

**ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED NEW ESKOM
COAL-FIRED POWER STATION PROJECT (MATIMBA B) IN THE LEPHALALE
AREA, LIMPOPO PROVINCE:
PUBLIC PARTICIPATION PROCESS**

**KEY STAKEHOLDER MEETING
27 JUNE 2005
14:00**

ESKOM CONVENTION CENTRE, TUTUKA ROOM, MIDRAND

DRAFT MINUTES

1. INTRODUCTION

Dr David de Waal, the facilitator, welcomed the attendants to the key stakeholder workshop regarding the proposed new coal-fired power station in the Lephalale area, Limpopo Province. He indicated that the meeting proceedings would be minuted and recorded for record purposes. An attendance register is attached in Appendix A.

He explained that an Environmental Impact Assessment (EIA) normally has two phases. Issues will be identified and investigated in the first phase, namely the Scoping phase. These would then again be assessed in more detail during the second detailed Environmental Impact Assessment phase. The purpose of this session was thus to explain the proposed project to the attendants and to identify issues, comments and concerns that are relevant and which should be further assessed in detail during the detailed EIA phase. Some questions can therefore not yet be answered, as the studies have not yet been completed.

The purpose of the meeting was to:

- Provide Interested and Affected Parties (I&APs) with information regarding the proposed Matimba B project;
- Provide a brief overview of the Environmental Impact Assessment (EIA) and Public Participation process;
- Provide an opportunity to seek clarity on the project;
- Record issues, comments and concerns raised; and
- For interaction with the project team.

Dr David de Waal explained that the applicant was Eskom Generation, but that Bohlweki Environmental was appointed as independent consultants to undertake the EIA. He introduced the following members of the project team:

- Mr Tony Stott: Generation: Senior manager stakeholder management

- Ms Deidre Herbst: Generation: Environmental manager
- Mr Nigel Volk: Project manager this phase of the project

The EIA consultants present at the meeting were:

- Ms Karen Kück: Bohlweki Environmental: EIA Project Manager
- Ms Ingrid Snyman: Bohlweki Environmental: Public participation consultant

It was proposed that the EIA and public participation process discussion be dealt with first. The agenda was then approved. There were no apologies to be recorded.

2. EIA AND PUBLIC PARTICIPATION PROCESS

Ms Karen Kück explained that Eskom Holdings appointed Bohlweki Environmental as independent consultants to undertake the EIA. The project team consisted of a host of specialists chosen due to their experience in the Limpopo Province and/or discipline. She discussed the following issues:

- Why the environmental studies are needed;
- The identification and assessment of the potential environmental impacts (biophysical and social);
- Mitigation and management measures;
- The two phases of the EIA;
- The location of the alternatives assessed in the Scoping phase;
- The investigation of the nominated preferred site;
- Environmental management plan;
- The public participation process;
- Key project information;
- A plan of the sites considered for the power station site and the ancillary infrastructure;
- The aims of the environmental Scoping study;
- The EIA process that would be undertaken; and
- The specialist studies.

This presentation is included within Appendix B.

3. OVERVIEW OF ELECTRICITY DEMAND AND SUPPLY SITUATION

Mr Tony Stott provided more information on:

- The concept of electricity;
- Energy and electricity supply in South Africa;
- Eskom's existing power stations;
- The electricity demand and supply in South Africa;
- Eskom's installed capacity; and

- The planning processes undertaken by Eskom and the Department of Minerals and Energy, the National Integrated Resource Plan (NIRP) and the Integrated Strategic Electricity Plan (ISEP).

In addition he referred to the decision-making processes to be undertaken by Eskom Holdings and technology options investigated by the organisation.

This presentation is included within Appendix B.

4. NEW COAL FIRED POWER STATION IN THE LEPHALALE AREA

Eskom's need for a new power station and the use of coal as the fuel for this power station was addressed by Mr Nigel Volk. He stressed that Eskom Holdings use the term Matimba B, but that the name could be changed in future if the project was approved. The potential source of coal could come from the Grootegeluk Mine of Kumba Resources, which supplies the existing power station.

He provided more information regarding the following:

- Matimba B decision process within Eskom;
- The process followed to identify the priority site;
- The pre-feasibility findings;
- The major activities involved in the feasibility study;
- The major assumptions and the major decisions to be made by Eskom in the short term with regards to the construction of a new coal fired power station in the Lephalale area;
- The aspects taken into account with sites investigated for the Matimba B siting;
- Technical details of the power station;
- The proposed schedule and expenditure; and
- Benefits to the Limpopo Province and Lephalale.

This presentation is included within Appendix B.

5. DISCUSSION SESSION

Dr David de Waal opened the discussion session and invited the attendees to raise their views and comments. The following questions were addressed during the discussion session:

- Ms Carla Hudson of the Wildlife and Environment Society of South Africa (WESSA) indicated that she would like to obtain a copy of Eskom's Environmental Policy.

Ms Deidre Herbst indicated that the document could be made available.

