PROPOSED NEW COAL-FIRED POWER STATION IN THE LEPHALALE AREA, LIMPOPO PROVINCE ENVIRONMENTAL IMPACT ASSESSMENT

MEETING WITH REPRESENTATIVES OF THE PROVINCIAL AUTHORITIES 28 March 2006 09:00 Offices of the Limpopo Department of Economic Development, Environment and Tourism, Polokwane

1. WELCOME AND INTRODUCTION

Ms. Ashlea Strong introduced herself and welcomed the attendants to the meeting regarding the proposed new coal-fired power station in the Lephalale area, Limpopo Province. She introduced the following members of the project team:

- Ms. Deidre Herbst: Environmental Manager: Eskom Generation
- Mr. Tony Stott: Stakeholder Manager: Eskom
- Mr. Willem Laenen: Project Leader: Eskom
- Ms. Ingrid Snyman: Bohlweki Environmental: Public Participation

She explained that the purpose of the meeting was to:

- Provide stakeholders with further information regarding the proposed new Coalfired Power Station project;
- Provide stakeholders with further information regarding the EIA and public participation process being undertaken for the proposed new Coal-fired Power Station project;
- Provide a forum for stakeholders to engage with project team members; and
- Provide an additional opportunity for stakeholders to formally raise any issues and concerns.

2. OVERVIEW OF THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS EIA AND PUBLIC PARTICIPATION

Ms. Ashlea Strong provided and overview of the proposed project and discussed the EIA process and public participation process, as well as the findings of the draft Environmental Impact Assessment Report (EIR).

The presentation in attached as Appendix A.

3. **DISCUSSION SESSION**

Mr. T Ngoasheng of DWAF asked whether backfilling into the pit would be considered. Ms. Deidre Herbst said it would be considered although it did not form part of this EIA. The EIA, however, did consider this as alternative but focused on the what would occur under normal circumstances, which is ashing on land. Detailed and intensive combined studies have to be undertaken by Eskom and Kumba Resources regarding in-pit ashing. Both parties would then enter into detailed discussions on completion of these studies. Mr. Willem Laenen added that the intention was to ash on land until the studies have been completed and a decision regarding this issue had been made.

Mr. T Ngoasheng of DWAF said the timeframes of the various studies was a source of concern as there were internal challenges with issuing a water use licence. The necessary water use licence application should thus be made as soon as possible. Ms. Deidre Herbst replied that Eskom has already been in consultation with National and Regional DWAF regarding the process.

It was asked what length of road would be affected by the re-alignment of the Steenbokpan Road. Ms. Ashlea Strong indicated that between five to six kilometres would be affected, as the new re-alignment would be a maximum of nine kilometres.

It was indicated that the new re-alignment of the road would need to be reproclaimed. Ms. Ashlea Strong said the traffic impact assessment made mention of this aspect and the necessary process that needs to be undertaken.

Mr. D Lithole of SAHRA noted that a heritage impact assessment should not only be confined to the issue of graves. Ms. Ashlea Strong said the archaeologist did consider a broad scope of aspects, but that the presentation only noted those that were found in the vicinity of the proposed sites. She explained that the farm Nelsonskop was disregarded as a preferred site due to the heritage resources found on the koppie. National SAHRA already commented on the Scoping Report and indicated that they were satisfied with the findings and recommendations made as part of the heritage impact assessment.

Mr. D Lithole of SAHRA said that they would study the draft EIR and comment on the findings. He emphasised that if any graves had to be removed, Eskom should enter into an agreement with SAHRA regarding this issue. The comment was noted.

Mr. R Tredway of the Provincial Department of Health and Social Development said the development was supported, but one should consider all the factors. He explained that to the north of Lephalale one found very poor communities such as Seleka, Witpoort and Shongoane. These communities still had communal taps and experienced great difficulties with the water scarcity in the area. Should the Mokolo dam wall be raised these communities should also benefit. He therefore suggested that DWAF should investigate supplying these communities with water as part of this development. He said that the Department of Health hoped that this development could thus bring relief to these type of communities in the 70 km² radius which fell under the jurisdiction of the Lephalale Municipality. Ms. Deidre Herbst indicated that Eskom would have discussions with DWAF and the Lephalale Municipality regarding these social issues and the benefits to the communities at large.

