

Louise Corbett

From: Meulenbeld Paul [MeulenbeldP@dwa.gov.za]
Sent: 10 May 2010 10:35 AM
To: Louise Corbett
Subject: Final Scoping Report: Tutuka Power Station

Dear Louise

Received the documents by post, thank you.

The proposed plan of study as outlined in the Final Scoping Report is suitable for the project, taking into consideration the comments raised by the I&APs.

Note that on p.41 a misleading statement/opinion is made: "Eskom operates a Zero Liquid Effluent Discharge philosophy" and the following discussion about impacts on the Grootdraai Dam. Any polluted surface water that becomes groundwater may become surface water again. Zero discharge can be achieved if no seep/discharge to groundwater is managed and is practically impossible.

Thus pollutants from Tutuka might reach Grootdraai Dam through groundwater-surface water interaction.

Regards

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"The greatness of a nation and its moral progress can be judged by the way its animals & environment are treated."
--Ghandi & me

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AURECON
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As per fax: (021) 424 5588

Attention: Ms Louise Corbett

REVIEW OF DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR TUTUKA POWER STATION BRINE AND GROUNDWATER TREATMENT WORKS, MPUMALANGA, Ref. 12/9/11/L208/6

The matters refers,

The Department has, as per your KIND request perused and reviewed the draft EIR for the above mentioned project.

Evaluation of the submitted draft EIR documents lacked information critical to facilitate a meaningful decision w.r.t waste management licence for the Brine and Groundwater treatment works.

The information not supplied or insufficient is on the following:

- a) Baseline data for surface and groundwater quality
- b) 1:50 year flood lines
- c) Annexure D of the Directive for disposal of reject
- d) In depth hydrogeological and geological report/ study will be required to see if the mine and the area on which the groundwater treatment works is interconnected in terms of groundwater
- e) Quantities of reject to be released (Once quantity of reject is known, it can be determined whether the reject can be released into the environment)
- f) Conceptual model with regards to the treatment works and groundwater situation will help to understand the process better
- g) The designs for the proposed treatment plants

Kindly supply the requested information in an explicit comprehensive manner into the final EIR to enable fast tracking of the licensing process.

Please do not hesitate to contact this office should you have any enquiries.

Yours sincerely


Ms. Nosipho Ngcaba
Director-General
Department of Environmental Affairs
Letter signed by Lucas Mahlangu
Designation: Deputy Director: Systems
Date: 28 July 2010

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23 August 2010

Email: louise.corbett@af.aurecongroup.com

Department of Environmental Affairs: Waste Stream Management
Private Bag X447
Pretoria
0001

Attention: Mr Lucas Mahlangu

Dear Lucas,

PROPOSED TUTUKA POWER STATION BRINE TREATMENT WORKS, MPUMULANGA (DEA REF NO'S: 12/12/20/1789 (EIA) & 12/9/11/L208/6 (WML): RESPONSE TO COMMENT ON DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Your letter of 28 July 2010 commenting on the Draft Environmental Impact Assessment (EIA) Report, and subsequent conversation with Miss Louise Corbett of Aurecon on 6 August 2010, have reference.

As discussed on 6 August 2010 it is noted that the majority of the queries concern the proposed New Denmark Colliery (NDC) brine ponds for the disposal of the brine. NDC has initiated an EIA process (DEDET Reference number: 17/2/2/2GS09) for the disposal of brine and the Draft Scoping Report should be available shortly. Information on this process may be sourced from Golder Associates (www.golder.com – click on Public Documents)

It must be noted that these EIA processes are not reliant on each other. Eskom currently sends approximately 0.87 ML of brine from its reverse osmosis process to the mine daily. This would increase to 1 ML, for which sufficient capacity exists within the existing pipeline to the mine, should the proposed brine concentration plant be authorised. Should the proposed brine concentration works not be authorised Eskom would continue to irrigate with brine, with the risk of groundwater pollution beneath the ash dump continuing. The mine would still need to dispose of 0.87 ML of brine a day and hence would still require brine ponds in order to meet the requirements of the Department of Water Affairs' Directive to cease disposal of brine in an underground cavern by 31 October 2011. Alternatively should Eskom return the unconcentrated brine (up to 3 ML a day) to the mine and the lifespan of the proposed brine ponds would decrease.

It should also be noted that a number of the comments relate to the groundwater treatment plant, which no longer forms part of the project due to the findings of the groundwater study (see Annexure A of the EIA Report for the groundwater study).