- Ms Carla Hudson of WESSA requested a copy of the Record of Decision (ROD) issued by the Department of Environmental Affairs and Forestry, as well as a copy of the Environmental Management Plan (EMP) for the existing Matimba Power Station.
Ms Deidre Herbst indicated that existing Matimba power station was built pre-1997, and no ROD was issued. The operations of the existing Matimba Power Station are ISO 14000 compliant (an EMS is in place) and Eskom also have the required licenses to operate.
- Ms Carla Hudson of WESSA enquired whether the existing Matimba Power Station has rehabilitation policies.
Ms Deidre Herbst replied that Eskom rehabilitate what is required and all of these are identified within the ISO 14000 system.
- Ms Carla Hudson of WESSA enquired whether the above-mentioned information could be made available to the public.
Ms Deidre Herbst suggested that it might be more useful to make arrangements with the environmental manager at Matimba to actually visit the site.
- Ms Carla Hudson of WESSA enquired why an authorities meeting was not held before this key stakeholder meeting. She wanted to know when the consultants would have the meeting with the relevant authorities and requested a copy of the minutes of such a meeting.
Ms Karen Kück replied that the meeting with the authorities scheduled for 28 June 2005 in Polokwane was with various relevant provincial departments such as the Department of Health, Department of Minerals and Energy, Department of Agriculture etc. The initial correspondence and authorities pre-application meeting was held with National DEAT, the lead authority for this project. A meeting was held with the DEAT representatives, and they attended a visit to the sites.
- Ms Carla Hudson of WESSA enquired whether Eskom would be applying for a Licence under the new Air Quality Act.
Ms Deidre Herbst advised that which ever legislation is relevant at that time would be complied to.
- Ms Carla Hudson of WESSA enquired if Eskom would be renewing their water license.
Ms Deidre Herbst replied that Eskom would be required to apply for a new water licence for the new station.

- Ms Carla Hudson of WESSA stated that the presentation indicated that between 250 and 500 people would be employed on the site. She enquired if Eskom would build a sewage works.
Ms Deidre Herbst replied that there are existing sewage treatment facilities in the area. Issues such as these would be included as part of the EIA specialist studies and Eskom would be guided by the findings and recommendations of these studies.
- Ms Carla Hudson of WESSA enquired what environmental selection criteria were used and taken into consideration when the screening process was undertaken.
Ms Deidre Herbst said the criteria taken into consideration during the environmental screening processes included land issues, bio-diversity issues, water, air quality, and other important bio-diversity aspects.
- Ms Carla Hudson of WESSA enquired whether Eskom would consider stopping the project should the environmental studies identify a Red data species on site.
Ms Deidre Herbst noted that that would depend on the specialist studies undertaken during the EIA process and their recommendations in this regard. Eskom could then look at an alternative site, but they would not just assume that if there was a Red Data species on one section of a site that it would be found elsewhere and stop the project based on such an assumption. Mr Tony Stott added that at the Majuba Power Station a Red Data species (Sun Gazer Lizard) was identified during the construction phase. This species was relocated and a dedicated conservation area formed to protect the species. It is considered possible for Eskom to deal with such situations.
- Ms Carla Hudson of WESSA enquired whether the construction of the associated transmission lines and substations would form part of this EIA process or whether it would be undertaken as a separate EIA.
Ms Deidre Herbst indicated that separate processes would be required to be undertaken, and these would be initiated within the next few months.
- Ms Carla Hudson of WESSA noted that the supplier Grootegeluk mine does not have a good environmental record. She enquired what demands Eskom would place on their suppliers to comply with the necessary environmental regulations.
Mr Tony Stott advised that Eskom would audit their suppliers to check for compliance.
- Ms Carla Hudson of WESSA enquired what DWAF's opinion is with regards to ashing back into the mine's pit.

Ms Deidre Herbst indicated the viability of ashing back to the pit is still being investigated. The findings would be part of the Environmental Impact Assessment process. She added that Eskom had two power stations (Letabo and Matla) that make use of in-pit ashing. These processes were authorised by both DME and DWAF. Should this be considered feasible for the proposed Matimba B Power Station and Grootegeluk Mine, Eskom would be required to go through the same authorising process. The findings of the specialist studies undertaken with regards to groundwater would also be taken into consideration before making any decision in this regard.

- Ms Carla Hudson of WESSA enquired if Eskom would take responsibility for the slimes dams on the farm Appelvlakte, and whether it would be continued to be used.

Ms Karen Kück advised the utilisable area of each farm was indicated on the map provided. The utilisable area for Appelvlakte excludes the area utilised by the slimes dam. Kumba Resources are currently operating the slimes dams, and would continue to operate the facility.

- Ms S. Mandhlazi of Earthlife Africa requested a copy of the Pre-feasibility report.

Ms Deidre Herbst indicated that the report could contain commercially sensitive information, however the project team would consider which sections can be made available for public review. Once permission is received, this could be made available as part of the EIA Report.

- Ms S. Mandhlazi of Earthlife Africa enquired why the project is focussed on PF. She enquired what other technology alternatives were considered and if environmental studies were included in considering the technology alternatives. She wanted to know if Eskom considered an integrated gas combustion system.