Mr. Waldo Last of the Department of Health and Social Development (Lephalale) said the concerns raised by the community members at the Environmental Management Committee meetings always revolved around air quality. Indications are that the emissions from the existing Matimba Power Station are below standard, but trees are still dying to the Steenbokpan side (south-west) of the power station. Tests undertaken indicated that there are ground level impacts 20 kilometres from the power station. He wanted to know how an additional power station would influence the ecology to the south-western side of the site. Ms. Deidre Herbst said the impact of emissions from the existing Matimba power station is within the limits. The maximum point of impact of the plume is approximately 2 kilometres from the power station and current monitoring indicates that there are exceedances of six hours per year. The vegetation study of the EIA covered the issue of trees that were dying and the air quality impact assessment found that there would be a low likelihood that the existing and proposed power station would impact on the vegetation. She added that in cases where an epidemiological study was not undertaken for approximately twenty years, then the worst-case scenario is considered. It was found that the heavy metals emissions were very low, but with the SO_2 emissions it was less clear. It is possible that the impacts would be similar to that of the brownfields site. She invited the speaker to the public meeting where the air quality specialist would be present to answer further questions in this regard.

Mr. Waldo Last asked if the units would be delivered at the Richards Bay Harbour and what the impact of the transportation of this material would have on the roads. He said the road between Mabatlane (Vaalwater) and Nylstroom was in a poor condition and he was concerned about the height between the tar and the gravel adjacent to the road. The road should thus be upgraded as consideration to the local communities, although he knew that it would not be an easy process due to the different departments that would be involved. Mr. Willem Laenen said the units would most probably be delivered at Richard Bay, but explained that the weight per tyre for the heavy vehicles transporting these materials were far less than that of other heavy vehicles such as the coal trucks. The impacts on the road surface would thus be negligible, although there would be impacts such as the obstruction of traffic while transporting these units. For the first phase (three units) twenty sessions of transportation of heavy materials were expected over the course of three years.

Mr. Tlhagala Ngoasheng of DWAF (Limpopo Regional Office) asked whether the waste management for the proposed power station included handling of liquids by e.g. wastewater dams as this power station would act independently from the existing power station. The addition of a new power station would thus introduce more pollution to the site. Mr. Willem Laenen said it was correct that this would be a fully independently operated power station and therefore all the necessary facilities would be duplicated. Eskom would only make use of the existing facilities such as ashing onto the existing ash dump as an emergency dump.

Mr. Richard Tredway said that in the past ten years there were two major floods in the Limpopo Province, which caused much disaster in the area and in Mozambique. He wanted to know whether there were any investigations to build a dam in the Limpopo River. It was noted that this comment would be forwarded to those involved with the DWAF studies.

Mr. Tsunduka Hatlane suggested that Eskom and Kumba Resources should also jointly undertake future monitoring of air quality as they were now undertaking joint air quality studies. This would enable them to determine all cumulative impacts. Ms. Deidre Herbst said the long-term planning suggested joint air quality monitoring. Cumulative air quality studies have been undertaken for the existing and proposed power station and to a certain extent with regards to the mine as well. All relevant information from the mine was, however, not yet available, but this would be included in the mine's EMPR process.

Mr. Waldo Last asked how Eskom would deal with the hazardous waste substances. Ms. Deidre Herbst said the hazardous waste from certain waste streams would be stored in an approved place at the power station and would then be disposed of at the Holfontein landfill site in Gauteng. The domestic waste would be disposed at the existing municipal landfill site.

Mr. Waldo Last said Eskom should note that the domestic municipal landfill site was not yet registered.

Mr. Waldo Last wanted to know how the domestic waste from the proposed power station would impact on the lifespan of the domestic municipal landfill site. Ms. Deidre Herbst said to determine such an aspect one should look at the current waste quantities produced by the existing power station as the quantities would be similar.

Mr. Waldo Last asked how many jobs would be created by the proposed power station and how many households would add to the waste generated. Mr. Willem Laenen said that the target was to employ 200 permanent Eskom employees at the proposed power station and 400 contract workers during the operational phase of the project. In the long-term it would thus be approximately 600 families. One should also take note of the estimated 1000 to 1200 people to be employed by the mine.

