

Basic Assessment (12/12/20/1266) and Water Use Licence application for the proposed upgrade of an existing low-level bridge crossing the Braamhoekspruit two kilometre downstream of the Ingula Pumped-Storage Scheme

BACKGROUND INFORMATION DOCUMENT (BID)

August 2008

PURPOSE OF THIS DOCUMENT

The purpose of this Background Information Document (BID) is to inform interested and affected parties (I&APs) about the Basic Assessment (BA) that is being conducted for the proposed upgrade of an existing low water bridge crossing the Braamhoekspruit. The proposed upgrade is to take place approximately two kilometre downstream from the Ingula Pumped-Storage Scheme.

An application for a water use license will also be made.

The closest town to the site is Van Reenen and the project area falls within the jurisdiction of Ladysmith / Emnambithi Local Municipality. This BID also provides I&APs with the opportunity to:

- register as stakeholders in the public participation process; and
- comment and make contributions to the proposed project.

The purpose of the BA is to identify and evaluate potential impacts, to recommend measures to avoid or reduce negative impacts and to enhance positive impacts. The BA decision-making authority is the Department of Environmental Affairs and Tourism (DEAT) in accordance with section 24(5) of the National Environmental Management Act (NEMA), Act No 107 of 1998.

Register by 12 September 2008

You will be included on the stakeholder database and receive further documents for comment when they are available. Your comment will ensure that all relevant issues are incorporated in the BA. Either complete and submit the enclosed registration / comment sheet, write a letter, call or e-mail the public participation office, if you wish to raise any concerns or comments regarding this BA. All BA documents will be available on www.eskom.co.za.

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BACKGROUND

Eskom is in the process of constructing the Ingula Pumped-Storage Scheme (PSS), outside Van Reenen in the Free State with the main purpose of generating additional electricity supply to the national grid. The Ingula PSS comprises two reservoirs (referred to as upper and lower reservoirs), underground powerhouse complex, waterway tunnels linking the reservoirs with the powerhouse complex, access roads and transmission lines, among other components. The lower reservoir is located on the Braamhoekspruit, a tributary of the Klip River. The PSS received its Environmental Authorisation in 2004, and the access roads in April 2006, respectively. Authorisation of the access roads was a condition of the scheme's Environmental Authorization.

Approximately two kilometre downstream of the lower reservoir, a gravel road (D474) crosses the Braamhoekspruit via a low water bridge. The gravel road is used by the local communities and other road users. The bridge gets flooded during heavy rains because of its low-level technical design and specification.

Although the magnitude of flood peaks downstream of the lower reservoir will be reduced once the construction of the Ingula PSS is completed, the duration of these reduced peaks may be over longer periods, than usual, due to the attenuation effect and release system of the reservoir. This could result in longer duration of over-flowing of the low-level bridge than is experienced without the lower reservoir. To mitigate this extended period of over-flowing, Eskom is planning to upgrade the low-level bridge to a larger bridge with adequate opening to accommodate large flows without over flowing of the gravel road. This will ensure access across the Braamhoekspruit, through this gravel road when flows are released from the reservoir through its normal discharge system.

The adjacent land to the existing low water bridge is rural farm land used primarily for grazing. The water course (Braamhoekspruit) is used by local subsistence farmers for watering of live stock, and domestic potable use. There is a small rural farmstead within 100m of the proposed activity.

For Eskom to begin the upgrade of the low-level bridge, an Environmental Authorisation is required. To obtain such Environmental Authorisation for the proposed project, a Basic Assessment will be conducted in terms of the Environmental Impact Assessment Regulations under Section 24 (5) of the National Environmental Management Act (NEMA), (Act No 107 of 1998) as published in GN R385, 386 and 387. A critical element of the Basic Assessment is the public participation process that allows Interested and Affected Parties (I&APs) an opportunity to provide comments on a proposed development. Furthermore, in order for Eskom to begin with the upgrade of the low level crossing over the Braamhoekspruit the Department of Water Affairs and Forestry requires that Eskom applies for a Water Use Licence of their water uses in terms of the National Water Act (NWA) (Act No 36 of 1998).

Location

The property falls within the jurisdiction of the Ladysmith / Emnambithi Local Municipality. The property on which the low level crossing is located is Portion 3 and 4 of Portion 3 of the Farm Trekboer 1002GS. (See location map on page 4).

Existing Land Use

The site is located in within a provincial road reserve and the adjacent land is rural agricultural.

General Catchment Information

The site falls within the Upper Tugela catchment (Thukela Water Management Area, Tertiary Drainage Region V12). The Tugela River catchment experiences a wide variety of weather conditions ranging from generally wet and cold in the Drakensberg Mountains, to dry and hot in the Tugela Valley from Colenso down towards the coast, and hot and humid and reasonably well watered at the coast.

The region receives most of its rainfall in summer between September and April. Snow falls are common in winter along the Drakensberg Mountain peaks, which melt fairly quickly. The average rainfall ranges from about 1 500 mm per annum in the mountains to about 650 mm per annum in the central parts of the catchment. Annual runoff varies from 600 mm in the Drakensberg to as little as 50 mm in the dry bushveld areas with an estimated natural Mean Annual Runoff (MAR) of 3799 million m³ per annum at the river mouth.

DESCRIPTION OF THE PROJECT

For the low-level bridge to be upgraded it is anticipated that a concrete structure of about 15 m x 5 m will be constructed to lift the road sufficiently to create an opening for the water in the Braamhoekspruit to flow freely beneath. The proposed construction will take place within the existing road reserve.