Mr Tony Stott replied that Eskom is investigating the construction of two open cycle gas turbine plants and the EIAs for those are currently underway. Two other projects that would look at a combined cycle would start soon. The problem in South Africa is to find suitable gas. During the pre-feasibility stages of such projects Eskom are required to establish whether it is feasible to import gas to South Africa. Eskom is furthermore undertaking research in terms of the possibility of gasifying coal underground for driving turbines. This type of technology is used successfully in Russia and Australia, and a pilot plant is being initiated at Majuba Power Station to determine the viability of such a process in South Africa.

- Ms S. Mandhlazi of Earthlife Africa asked whether Eskom considered trans-national pollution and the contribution of air pollution to global warming. Are the impacts on climate change being considered in the EIA studies.

Ms Karen Kück advised that Airshed Planning Professionals have been appointed to undertake an air quality assessment and that they are considering the impact of greenhouse gases in their studies.

- Ms S. Mandhlazi of Earthlife Africa enquired why coal is the preferred option and what clean coal technologies were considered.
Ms Deidre Herbst stated that the studies on the different technologies e.g. gas, renewable energy sources, coal, nuclear and so on, all formed part of the National Integrated Resources Plan (NIRP). For the pre-feasibility study for Matimba B, Eskom already identified coal as the selected fuel and investigated the different coal technologies. It was through this process that pulverised fuel (PF) and fluidised bed combustion (FBC) processes were proposed as the alternatives available for use at Matimba B, and has the most favourable results within the decision matrix.
- Ms S. Mandhlazi of Earthlife Africa enquired whether the lifespan of the proposed power station considered the availability of the coal supply in future. Has Eskom considered the price of coal in the future.
Mr Nigel Volk explained that Eskom usually enters long-term coal contracts with the suppliers - that is for approximately 20 to 35 years. Eskom preferred to enter into as long as possible coal contracts with their suppliers and this limits prices escalation.
- Dr David de Waal emphasised that the EIA was only in the Scoping phase and the main purpose of this phase was to identify issues and concerns, and therefore all the questions posed may be able to be comprehensively answered at this stage.
- Mr Vincent Mathabane of DEAT stated that some questions raised by WESSA suggested that the DEAT already decided that the proposed project would go ahead. He confirmed that a number of meetings between Eskom and the Department have taken place, and it was decided that DEAT would be the lead authority to assess the proposed project. The Limpopo Department (provincial department) would be commenting on the project and process. He emphasised that DEAT is not pro or against the development. He advised that this is still the early stages of the EIA process, and that no decisions have been taken yet. DEAT have accepted the Plan of Study for Scoping and are awaiting the findings of the Environmental Scoping Study.
- Mr Hugo Grobler of BHP Billiton asked whether the presentations would form part of the minutes of the meeting.
Ms Karen Kück confirmed that the presentations would form part of the minutes and that the minutes would also be posted on the Bohlweki Environmental web page to access.

- Mr Hugo Grobler of BHP Billiton advised that one graph was referred to during the presentation indicated a projected growth of between 2 to 6%, but another graph indicated differently.
Mr Tony Stott advised that the one graph indicated a year on year growth (which can be 5% or more), and the other graph referred to the long-term planning - that is the moving average over 20 years (average 2.4%).
- Mr Hugo Grobler of BHP Billiton enquired if the 10% reserve margin is considered sufficient.
Mr Tony Stott stated the NER does not actually provide percentages but requires "sufficient reserves" to be provided. Eskom plans a reserve margin of 10-15% (average 12%). Mr Nigel Volk noted that other countries such as North America and Europe aimed at a 20% reserve margin, but in South Africa, where there was no open market, one must keep the reserve margin as open as possible. He advised that for South Africa the reserve margin is kept as low as possible, but that it does fluctuate between 10 and 15%.
- Ms S. Mandhlazi of Earthlife Africa enquired whether the impact of the current and extended mining operations would form part of the specialist studies of the EIA undertaken for the proposed power station.
Karen Kück indicated that it was a requirement that the mine must conduct environmental studies for their operations. This is required by the Minerals and Petroleum Resources Development Act, which regulates mining operations.
- Mr Vincent Mathabane of DEAT enquired if one preferred site only would be selected and assessed during the detailed EIA. He enquired whether it would not be necessary to assess two sites in the EIA for a comparative detailed study.
Ms Karen Kück replied that at this stage, from an EIA perspective, it was planned that only one site would be assessed in the detailed EIA phase. Once the specialists have completed the ranking of the sites it would be clearer whether there were two sites that were extremely competitive/closely comparable. If that would be the case it would form part of the discussions with Eskom and DEAT whether more than one site would be required to be investigated in the detailed EIA phase. At this stage two sites (one for the power station and one for the ancillary services) will be considered in the EIA phase
- Ms S. Mandhlazi of Earthlife Africa enquired whether the efficiency of 40% mentioned for the station accounted for the energy input in terms of coal washing and the water used.
Mr Nigel Volk advised that the efficiency of the station has certain qualifiers. The efficiency of the coal received for use at the station impacts on the

overall efficiency of the station. Eskom purchases the coal, but the mining house processes the coal. When Eskom determine the efficiency, they only consider the amount of energy produced. Energy efficiency is lost through the cooling system.