Mr. Tlhagala Ngoasheng of DWAF said his comments on the previous meeting held in July 2005 were not included in the final minutes. He added that his name was noted incorrectly in these minutes. He suggested that the minutes of the previous meeting should have been reviewed at the meeting. Ms. Ashlea Strong apologised for the incorrect information and said that the minutes of the previous meeting could again be distributed with these minutes.

Mr. A Dikgale of the LDEDET asked whether the re-alignment of the Steenbokpan Road considered alternatives and whether it was included in the draft EIR. Ms. Ashlea Strong said alternative alignments were considered and safety aspects were also taken into account. More details are included in the traffic impact assessment as part of the draft EIR.

4. CLOSURE

Ms. Ashlea Strong indicated that the draft Environmental Impact Assessment Reports (EIR) were available at the following locations for review:

- Lephalale Municipal offices (Corner of Joe Slovo and Douwater Streets)
- Lephalale Library (Corner of Joe Slovo and Douwater Streets)
- Eskom Matimba Power Station

- Co-op Lephalale (Offices of Lephalale District Agricultural Union Botha Avenue)
- Marapong Clinic (Tlou Street, Marapong)
- Offices of Bohlweki Environmental (Kyalami Office Park, Kyalami)
- www.bohlweki.co.za

She again invited Interested and Affected Parties to review these reports and provide their comments to Bohlweki Environmental by 28 April 2006.

She thanked the attendants for their inputs and closed the meeting at 10:40.

5. ATTENDANCE REGISTER

The Attendance Register is attached as Appendix B.

Appendix A

Presentation



ENVIRONMENTAL IMPACT ASSESSMENT: PROPOSED ESTABLISHMENT OF A NEW COAL-FIRED POWER STATION IN THE LEPHALALE AREA, LIMPOPO PROVINCE

NEED FOR THE PROJECT

- The demand for electricity in South Africa has grown, on average, at more than 4% over the past few years, with a concomitant reduction in the surplus generating capacity.
- In terms of the National integrated Resource plan the NER have identified that RSA will require new base-load capacity by 2010
- The Eskom ISEP process identified the need for new coal-fired power stations as a preferred option for the provision of base-load generation capacity in the near future.

Three potential areas identified for further investigation:

- Kendal North (Witbank)
- Vaal South (Sasolburg)
- Lephalale

BRIEF OVERVIEW OF PROJECT

- Establishment of a new coal-fired power station on a technically feasible site in the Lephalale area of the Limpopo Province.
- To operate at an installed capacity of approximately
 4 800 MW (2 100 MW initially, potential expansion to
 4 800 MW in the long-term).
- Approximate footprint of 700 ha for the Power Plant and an additional 500 – 1000 ha for ancillary services, including ashing facilities

BRIEF OVERVIEW OF PROJECT

- Power Station will utilise a range of technologies pertaining to cooling, combustion and pollution abatement.
- Environmental Studies undertaken assist in determining the most appropriate technology options to be implemented.
- Due to the limited water availability in the Lephalale area, the power station will utilise direct dry-cooling technology.
- Dry-cooled station would utilise approximately <0,2 litres of water per unit sent out.

POWER STATION ALTERNATIVES

· Do Nothing alternative:

- Electricity demands not being met.
- Economic impact on RSA
- Rejected as a feasible alternative
- New Coal-fired Power Station alternatives:
 - Regional and local site alternatives identified by Eskom through high level decision making.
 - It was concluded that there was the potential to establish a new power station in close proximity to the existing Matimba Power Station.

LOCATION ALTERNATIVES

- 8 Farm sites within Lephalele evaluated within the Environmental Scoping Study:
 - Appelvlakte
- Zongezien Kromdraai
- NelsonskopNauwontkomen
- Droogeheuvel
- Eenzaamheid
- Kuipersbult
- Naauwontkomen 509 LQ and Eenzaamheid 687 LQ, nominated for detailed investigation within the Environmental Impact Assessment.