The comments from the Department of Environmental Affairs (DEA): Waste Stream Management have been responded to in the same order as submitted below:

- a) *DEA comment: Baseline data for surface and groundwater quality not supplied or insufficient*
The groundwater study for the ash dump area is included in Annexure A of the EIA Report. No potential footprint impacts on surface or groundwater water were identified for the proposed brine concentration works as the disposal of brine does not form part of the proposed project. The disposal of the concentrated brine would be done through the NDC's disposal ponds system. The floor of the works would be concrete and the concentrated reject would be sent to the mine via pipeline (although the existing pipeline has sufficient capacity the mine is investigating a new pipeline which would lead to the proposed brine ponds).
- b) *DEA comment: 1:50 year floodlines not supplied or insufficient*
See response to (a) above. The 1:50 floodlines are only required if waste is to be disposed of.
- c) *DEA comment: Annexure D of the Directive for disposal of reject not supplied or insufficient*
See Annexure D of the Scoping Report for the Directive. The Directive does not have an Annexure D.
- d) *DEA comment: In depth hydrogeological and geological report/study will be required to see if the mine and the area on which the groundwater treatment works is interconnected in terms of groundwater*
The groundwater component of the proposed project is no longer being assessed in the current EIA process, based on the groundwater study which indicated that abstraction of the pollution plume may not be feasible (see Annexure A of the EIA Report for the groundwater study). Therefore this comment is not relevant to the current EIA process, but would be taken into consideration and addressed should the groundwater treatment plant be a suitable strategy to follow into the future.
- e) *DEA comment: Quantities of reject to be released not supplied or insufficient (once quantity of reject is known it can be determined whether the reject can be released into the environment)*
Concentrated brine (reject) would not be released to the environment but would be sent to the mine for disposal. Eskom would send 1 ML of concentrated brine to the mine daily. As noted above the mine has initiated an EIA process for the disposal of brine to ensure that they will be able to comply with the Department of Water Affairs' Directive to cease disposal of brine in an underground compartment by 31 October 2011.
- f) *DEA comment: Conceptual model with regards to the treatment works and groundwater situation will help to understand the process better*
As noted above and in response to (d) the groundwater treatment works no longer forms part of the current EIA process. The groundwater study is included in the EIA Report in Annexure A. Note that a flow diagram of the brine concentration process is provided in the EIA Report (see Figure 3.2) and the Waste Management Licence application (see Figure 2).
- g) *DEA comment: The designs for the proposed treatment plants are not supplied or insufficient*
The design for the proposed brine concentration plant will only be undertaken once environmental authorisation is received, as contracting depends on DEA's approval and any attached conditions to such an approval. These designs could be submitted to DEA for final approval should this be required by DEA as a condition of approval.

We trust that these responses satisfy your queries. Should you have any further comments please contact the undersigned.

Yours sincerely

AURECON



LOUISE CORBETT

Practitioner: Environmental Services



BRETT LAWSON (*Pr. Sci. Nat., Cert. EAPSA*)

Technical Director: Environmental Services

cc

Mr Tobile Bokwe

Eskom Holdings Ltd

File Reference: I:\ENV\PROJECTS\105684~Tutuka Brine Project\Correspondence\FEIR\Let DEA WSM response to comment on DEIAR 110810.doc

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23 August 2010

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Department of Water Affairs: Water Quality Management
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Attention: Mr Paul Meulenbeld

Dear Paul,

PROPOSED TUTUKA POWER STATION BRINE TREATMENT WORKS, MPUMULANGA (DEA REF NO'S: 12/12/20/1789 (EIA) & 12/9/11/L208/6 (WML): RESPONSE TO COMMENT ON FINAL SCOPING REPORT

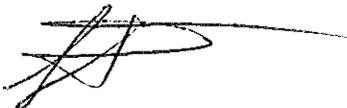
Your e-mail of 10 May 2010 commenting on the Final Scoping Report for the above-mentioned project has reference.

It is noted that while Eskom has a Zero Liquid Effluent Discharge philosophy the over-irrigation of brine on the ash dump has resulted in the compromise of this philosophy. As a result Eskom has proposed a brine concentration plant which will enable Eskom to cease irrigation of brine on the ash dump.

It should be noted that groundwater abstraction and treatment works no longer forms part of the current EIA process due to the findings of the groundwater study. This study indicated that the abstraction may not be feasible and that the pollution plume is not moving (see Annexure A of the Environmental Impact Assessment Report in this regard). Furthermore, the report advised that ceasing the suppression of dust with brine would result in the pollution plume not spreading further.

Should you have any further comments please contact the undersigned.

Yours sincerely
AURECON



LOUISE CORBETT
Practitioner: Environmental Services



BRETT LAWSON (*Pr. Sci. Nat., Cert. EAPSA*)
Technical Director: Environmental Services

cc

Mr Tobile Bokwe Eskom Holdings Ltd

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