- Ms Carla Hudson of WESSA enquired what the efficiency of the proposed underground coal gasification (UCG) process is.
Mr Nigel Volk advised that the efficiency rates of the UCG process are still to be determined, and a response could only be provided at a later stage.
- Ms Carla Hudson of WESSA enquired what the sulphur content of the coal currently used at Matimba Power Station is.
Ms Deidre Herbst replied that the average sulphur content of the coal was 0,8% for all the Eskom power stations, and added that most coal utilised by Eskom is below 1%.
- Ms Carla Hudson of WESSA enquired whether WESSA would be able to receive the minutes of the public meeting to be held in Lephalale.
Ms Karen Kück indicated that all minutes would be on the Bohlweki Environmental web page where I&APs could access all the public documents.

6. WAY FORWARD

The minutes of the meeting would be distributed to those that attended the meeting. Dr. David de Waal stressed that the attendants should review the minutes and provide comments on these to ensure that the attendants' issues were captured correctly.

Ms. Carla Hudson requested an extension for commenting on the minutes until the end of July 2005. Ms. Karen Kück indicated that it would be possible to grant her an extension.

The meeting was closed at 16:00.

APPENDIX A

ATTENDANCE REGISTER

ATTENDANCE REGISTER

EIA for the Proposed Establishment of a new Coal-fired Power Station in the Lephalale Area, Limpopo Province

Key Stakeholders Workshop held at the Eskom Convention Centre

27 June 2005 at 14:00

Title	Name/Initial	Surname	Institution/Company	Position	Address 1	Address 2	Postal Code	Telephone 1	Cellular	Fascimile	E-mail
Mr	G.U.	Okada	Hitachi	Regional GM	PO Box 98756	Bryanston East Sloane Park	2152	011-706 8833	083 652 8326	011-706 9075	sotaro.okada@hitachi.eu.com
Mr	Bob	Stevens	DB Thermal	Group Marketing Manager	PO Box 1830	Rivonia	2128	011-236 6311	083 457 6612	011-236 6442	bobs@dbthermal.co.za
Ms	Sekgametsi	Mandhlazi	Earthlife Africa	Energy Policy Officer	PO Box 11383	Johannesburg	2000	011-339 3662	072 450 6773	011-339 3270	segametsi@earthlife.org.za
Ms	Carla	Hudson	Wildlife and Environment Society of SA (WESSA)	Regional Manager	PO Box 435	Ferndale	2160	011-462 5663	083 756 0072	011-462 8364	chudson@wessanorth.co.za
Mr.	Tony	Stott	Eskom Gx	Senior Manager				011-800 2004	083 655 2004	011-800 2782	tony.stott@eskom.co.za
Ms	A	Greyling	Endangered Wildlife Trust (EWT)	Coordinator: Law and Policy Working Group				011-486 1102	082 822 8393	011-486 1506	aniqueg@ewt.org.za
Mr	H	Spreitzer	DB Thermal	Managing Director	PO Box 1314	Kelvin	2054	011-236 6345	083 330 5546	011-236 6429	heinzsp@pbthermal.co.za
Mr	I.M.	Mncube	NER	Engineer				012-401 4779	082 456 6869	012-401 4700	mduduzi.mncube@ner.org.za
Mr.	V.L.	Mathabane	DEAT	P.E.O.	Private Bag X 447	Pretoria	0001	012-310 3621	084 377 8615	012-3103680	vmathabane@deat.gov.za
Mr	Jan	Erasmus	Kumba Resources	IS Manager Limpopo	PO Box 178	Lephalale	0555		083 304 0179		jan.erasmus@kumbaresources.com
Mr	Jan	Oberholzer	Kumba Resources	Matimba Expansions					083 609 1514		jan.oberholzer@kumbaresources.com
Ms	Linda	Manyuchi	Dept. of Science and Technology	Resource Based Industries				012-317 4495	083 634 5216		linda.manyuchi@dst.gov.za
Mr	Hugo	Grobler	BHP Billiton	Project Manger				011-376 2287	082 332 0604		hugo.grobler@bhpbilliton.com
Mr	Dave	Lucas	Eskom: Corporate Sustainability	Senior Consultant	PO Box 1091	Johannesburg	2000	011-800 4514	082 940 4517	011-800 2938	dave.lucas@eskom.co.za
Ms	Deidre	Herbst									
Mr	Nigel	Volk									
Dr	David	de Waal	Afrosearch	Facilitator of meeting				012-362 2908			
Ms	Karen	Kuck	Bohlweki Environmental	Project Manager				011-466 3841		011-466 3894	
Ms	Ingrid	Snyman	Bohlweki Environmental	Public Participation				011-466 3841		011-466 3894	

APPENDIX B

PRESENTATIONS



ENVIRONMENTAL IMPACT ASSESSMENT PROCESS:

PROPOSED NEW COAL-FIRED
POWER STATION (MATIMBA B)
IN THE LEPHALALE AREA,
LIMPOPO PROVINCE

CONDUCT OF THE MEETING


- ▶ Language of choice
- ▶ Work through the facilitator
- ▶ Focus on issues
- ▶ Equal participation
- ▶ Identify yourselves