ROAD AND CONVEYOR BELT ALTERNATIVES

Road Re-alignment:

- Need to realign the Steenbokpan road.
- Two alternatives identified and evaluated.
- Northern Alternative
- Southern Alternative

Conveyor Belt Alternatives:

- Two conveyor belt alignments were identified.
- Eastern Alternative
- Western Alternative

ROAD AND CONVEYOR BELT ALTERNATIVES

TECHNOLOGY ALTERNATIVES

- Cooling Alternatives
 - Dry cooling
- Combustion alternatives
 - Pulverised Fuel
- Ash Disposal Alternatives:
 - Ash Dumps (Disposal to land)
 - Ashing back into pit at Grootgeluk mine
- **Emissions Control Technologies**
 - For particulate emissions, Sox and NOx

OVERVIEW OF THE EIA PROCESS

Phase 1: Environmental Scoping Study

- Evaluation of Environmental Issues
- Public consultation
- Recommendations regarding preferred alternatives
- Phase 2: EIA
 - Detailed studies for Nominated Alternatives
 - Public consultation process
 - Final conclusions & recommendations

PUBLIC PARTICIPATION

Public participation

- Public meetings & key stakeholder workshops
- Focus Group Meetings
- One-on-one consultation
- Telephonic consultation
- Media

ASSESSMENT OF IMPACTS ...Overall Benefits

- Will assist in meeting the expected base-load electricity demand in the short-term
- **Indirect benefits**
- Increased Eskom capacity to provide reliable electricity supply to existing facilities during peak times
- Economic benefits for RSA

ASSESSMENT OF IMPACTS ...Water Resources

- No artesian boreholes located within the study area and no largescale abstraction of groundwater occurs.
- The study area falls within the Mogol River Catchment, which drains into the Limpopo River.
- The main water users in the area include agriculture, industry, mining, power generation and domestic activities.
- A potential impact on water supply was identified.
- Groundwater water was found to be impacted by the existing power station however due to the nature of the groundwater resource the impact is not significant.
- Mitigation and management measures will decrease the impact of the power station on surface and ground water resources.

ASSESSMENT OF IMPACTS ...Water Resources

Mitigation measures include:

- Monitoring groundwater quality and water levels
- Correctly designing and constructing the facility
- Installing the correct surface water controls

Water Supply:

- DWAF studies underway
- Some studies are nearing completion
- Potential Water augmentation alternatives:
 - Augmentation from Crocodile West Catchment (45 Million cubic meter per annum available supply)
 - Raising the Mokolo Dam Wall
 - Development of borehole fields

ASSESSMENT OF IMPACTSFauna and Flora

- Potential impacts on the fauna and flora can be expected with the proposed power station and ancillary infrastructure.
- The study falls within the Savanna biome.
- Impacts of significance:
 - Destruction of natural habitat
- Destruction of protect species and associated habitat
- Detailed studies showed habitat to be of medium sensitivity and well represented therefore no fatal flaws
- Protected species are also well represented and mitigation measures will limit the impact.

ASSESSMENT OF IMPACTSFauna and Flora

Mitigation Measures include:

- Remove, relocate and protect as many of the protected species as possible
- Contain all construction and operational activities within specified areas
- Utilise trees for effective screening
- Develop and implement an alien control and monitoring programme

ASSESSMENT OF IMPACTS ... Air Quality

- Current legislation (AQA) provides interim limiting concentrations for a range of pollutants, however, the National Framework and proposed standards have not yet been compiled.
- In particular, the national standards for the monitoring of compliance have not yet been compiled.
- In light of the lack of certainty a conservative approach has been adopted for this air quality assessment.

ASSESSMENT OF IMPACTS

... Air Quality

- Cumulative impacts were considered. The following sources were highlighted:
- Matimba Power Station
- Brickworks at Hanglip
- Grootegeluk Mine
- Household fuel combustion
- Veld fires
- Sewage Works
- Wind blown dust
- Vehicle exhausts

Ambient NOx and particulate concentrations are not predicted to exceed current standards.

