4.5 Traffic Safety <i>Also refer to: Access to Properties Location of Construction Camps</i>	Road traffic safety, particularly relating to construction traffic.	Phase of concern: Construction Intensity: Moderate to high Overall significance rating: Low In the context of the Braamhoek P.S.S. construction, the additional impact of the substation construction traffic is expected to be minimal, including the import of heavy and abnormal goods. However, similar EMP requirements are still seen to apply. Mitigation/Optimisation: see EMP requirements Significance after Mitigation: Low	<ul style="list-style-type: none"> • Construction traffic to comply with national traffic laws and local by laws. • All vehicles to be in good working order, particularly brakes as there are many pedestrians and animals in the area. • All drivers to have full drivers licences • Traffic movements for heavy and abnormal vehicles must be planned and agreed with the Environmental Officer(s). • Construction traffic to be confined to normal working hours. However, particular care to be given at school opening and closing times. • Damage caused by construction traffic to be repaired immediately to prevent damage/accidents to road users. • Traffic access routes on private land should be mapped, marked on site, and agreed with the landowner.
4.6 Immigration of construction workers	<i>Refer to Construction camps</i>		

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5. LAND ISSUES:			
General note	The land on which the substation is planned is already in the ownership of Eskom. It forms part of the wider acquisition of land for the whole Braamhoek P.S.S. No further land related issues are anticipated.		

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6. FARMING RELATED ISSUES:			
6.1 Access to properties & Access roads	The creation of new or improved access to properties, for access to the line, brings potential associated issues that need to be considered.	This is the subject of a separate EIA	
6.2 Loss of agricultural potential	Restrictions on landuse and activities will impact on the agricultural potential of the land.	Phase of concern: Construction & operation Intensity: moderate Overall significance rating: Low The land is now within Eskom ownership, but it is understood that, where possible, farming practices are likely to continue through the lease of land to farmers for grazing. The long-term potential is not known at this stage. Mitigation/Optimisation: none anticipated Significance after Mitigation: Low	

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7. NATURAL ENVIRONMENT:			
7.1 Impact on fauna & flora	Impacts on the natural fauna and flora in the area	<p>Phase of concern: Construction and Operation Intensity: Moderate to low Overall significance rating: negligible</p> <p>The substation will be constructed on a working platform prepared for the construction of the access tunnels for the Braamhoek P.S.S. Therefore additional impact on the fauna and flora of the area is expected to be negligible.</p> <p>It is expected that the construction plan for the P.S.S. will have already set out mitigation measures for the construction fauna and flora of the area.</p> <p>Mitigation/Optimisation: see EMP requirements Significance after Mitigation: negligible</p>	
7.6 Importation of alien vegetation	Importation of alien vegetation through building materials	<p>Phase of concern: Construction Intensity: Moderate Overall significance rating: Moderate to high</p> <p>This is seen to be an issue that can be minimised through careful management during the construction and rehabilitation process. This should therefore be addressed in the EMP. Enhancement may be achieved through the eradication of existing alien species with the area of ownership.</p> <p>Mitigation/Optimisation: refer to EMP requirements Significance after Mitigation: low</p>	<p>Construction Phase:</p> <ul style="list-style-type: none"> Contractor to be made aware of invader species in the area. Operation in these areas to include the eradication of the alien plants and treatment of stumps, etc. Importation of materials that may be contaminated by alien plant seed etc. is to be obtained from controlled sources. Storage/stock piling of materials should not be in alien plant areas for fear of disturbance and spreading. <p>Operation phase:</p> <ul style="list-style-type: none"> Monitor alien plant areas and control further spreading.

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7.2 Impact of herbicides	Herbicides are sometimes used for the control of vegetation within the substation.	<p>Phase of concern: Operation Intensity: low Overall significance rating: potentially high</p> <p>The main threat associated with use of herbicides in the substation is the potential discharge of herbicide into the adjacent stream.</p> <p>It is understood Eskom Transmission has very strict requirements on the use of herbicides. These are applied by trained staff and are prescribed on a site by site basis.</p> <p>It is also known that the drainage system has the facility to trap flows that may be polluted and to store the polluted water for later treatment.</p> <p>In most cases herbicides decay within a short period after exposure to air and lose their toxicity. Hence, with careful application, risk of discharge to the watercourse should be small.</p> <p>Mitigation/Optimisation: see EMP requirements Significance after Mitigation: low</p>	<p>Operation phase:</p> <ul style="list-style-type: none"> • Only trained staff to handle and apply herbicides. • No applications should take place before or after rain periods.

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7.3 Pollution of the watercourse	Oil spillage within the servitude may discharge into the watercourse.	<p>Phase of concern: Construction Intensity: High Overall significance rating: Potentially High</p> <p>Oil based coolants are used in transformers and other substation equipment. Accidental spillage or leakage may discharge to the adjacent watercourse causing pollution.</p> <p>It is understood that standard designs for substations include spillage containment measures at more than one point in the drainage system, including sumps below the equipment, and shut-off valves.</p> <p>However, given the high water quality at the site, and the proximity to the watercourse, it is recommended that these systems are reinforced with backup facilities in the event of accidental spillage.</p> <p>Mitigation/Optimisation: see EMP requirements Significance after Mitigation: moderate to low</p>	<ul style="list-style-type: none"> • Spillage containment measures to be reinforced (eg increased capacity, improved access to shut-off valves, etc.) where possible. • A regular programme of testing the system should be enforced and controlled using ISO14000 procedures.. • Additional portable emergency pollution containment facilities to be kept on site at all times.

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8. CULTURAL AND ARCHAEOLOGICAL SITES:			
8.1 Palae-ontological Sites	Impact on fossils.	No fossil sites have been identified in the study area	
8.2 Archaeology	Abandoned homesteads (for grave sites see 4.4 above)	Phase of concern: Construction Intensity: moderate Overall significance rating: low Two abandoned homesteads occur on the site. These have been assessed by a specialist and are not thought to have much significance and no destruction permit is considered necessary. Mitigation/Optimisation: see EMP requirements Significance after Mitigation: Low	Confirm status with Amafa
8.3 Cultural, Historical and National Heritage Sites	Rock art sites	Phase of concern: Construction Intensity: Low Overall significance rating: low The area may have rock art on the scarp slopes near the proposed substation. A more detailed survey is suggested though no impact arising from the substation development is expected. Mitigation/Optimisation: see EMP requirements Significance after Mitigation: low	

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9. MANAGEMENT RECOMMENDATIONS:			
Environmental control officer	Appointment of environmental control officers (or Environmental Officer)	An environmental control officer should be appointed for the construction phase and a regional environmental manager should be appointed for operation. The roles, responsibilities and contact details should be set out in the EMP	Further to the points adjacent, it is recommended that the EMP is developed and implemented to cover the life of the project from environmental authorisation to decommissioning. Hence the EMP should cover: <ul style="list-style-type: none"> • Design • Construction • Operation • Decommissioning
	Liaison with Landowners	Landowners should have access to an environmental control officer with whom they can lodge grievances during construction.	The EMP is a working document, and need only address the current phase in any detail. It will therefore evolve and need to be reviewed at regular intervals.
	The environmental liaison officer must have a formal education.	As above.	The role of the Environmental Control Officer will form an important part of the development of the document, and different officers may be involved for each phase, or just over time. The contact details of the Environmental Control Officer needs to be published to all affected parties.