AGENDA

- ▶ Welcome & Apologies
- ▶ Eskom's Integrated Strategic Electricity Planning (ISEP) process
- ▶ Brief overview of the new power station project
- ▶ Outline of EIA and Public Participation Process
- ▶ Discussion Session

PURPOSE OF TODAY'S MEETING

- ▶ Provide I&APs with information regarding the proposed Matimba B Project
- ▶ Provide a brief overview of the Environmental Impact Assessment (EIA) & public participation process for the proposed project
- ▶ Provide an opportunity for I&APs to seek clarity on the project
- ▶ To record issues, comments & concerns raised
- ▶ For interaction with the project team



ENVIRONMENTAL IMPACT ASSESSMENT AND PUBLIC PARTICIPATION PROCESS

ENVIRONMENTAL STUDY REQUIREMENTS

- ▶ Listed activity in terms of the EIA Regulations
 - *Item 1 (a) - the construction of facilities for commercial electricity generation with an output of at least 10 megawatts and infrastructure for bulk supply, and*
 - *Item 2 - a change in land use.*
- ▶ ECA and NEMA

WHY ARE ENVIRONMENTAL STUDIES NEEDED?

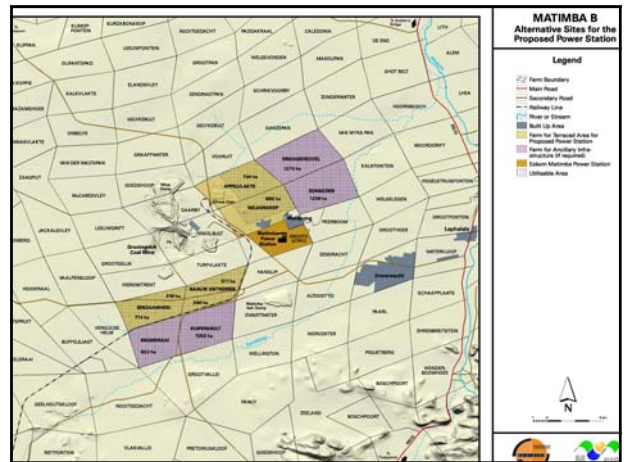
- ▶ Identify and assess potential environmental impacts (biophysical & social)
- ▶ Propose mitigation & management measures
- ▶ Authorisation from National & Provincial DEAT
- ▶ Inform project planning process

EIA PROCESS FOR THE PROJECT

- ▶ Phase 1: Environmental Scoping Study (ESS)
- ▶ Phase 2: Environmental Impact Assessment (EIA)
- ▶ Environmental Management Plan (EMP)
- ▶ Public participation process - ongoing

KEY PROJECT INFORMATION

- ▶ A new coal-fired Power Station is proposed - maximum capacity of ~ 4 800 MW
- ▶ Second power station - not an extension of Matimba Power Station
- ▶ Footprint is approximately 700 ha for the power plant
- ▶ Approximately 500 - 1000 ha required for the ancillary infrastructure such as ash dump (if required).
- ▶ EIA will assist in determining the range of technologies pertaining to cooling, combustion and pollution abatement to be used



ALTERNATE SITES FOR INVESTIGATION

- ▶ Farm **Appelvlakte**: Kumba Resources
- ▶ Farm **Nelsonskop**: Kumba Resources
- ▶ Farm **Eenzaamheid**: Privately owned
- ▶ Farm **Naauwontkomen**: Kumba Resources
- ▶ Farm **Droogheuwel**: Privately owned
- ▶ Remainder of the farm **Zongezien**: Eskom Holdings
- ▶ Portion 1 and remainder of the farm **Kuipersbult**: Privately owned
- ▶ Farm **Kromdraai**: Privately owned

AIMS OF THE ENVIRONMENTAL SCOPING STUDY

- ▶ Identify & evaluate potential benefits & negative environmental impacts
- ▶ Evaluation of site alternatives
- ▶ Public Participation (informed of the project and opportunity to raise concerns about the project)
- ▶ Nomination of a preferred site for further investigation within an EIA (taking the economic and technical issues into account)
- ▶ Make recommendations regarding studies required within the detailed EIA

EIA PROCESS

- ▶ **Environmental Impact Assessment**
 - Assess impacts of significance
 - Detailed Specialist Studies
 - Detail mitigation & management measures
 - Public Involvement (issues recorded)
- ▶ **Draft Environmental Management Plan**

SPECIALIST STUDIES

- ▶ Surface & groundwater: GCS
- ▶ Ecology & flora: Bathusi Environmental
- ▶ Terrestrial fauna: Bathusi Environmental
- ▶ Soils & agriculture: ARC: Institute for Soil, Climate and Water
- ▶ Heritage: National Cultural History Museum
- ▶ Air quality: Airshed Planning Professionals

SPECIALIST STUDIES

- ▶ Noise Impacts: Jongens Keet and Assoc.
- ▶ Land Use: Plan Practice
- ▶ Social impact: Afrosearch
- ▶ Tourism: SiVEST
- ▶ Visual: MetroGIS
- ▶ Transport: Goba

