21 November 2008

Dear Stakeholder,

ALTERNATIVE ASH DISPOSAL OPTIONS FOR MEDUPI POWER STATION, LEPHALALE, LIMPOPO PROVINCE

In terms of the Environmental Authorisation (= Record of Decision) issued by the National Department of Environmental Affairs and Tourism (DEAT) on 21 September 2006 for the construction and operation of the Medupi Power Station (DEAT Reference Number: **12/12/20/695**), "*…further information on alternatives for the disposal of ash produced by the facility is required before an informed decision can be made on this aspect of the application*" (refer to Section 2.2 of the RoD).

In addition, in a letter to Eskom Holdings Limited (Eskom) dated 27 October 2008, and after having considered Eskom's submission on the issue, dated August 2008, DEAT has found and acknowledged that "*…a new above-ground ash disposal site on the Farm Eenzaamheid 687 LQ, as proposed in the environmental impact report (EIR) for Medupi power station, dated 22 May 2006, is still the preferred option for Eskom*.", but that "*The public had not had insight in this substantial new information supplied to the department and may therefore feel excluded from the decision-making process*". DEAT therefore require that this additional information be made available for public comment for a 21-day period in order to ensure a transparent and legally compliant process.

In response to this requirement, Eskom Holdings Ltd (Eskom) has compiled a summary report on the alternative ashing options for the power station. This report includes consideration of the following:

- Creating a new above-ground ash disposal site on the farm Eenzaamheid 687 LQ (as assessed in the EIR dated 22 May 2006), as well as the environmental issues associated with this/assessed and the way it has been dealt with/presented in the EIR dated 22 May 2006.
- Ashing back to Exxaro's Grootegeluk coal mine pit.
- Eskom's rationale for its preference of above-ground ashing on the Farm Eenzaamheid.

UNIT G8, PINEWOOD SQUARE, PINEWOOD OFFICE PARK, 33 RILEY ROAD, WOODMEAD, GAUTENG
PO BOX 148, SUNNINGHILL, 2157, GAUTENG
TEL: +27 (0)11 234 6621 • FAX: +27 (0)86 684 0547 • E-MAIL: JOANNE@SAVANNAHSA.COM
WWW.SAVANNAHSA.COM
DIRECTORS: M MATSABU • KM JODAS • J THOMAS
COMPANY REGISTRATION NO.: 2006/000127/07
VAT REGISTRATION NO.: 4780226736

This summary report serves to inform you, as a registered stakeholder for the Medupi Power Station project, of the findings of the investigations that Eskom has undertaken with regards to these alternative ash disposal options. This summary report is now available for public review. You are invited to review the report at one of the following locations:

Lephalale Municipal Offices	Lephalale Co-op in Botha Avenue
Lephalale Library	Matimba Power Station
Marapong Clinic (Tlou Street, Marapong)	www.savannahSA.com
www.eskom.co.za/eia	

The period for review is **21 November 2008 to 12 December 2008**. Please submit written comment by 12 December 2008 to the contact person below.

1. Contents of the Summary Report

During the Environmental Impact Assessment (EIA) process for the Medupi Power Station in 2005/2006, on-surface/above-ground ash disposal as an "ash disposal alternative" was assessed as the only feasible alternative for ash disposal from the Medupi Power Station. This was due to the fact that the need for a detailed evaluation (by Eskom and the then Kumba Resources) and the consideration of the results from such a study "…prior to reaching agreement to ash back in the pit" by both parties was acknowledged (refer to section 2.5.3 of the EIA Report). At the time of the compilation of the EIA Report it was also anticipated that "…*the environmental study for ashing back into the pit will be completed prior to the operation of the power station*."

Eskom and Exxaro (previously Khumba Resources) have subsequently initiated a joint "Feasibility study of expected geochemical and geohydrological impacts related to the proposed backfilling of mixed mine discard and power station ash into the open cast void at Grootegeluk colliery" in 2006, with a final report in August 2007. A full copy of the feasibility report, including an Executive Summary, is available on request.