ASSESSMENT OF IMPACTS

... Air Quality

- Exceedances of interim SA standards are predicted for SO_2 . Health risks as a result of exposure to SO_2 and Heavy Metals were assessed.
 - This study assumed, that all areas beyond the boundary of the site, were impacted by the maximum possible exposures to heavy metals (i.e. 24 hours per day over a 70 year lifetime).
- Cancer risk as a result of heavy metals was found to be very low.
- SO₂ Concentrations occurring as a result of the cumulative impact of two power stations are predicted to be associated with moderate to high health risks.
- Moderate to high health risks refer to the potential of significant numbers of people being exposed to concentrations that could cause respiratory ailments such as asthma and chronic bronchitis. The effect of these concentrations can also result in serious impacts on those predisposed to respiratory ailments.

ASSESSMENT OF IMPACTS ...Emission Control Technologies

- In the event that control technologies are required for for SO2, possible technologies could include:
- Wet or Dry Flue Gas Desulphurisation
- Negative impacts as a result of FGD:
- Decreased efficiency resulting in an increase in the use of natural resources
- Air quality increased greenhouse gases and heavy metals
- Increased water use (double that required for dry cooling)
 Waste
- Visual impacts wet plume from stacks
- Need for Sorbent material such as lime or lime stone and the associated mining impacts
- Transport issues as a result of the need for sorbent
- The implementation of FGD would result in an additional capital expenditure of 6 - 10 % as well as additional operational costs (i.e. approximately R3 - R5 Billion)

ASSESSMENT OF IMPACTS



- Visual quality of study area altered by industrial development
- Mitigation required:
 - Sensitive placement of light fixtures
 - Fitment of covers and shields designed to contain rather than spread light
 - Use of vegetation for screening localised mitigation
 - Maintenance of facility and associated infrastructure to prevent visual impact of degradation

ASSESSMENT OF IMPACTS

...Tourism

- Tourism types identified in the study are include business, leisure
- (hunting and ecotourism) and passing trade.
- It is anticipated that the business tourism sector will be positively impacted.
- The leisure sector is anticipated to be negatively impacted by a small degree.

ASSESSMENT OF IMPACTS ...Heritage Sites

- Impacts on cultural and historical sites are likely to be of low significance.
- Potential impacts may occur during construction and recommendations to minimise these impacts must be included in the EMP.
- Mitigation measures include:
 - Avoid cemeteries, if this is not possible ensure that the correct procedures are implemented with regards to the the relocation of graves
 - Report any exposed sites immediately to a museum (preferably one with a archaeologist)

ASSESSMENT OF IMPACTS

...Noise

 Potential Noise impacts have been identified with the construction and operation phases of the project.

- Existing ambient noise level in study area ranges from 36.2 56.4 dBA during the day and from 35.1 - 56.1 dBA at night.
- Noise assessment undertaken in accordance with requirements of SANS 10103
- SA Noise Regulations indicate an increase in ambient noise level of more than 7 dBA to be a "disturbing noise"
- Impact of construction noise anticipated to be low to negligible
- Various construction and operational mitigation measures have been recommended.

ASSESSMENT OF IMPACTS

...Traffic

Potential impacts are associated with the construction phase of the project

Potential impacts:

- Transportation of components during construction
- Traffic associated with employees during construction and operation
- Assessed as being of moderate significance

ASSESSMENT OF IMPACTS

...Geology, Soils and Agricultural Potential

- Sediments and volcanics of the Waterberg Group and Karoo Supergroup underlie the study area.
- The Daarby and Eenzaamheid faults traverse the study area
- Both sites identified for the construction of the power Station are acceptable for development in terms of founding conditions.
- Detailed studies showed soils to be of a sandy nature with moderate to low agricultural potential.
- Impact on agricultural potential is indicated to be of low significance.

ASSESSMENT OF IMPACTS

...Social

- A number of potential social impacts associated with the project have been identified.
- Issues include safety and security, land value, air quality and pollution, job creation, influx of external labour and job seekers.
- Mitigation required:
- Make use of local labour, where possible
- Involve local communities in identification of labour pool
- On-going communication with communities

OVERALL CONCLUSION

- Northern Road alternative preferred.
- Eastern Conveyor alternative preferred.
- No environmental fatal flaws, provided the recommended
- management and mitigation measures are implemented
- Both sites considered to be acceptable from an environmental

perspective

OVERALL RECOMMENDATION

Findings of EIA must be included in an EMP:

- Consider construction and operation of the power station and associated infrastructure
- Used to ensure compliance with environmental specifications and management measures
- Process of communication and consultation with community representatives to be on-going.
- The issues raised regarding air quality and water use and potential pollution should be considered by DWAF and DEAT in the respective application for licenses.