PUBLIC PARTICIPATION PROCESS: OBJECTIVES

- ▶ Inform I&APs of the project
- ▶ Promote an understanding of the project
- ▶ Promote transparency
- ▶ Structure for liaison & communication
- ▶ Opportunity for input regarding environmental (biophysical & social) impacts - highlight issues of concern

PUBLIC PARTICIPATION PROCESS

- ▶ Undertaken in terms of EIA Regulations
- ▶ Process includes:
 - Advertising the EIA process
 - Registration of I&APs
 - Consultation with I&APs - focus groups, public meetings, key stakeholder workshops, individual discussions etc.
 - Record issues within an Issues Trail - inform studies & included in the Scoping Report
 - Public review of Scoping Report

RESPONSIBILITIES OF I&APS IN EIA PROCESS

- ▶ Register on project database
- ▶ Provide input and comments during the process
 - Identify issues
 - Review & comment on draft Scoping Report
 - Review & comment on the draft EIA report
- ▶ Provide input and comment within specific timeframes

THE WAY FORWARD

- ▶ Compilation of draft Scoping Report
- ▶ Draft Scoping Report available in public places for review (30-day period)
- ▶ Inclusion of I&AP comments in Final Scoping Report
- ▶ Submission of Final Scoping report to National & Provincial DEATs
- ▶ Authority review
- ▶ Comments and approval to undertake EIA

CONTACT DETAILS

Bohlweki Environmental

Ms. Ingrid Snyman / Ms. Ashlea Strong

Tel: 011 466 3841

Fax: 011 466 3849

E-mail: matimba-b@bohlweki.co.za

PO Box 11784, Vorna Valley, MIDRAND,
1686

Reports for review: www.bohlweki.co.za

OVERVIEW OF ELECTRICITY DEMAND AND SUPPLY SITUATION

June 2005

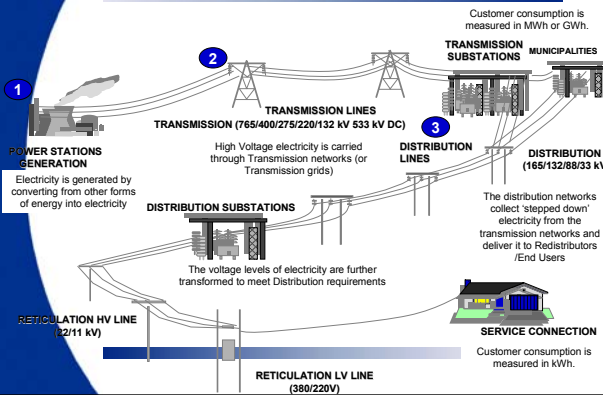


Electricity

- Electricity:**
 - a form of energy that is easily transportable
- Power station:**
 - a facility to convert energy from one form - e.g. chemical (in wood, fossil fuels), nuclear, solar, kinetic (wind, wave), potential (pumped storage) into the electricity form
- End-use Customers:**
 - transform the electricity back to other forms as required e.g. heat, light, mechanical (pumps, engines)

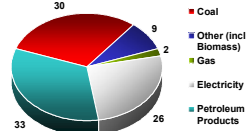


The nature of bulk electricity supply

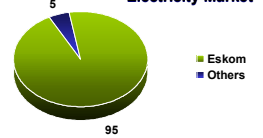


Energy & Electricity supply in SA

2000 Final Energy use by carrier (reference: DME Energy Efficiency Strategy – March 2005)

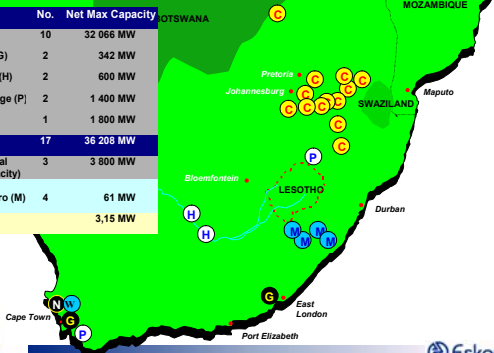


Electricity Market



ESKOM POWER STATIONS 2004

Type	No.	Net Max Capacity
Coal (C)	10	32 066 MW
Gas Turbine (G)	2	342 MW
Hydroelectric (H)	2	600 MW
Pumped Storage (P)	2	1 400 MW
Nuclear (N)	1	1 800 MW
Total	17	36 208 MW
Mothballed coal (Nominal capacity)	3	3 800 MW
Non-grid Hydro (M)	4	61 MW
Wind Energy		3,15 MW

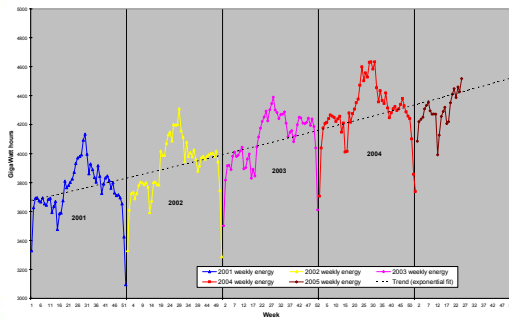


Electricity demand and supply

- Demand is increasing
- Correct choice of capacity to be constructed from an array of available options that differ dramatically in terms of:
 - Cost (construction and operating);
 - Lead time to construction;
 - Environmental impact; and
 - Operating characteristics
- Eskom will target approximately 70% of new capacity (in MW), with the balance from independent power producers.