1.1. Final conclusions from the in-pit ashing feasibility studies

It was concluded from the feasibility study undertaken that the layered option (first discard and then ash on top) is the preferred in-pit ash disposal option, due to a better seepage quality resulting from lower water content of the discard materials beneath a thick surface ash layer. However, this is the most expensive in-pit ash disposal option.

It must be noted that no specific 'site selection" was done for the in-pit option, as it was always assumed that it would be the Exxaro Grootegeluk mine pit.

The feasibility studies did not include any modelling of potential mitigation measures associated with the in-pit ashing options, for the following reasons:

- Due to timeframes for Medupi ashing, initial ashing on a conventional ash dump will be needed. Modelling of the various mitigation measures would an extended period of time (at least 2 years – sampling, trending, chemical lab analyses, modelling).
- Sufficient information for a decision is available to conclude that conventional ashing is an environmentally acceptable solution. This option was assessed as part of the EIA for the Medupi Power Station (refer to EIA Report dated May 2006).
- Modelling indicates that in-pit ashing potentially slows down the spread of pollution, but does not halt it altogether. In-pit ashing with mitigation is therefore not expected to have significant environmental benefits when compared to that for conventional ashing.

1.2. Eskom's preferred option with regards to the ash disposal alternatives

As per the DEAT requirement, Eskom has undertaken a comparative analysis on risks associated with in-pit ashing (layered) and conventional ashing. This comparative analysis is detailed within the summary report. The findings of this comparative analysis are outlined below.

Eskom's preferred option for ash disposal is a conventional above-ground ashing facility. The rationale and motivation for this is as follows:

- Layered in-pit ashing cannot commence before 2016 due to:
  - Exxaro having to cover a substantial area of the pit with mine discards up to a certain height before Eskom can place a layer of ash on top.
  - Ashing into pit cannot commence until ~3 years after commercial operation of the first Medupi unit.
  - A temporary ashing solution would thus be required.
- Only one party (Eskom) is involved with the design, operation and maintenance of a conventional above-ground ashing facility, i.e. no sharing of liabilities (in the short-term and long-term) with Exxaro.
- No management contracts need to be drawn-up between Eskom and Exxaro.
- A conventional above-ground ashing facility would, over its life cycle, pose less operational and strategic risks to Eskom.

- A conventional above-ground ashing facility is well understood by Eskom from an operational and risk management perspective.
- There would be a cost penalty to Eskom for the layering option: R200 M (capex and opex).
- Environmental aspects/impacts of above-ground ashing are documented and well understood.
- Extensive groundwater monitoring and pollution plume modelling is ongoing at existing power stations and will be undertaken at Medupi once this facility is operational.
- Medupi ash dump design will include technologically-advanced drainage and monitoring systems.
- There is a possibility that ash could be utilised in future – research into this aspect is ongoing – hence the ash would be available for this purpose.
- Benefits from a water/effluent management perspective, i.e. using the conventional ashing facility as an effluent sink.

1.3. Conclusion

Eskom concluded that the conventional (above-ground) ashing method as proposed on the Farm Eenzaamheid 687 LQ is the preferred solution from an environmental, technical, legal and financial perspective, but is committed to, if needed, further investigate and evaluate the in-pit ashing option for possible application in the future. Furthermore, Eskom is of the opinion that it has fulfilled all requirements from the DEAT, including the requirement that "…*further information on alternatives for the disposal of ash produced by the facility is required before an informed decision can be made on this aspect of the application"* and therefore now would further pursue its discussions with the DEAT to authorise the above-ground ashing facility on the Eenzaamheid, as per the original set of "listed activities" applied for and the undertaking in the Environmental Authorisation dated September 2006 that this aspect of the Environmental Authorisation "…*will be addressed in an amended or supplementary record of decision*".

2. Submission of Comments on Summary Report

Please submit written comment on the summary report by **12 December 2008** to:

John von Mayer of **Savannah Environmental**
PO Box 148, Sunninghill, 2157
Tel: 011 234 6621
Fax: 086 684 0547
E-mail: john@savannahSA.com
www.savannahsa.com