THE WAY FORWARD

- Review period for draft EIA:
 - 23 March 2006 28 April 2006
- Comments received from the public during review period will be incorporated into final EIA Report
- Submit Final EIA to DEAT
- Authority review and decision-making
- · Receive Record of Decision
- Inform all registered I&APs and stakeholders of decision

Direct all comments or queries to:

Ingrid Snyman / Ashlea Strong

Bohlweki Environmental

P.O. Box 11784, Vorna Valley, Gauteng, 1686 Phone: (011) 466 3841 Fax: (011) 466 3849 E-mail: matimba@bohlweki.co.za

DISCUSSION



Appendix B

Attendance Register

ATTENDANCE REGISTER

EIA for the Proposed Establishment of a new Coal-fired Power Station in the Lephalale Area, Limpopo Province Provincial Authorities Meeting held at the LDETED Offices in Polokwane

28 March 2006 at 09.00

Title	Name	Surname	Company/Organisation	Position/Directorate	Postal Address	Contact details	
Mr	Thomas	Shivambu	Roads Agency Limpopo	Manager	P/Bag X 9554	Tel: 015 291 3772	Fax: 015 291 5645
					Polokwane	Cell: 082 447 2922	
					700	email: shivambumt@ral.co.za	
Mr	Anthony	Dikgale	DEDET	ЕІМ	P/Bag X 217	Tel: 015 295 9300	Fax: 015 295 5015
					Polokwane	Cell: 082 803 9820	
					700	email: DikgaleAP@ledet.gov.za	
Mr	Tsunduka	Hlatane	DEDET	EIM	P/Bag X217	Tel: 015 295 9300	Fax: 015 295 5015
					Polokwane	Cell: 082 377 8768	
					700	email: hatlanetn@ledet.gov.za	
Mr	Anderson	Mulondo	Roads & Transport	DPM	P/Bag X 9491	Tel: 015 293 1007	Fax: 015 293 1730
					Polokwane	Cell: 082 217 0560	
					700	email: mulondoa@worptb.norprov.gov.za	
						-	-
Mr	Tlhagala	Ngoasheng	DWAF	ASD	P/Bag X 9506	Tel: 015 290 1267	Fax: 015 290 3249
					Polokwane	Cell: 083 640 5582	
					700	email: NgoashengT@dwaf.gov.za	
Mr	Waldo	Last	Dep. of Health	Snr SHE Manager	P O Box 1185	Tel: 014 763 2180	Fax: 014 763 2406
					Lephalale	Cell: 082 333 8465	
					555	email:	

Mr	Donald	Lithole	SAHRA Limpopo	Cultural Heritage Officer	PO Box 1371	Tel: 015 291 1804	Fax: 015 291 1819
]	Polokwane	Cell: 073 149 1628	
					700	email: sahranp3@mweb.co.za	
Mr	Willem	Lainen	Eskom	Eskom Rep.		Tel: 011 800 3546	Fax:
						Cell: 083 727 6376	
						email: willem.lainen@e	skom.co.za
Mr	Tony	Stott	Eskom	Snr Manager	PO Box 1091	Tel: 011 800 2004	Fax: 011 800 2782
					Johannesburg	Cell: 083 655 2004	
					2000	email: tony.stott@esko	m.co.za
Ms	Ramasela	Ledwaba	DWAF	Pollution Officer	P/Bag X 9506	Tel: 015 290 1259	Fax: 015 295 3215
					polokwane	Cell: 082 903 4588	
					700	email: ledwam@dwaf.gov.za	
Mr	Richard	Tredway	Dep. of Health	SHE Officer	P/Bag X1026	Tel: 014 718 1700	Fax: 014 717 1439
					Modomolle	Cell: 082 873 8916	
					510	email: Rtredway@dhw.norpro.gov.za	
Mr	Adam	Dolo	Dep. of Health	SHE Officer	Box 1704	Tel: 015 409 2000	Fax: 015 409 2067
					Mahwelereng	Cell: 082 409 5931	
					626	email:	