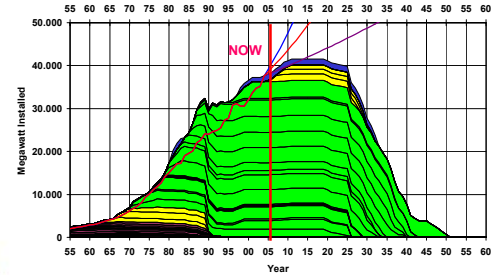
Energy demand each week



Eskom's Installed Capacity

Red Solid Line until 2004 = Actual peak demand **PLUS 10% RESERVE MARGIN**, thereafter @ 2.5% growth in peak demand **PLUS 10% RESERVE MARGIN**.

Fifty year assumed plant life. Demand Side Management initiatives NOT included

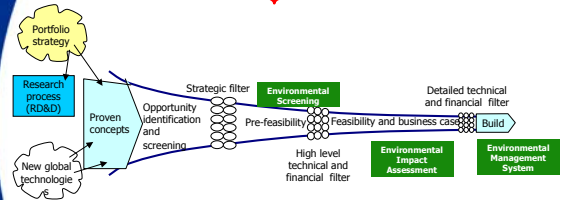


Planning

- The Integrated Energy Plan is developed and published under the auspices of the Government: Department of Mineral Affairs and Energy (DME)
- The National Integrated Resource Plan (NIRP) is developed and published under the auspices of the National Electricity Regulator (NER)
- The Eskom study of electricity demand and supply is called the Integrated Strategic Electricity Plan (ISEP)

Decision making process

South African Policy, Plans and Legislation



Eskom Decision-making Criteria:

- Economical & Financial
- Environmental
- Social
- Technical
- Risk
- Strategic

Demand side management

- Industrial** - Process improvements, Efficient equipment (eg. motors), Load control systems in conjunction with dynamic pricing signals
- Residential** - Efficient lighting initiative, Residential hot water load control, Insulation of houses, Time-of-Use Tariff
- Commercial** - Energy efficiency and load management, Efficient lighting, air conditioning and water heating
- NER policy** sets target at 152 MW savings per annum and in 2004 DSM achieved 197 MW savings (anticipated to be approximately 300,000T CO₂)
- Demand Market Participation**



Technology options

- Nuclear** – PBMR (PILOT) – Koeberg demo, various sites
- Solar** – large scale – niche market – Northern Cape (PILOT)
- Wind** – small scale – niche market – various sites (PILOT)
- Other** – Biomass, tidal, hydrogen; fuel cells; gas to liquid conversion (PILOT)



RENEWABLE ENERGIES

PILOT PLANTS

- Klipheuwel wind farm – Western Cape
- Dish Stirling operational assessment – Johannesburg
- Biomass gasifier – East London



Technology options

- **Coal** – conventional clean coal (pulverized fuel, fluidised bed), underground coal gasification (**PILOT**) – Mpumalanga, Limpopo, Free State
- **Gas** – Liquefied Natural Gas (LNG), Combined Cycle Gas Turbines (CCGT), Open Cycle Gas Turbines (OCGT) – Coega, Saldanha



LNG Delivery Facility with Tanker Source: NGSA



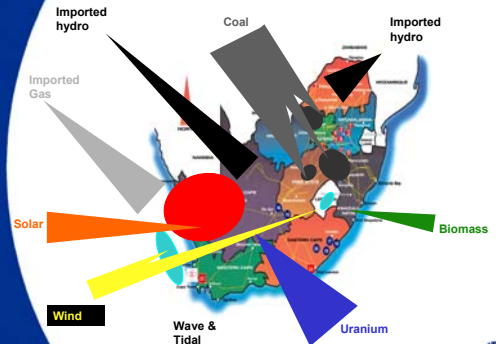
Energy Resources in South Africa

Resource	SA Reserves (x10 ⁹ Megajoules)
Coal	1 298 000
Uranium	157 853
Crude Oil	1 920
Domestic Natural gas	1 418 (does not include new un-quantified finds off South African west coast)
Coal Bed Methane	3 500
Hydro	20 per year
Renewables	Unscheduled, dilute but substantial energy sources. Assessment of South African resources being researched
Wind	
Solar	
Ocean	
Biomass	270 per year
Waste	54 per year

Source: Energy Research Institute, UCT



Energy opportunities and constraints



This specific project relates to the proposed coal-fired power station in the Waterberg area.

