



CHIEF DIRECTOR: WATER USE

For Attention: Director: Resource Protection and Waste, Ms W Moolman, and Ms M Mohlala

NEMWA AND WULA: ENGINEERING SERVICES COMMENT: KOMATI ASH DAM EXTENSION 3

1. Presentation

On Friday 18 January at 08h00 the project background and detail were presented by Mr R Letter of Synergistics with the support of Mr D Brink of Jones and Wagener and four officials from Eskom (see attached attendance register).

2. Documentation

The following reports, drawings and correspondence were presented for consideration:

- a) Four Drawings: Komati Power Station –General Arrangement 33.33/25201, Komati Power Station Typical Sections & Details 33.33/25202, Komati Power Station Return Water Dam Layout 33.33/25214 and Komati Power Station Return Water Dam Typical Sections & Design 33.33/25215.
- b) Summary notes of the Enviro-legal Background and applicable Legislation.

3. Consideration

The legal framework for the period covering the decision for the Komati Power Station to return to service up to, to date was presented by Synergistics, noting that a water use license application had not yet been granted, however an Environmental Authorisation was issued in August 2008. (The Environmental Authorisation conditions are not disclosed to DWA.) The visitors believed that because a decision was taken by Eskom before 2006 at which time ash from power generation was not classified as waste, the developer (Eskom) did not need to comply with the national standards of the Minimum Requirements 2nd Edition of 1998. The proponents wished to discuss the department's legal position on this matter, which they were advised could not be done by the Chief Directorate Engineering Services with whom their PSP had made the appointment to discuss the design, as it did not have the mandate to do so.

Eskom and its consultants' attention was drawn to the National Water Act 36 of 1998 and its clause 19 on pollution in particular. This requires that the owner or occupier or user of land on which any situation exists which has caused or which may cause pollution of a water resource must take all reasonable measure to prevent such pollution (from occurring, continuing or recurring) and the measures required may require the activity to cease or comply with any prescribed waste standard or management practice. Thus the meeting continued with attention focussing on mitigating pollution from the proposed and urgent extension.

The meeting noted the description of site geology of upper shallow pervious soil and underlying sand-stone and silt-stones, with the perched ground water in the upper pervious zone reflecting contamination from the existing waste facilities/tailings dam.

Hence the discussion focused on the technical component which is at present a totally unlined extension area having only a blanket drain in the area of the to be extended wall. No clay barrier, nor any other barrier is provided for at present. The engineering service confirmed the belief that this was not acceptable practice in terms of the NWA section 19 (of 1998), nor the NEMA principles (of 1998), nor the Minimum Requirements standards used in adjudicating water use license containment barriers, nor the DEA draft standards of August 2012.

Noting that the perimeter wall drain is required to maintain the wall in an unsaturated state for stability by free drainage, and that this has already been constructed, and that the area of the footprint extension within the perimeter drain is where the hydrostatic head would develop beneath the pond of the hydraulically placed tailings which is the driving force of pollution to ground water, it was noted that this is the critical area for a containment barrier system.

Hence depending on classification of the waste (speculated as general waste in terms of MR2, and medium or low risk Type B or C barrier in terms of DEA draft August 2012 Regulations), it was acknowledged that a single composite liner compliant with type B or C barrier between the existing tailings dams and the perimeter wall extension's blanket drain would suffice as a practical mitigation measure in this urgent situation. In this case the in situ relatively pervious upper soil structure could be seen as a rudimentary leak detection system given effect by the underlying less pervious geology.

The meeting concluded noting that the unlined site would not be supported by Engineering Services, whereas if the design was amended as reflected in the paragraph above the water use and waste license could be supported.

4. Recommendation

It is recommended that the WUL and the NEMWA waste facility applications are not approved based on the conceptual design.

It is however recommended that conditional approval of both the WUL and NEMVA applications be given on condition that a revised design reflecting a single composite liner barrier system over the extension area up to the existing blanket drain of the proposed perimeter wall is submitted under required signature, and constructed as such (i.e. as per a DEA draft regulation 2012 type C barrier.)



ACTING CHIEF DIRECTOR: ENGINEERING SERVICES

Letter signed by KR Legge

Chief Engineer: Integrated Environmental Engineering

Date 31/01/2013

Parker Michelle

From: Moolman Wilna
Sent: 29 January 2013 11:21 AM
To: Roelof, Legge Kelvin
Cc: Matthew Hemming Remote
Subject: RE: Meeting regarding Komati Ash Dam Extension 3

Roelof

I have not received any comments from Directorate: Engineering Services to compile the RoD to DEA. Will keep you updated.

Regards

Wilna Moolman

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From: Legge Kelvin
Sent: 25 January 2013 03:18 PM
To: Moolman Wilna
Cc: roelof@synergistics.co.za
Subject: FW: Meeting regarding Komati Ash Dam Extension 3
Importance: High

Hi Wilna

I believe your office compiles the RoD from DWA to DEA. Would you please respond appropriately to this enquiry.

Yours sincerely
Kelvin

From: Roelof [mailto:roelof@synergistics.co.za]
Sent: 24 January 2013 02:49 PM
To: Legge Kelvin; Moolman Wilna
Cc: Matthew Hemming Remote
Subject: RE: Meeting regarding Komati Ash Dam Extension 3
Importance: High

Hi Kelvin and Wilna

It was our understanding that your office would provide DEA with your position on the Komati Ash Dam Extension 3 (AED3).

Has this letter been drafted and if possible can you provide us with a copy thereof?

2013/01/29

Regards

Roelof Letter

Environmental Scientist
BSc (Hons) Environmental Management

for Synergistics Environmental Services

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From: Matthew Hemming [mailto:matthew@synergistics.co.za]
Sent: 21 January 2013 09:02 AM
To: Legge Kelvin; Moolman Wilna
Cc: Roelof Letter
Subject: Meeting regarding Komati Ash Dam Extension 3

Hi Kelvin and Wilna

Many thanks for your time on Friday to discuss Komati Ash Dam Extension 3.
It is a challenging situation and we appreciate the advice and guidance.

We will be in touch once Eskom has decided on a way forward.

Regards

PS - my apologies for not being there in person, I had another commitment.
- And sorry for the great number of Eskom personnel, we had asked them to limit their numbers!

Matthew Hemming

Director

for Synergistics Environmental Services

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2013/01/29