THANK YOU



NEW COAL FIRED POWER STATION IN THE LEPHALALE AREA

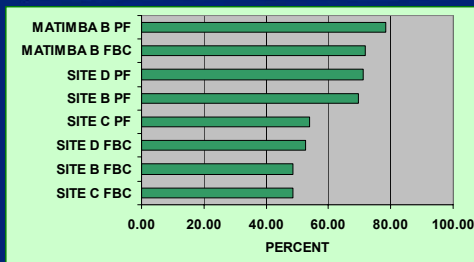
By: Nigel Volk
Eskom
June 2005



MATIMBA B DECISION PROCESS



PROCESS FOLLOWED TO IDENTIFY PRIORITY SITE



MATIMBA B as pf was identified as the most feasible option in December 2004 using a decision matrix including relevant factors

CONCEPT AND PRE FEASIBILITY FINDINGS

Identified:

- Cost of production is lowest of all options for base load
- Coal price is competitive
- Land available in vicinity of mine
- No fatal flaws identified during Environmental screening
- Potential to ash back into the mine pit
- Potential to use synergies with Matimba in certain cases
- Coal properties well known due to Matimba experience

MAJOR ACTIVITIES INVOLVED IN FEASIBILITY STUDY

- Environmental Process (Site and Transmission)
- Establish exhaustive User Requirement Specifications
- Develop Function Specs
- Finalise site selection
- Macro economic studies
- Water issues finalised
- Coal supply negotiated

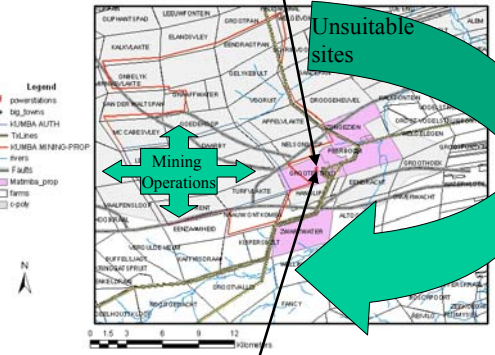
MAJOR ASSUMPTIONS

- 2100 MW PF (potential expansion to a maximum of 4800 MW at later stage)
- Dry Cooled
- ZLED
- Supply of coal local to station
- Separate site to Matimba
- 50 year life
- Install only proven technologies
- Site not in line with critical wind directions of Matimba

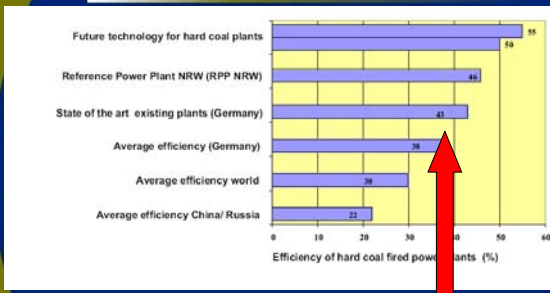
MAJOR DECISIONS IN THE SHORT TERM

- Identified 4 possible sites for potential new power station
- Identified 4 possible sites for ashing site if not possible to ash to mine pit
- Identified at least two different technologies for cooling – both “dry” systems
- Shared resources with Matimba to be determined by economics

MATIMBA B SITING



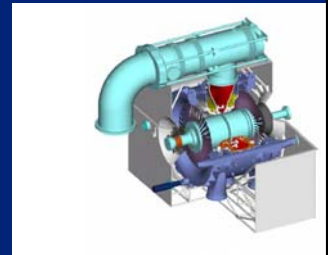
TECHNOLOGY CHOICES



ESKOM TARGETING INTERNATIONAL BENCHMARKS (minus 2% DUE TO DRY COOLING)

TECHNOLOGY CHOICES

TECHNOLOGY CHOICE WILL BE DRIVEN BY THE NEED TO ACHIEVE THE OPTIMAL BALANCE BETWEEN ECONOMIC, ENVIRONMENTAL AND TECHNICAL BENEFITS



SIZE OF THE POWER STATION

- Currently studying feasibility of 3 x 700 MW PF machines for phase 1
- Phase 2 could be an extra 3 x 700 MW PF sets or alternatively 6 x 350 MW FBC (Fluidised Bed Combustion) machines.
- Transmission System requirements will influence decision wrt unit size
- Electricity load growth will determine timing
- Actual technology used for phase 2 will be influenced strongly by economics as well as environmental and technical issues.

SCHEDULE

- Feasibility: Evaluated during 2005. Includes
 - Site selection
 - Fuel and water evaluations
 - EIA
 - Engineering
- Decision: Early 2006 if possible
- First activity on site: Early 2007
- First machine in production: 2010

EXPENDITURE

- Phase 1 Expenditure:
 - Feasibility studies approximately R100 M
 - Cost of construction approx. R20 000 M
 - Phase 2 Expenditure:
 - Cost of construction approx. R20 000 M
- Note: All costs in 2005 Rands

A large percentage of the expenditure will go toward the purchase of sophisticated equipment from international suppliers. However significant opportunities exist for local suppliers in areas of civil, electrical and ancilliary equipment

BENEFITS TO LIMPOPO PROVINCE AND LEPHALALE

- Long term employment at power station (250 – 500 staff members)
- Long term employment at the mine
- Significant employment in the project phase (several thousand jobs in the immediate area (and Gauteng) in the short term, probably peaking in 2010)
- Supply contracts to the power station

CONCLUSION

- Construction of new power station could start by 2007 to supply power to the grid by 2010
- Potential economic benefits to the area should be significant
- Water consumption will be limited to a minimum by use of "dry cooling"
- Latest technology utilised in the power station should ensure optimised environmental impact and minimum cost to the consumer