As a first step towards the proposed construction, the existing gravel road (D474) has to be deviated to make way for the construction process and to ensure interim access for traffic. Once the road deviation has been completed the establishment of the upgraded structure (high water bridge) will be on the original road. By doing it this way, it is anticipated to minimize the environmental impact outside the road reserve. It is proposed to deviate the road approximately 50m north from the existing gravel road. The area where the deviated road will be constructed will be fully rehabilitated.

Temporary deviation of road and river crossing

It is proposed that the road deviation will be done to the northern side of the existing road along the path that seems to be a former river crossing. The river crossing will be filled with rocks and concrete pipes of sufficient size to handle the expected annual flow for the specific period and to allow free seepage. The road surface will be constructed of layers of suitable material to create a road surface. By doing it this way it is anticipated to minimize turbidity in the Braamhoekspruit during the construction phase of the cause way.

Demolishing of existing bridge

The demolishing of the existing bridge will be done, as far as possible, with hydraulic breakers and not explosives due to the close vicinity of local residents. The demolished material will be disposed of at a suitable place, and there is a suggestion to use that material in the rehabilitation of the temporary deviation on the cuttings on either side to reinstate the river bank to its former shape.

Fencing and Rehabilitation

Fencing will be erected in such a manner to ensure the safety of people passing by. Site rehabilitation will be done according to specification in the Environmental Management Plan.

Bridge construction

The excavation of the two bridge supports will be done on either side of the river while concentrating the water in the centre by suitable means without contaminating the water through turbidity. Concreting will commence once the foundations have been inspected and approved. Concrete will be delivered from the lower reservoir's batch plant with mixer trucks. The concrete will be placed with a crane and concrete bucket.

Bridge deck construction

The bridge deck is a composite deck consisting of pre-cast beams and in-situ concrete. The Precast beams will be cast inspected and approved. Once the bridge supports are finished the pre-cast beams will be placed into position with a mobile crane. Once the pre-cast beams are in place the in-situ deck and all other relevant features will be completed.

Road surface layer works.

The specified material will be sourced from approved sources. The material will be worked, placed and compacted to specification. The road will not be tarred, but will remain a gravel road as is.



Fig 1: The D474 gravel road with an existing low-level bridge crossing the Braamhoekspruit.

WATER USE LICENCE APPLICATION PROCESS

The Water Use License Application Process

In order for Eskom to lawfully continue with the associated water uses (for the bridge), the Department of Water Affairs and Forestry (DWAF) requires a Water Use License Application to be submitted.

In terms of the National Water Act (NWA) (Act 36 of 1998), the National Government, acting through the Minister of Water Affairs and Forestry, is the public trustee of South Africa's water resources, and must ensure that water is protected, used, development, conserved, managed and controlled in a sustainable and equitable manner for the benefit of all persons. The Minister is responsible to ensure that water is allocated equitably and used beneficially in the public interest, while promoting environmental values. Government, acting through the Minister, has the power to regulate the use, flow and control of all water in South Africa.

The appointed consultant's proposed methodology and work programme will ensure a harmonised authorisation process addressing DWAF's needs in terms of a Water Use License. This part of the project will be completed in three phases.

The first phase will focus on determining the current uses, while determining the legal status of the current uses. Any water uses that have not been registered or incorrectly registered will be brought to the attention of Eskom.

The second phase will focus on amending and or registering any water uses that have not been registered and/or that have been incorrectly registered.

A Draft Technical Report for Eskom will be compiled, using existing information available and specialist investigations commissioned by Eskom. This Draft Technical Report will then be made available to Interested and Affected Parties (I&APs) and the DWAF so that substantiated issues and comments can be made.

The third phase will focus on submitting the applications to the DWAF as well as addressing any comments raised by the Department.

Water uses to be licensed

In terms of the NWA the following water uses undertaken on site require licensing under the following sections of the Act:

Ü Section 21 (i): Altering the Bed, Banks, Course or Characteristics of a Watercourse.

Ü Section 21 (c): Impeding or Diverting the Flow of Water in a Watercourse.

Process to follow with the application of a Water Use License (WUL)

Legal Validation and Assessment

Legal Assessment in respect of the legal status of the existing water uses has been undertaken. This report has been submitted to the DWAF.

Application initiation discussion

Initial discussion between the applicant and the DWAF was held to ensure that DWAF agree with the water uses being applied for.

Formal submission of application forms

In accordance with this legislation, the relevant water use license applications will be submitted to the DWAF with the Final Water Use Licence Application Report.

Public participation

The public participation process is designed to elicit a joint effort by stakeholders to produce better decisions than if they had acted independently. The primary aim of such a process is to facilitate better decision-making.

The following activities will be utilised in the public participation process towards the application of the Licence:

- Ü Advertising: Public notice in regional and local newspapers;
- Ü Supplying adjacent landowners with a Background Information Document;
- Ü Contacting stakeholders, notifying them of the process;

Ü Documenting stakeholder correspondence within the Draft Technical Report, that will be made available for public review;

Ü Notifying stakeholders when the Water Use License is issued.

Draft Technical Report

The Draft Technical Report will include, amongst others, the following:

- Ü Introduction
- Ü Project Description
- Ü Environmental Status Quo
- Ü Quantitative Risk Assessment
- Ü Cost-benefit analysis
- Ü Integrated Environmental Management
- Ü Monitoring systems
- Ü Operational Management
- Ü References and Specialist studies

Stakeholder Review of the Draft Technical Report

Subsequent to the compilation of the draft report, the report will be made available for stakeholder comment, prior to submission to the DWAF.

Submission

All relevant documentation will be submitted to the DWAF to inform decision making in the Licence application.

Decision Making

Once all relevant documentation has been submitted to the DWAF, a decision will be made to approve the Water Use Licence application for Eskom or to reject the application. The decision will be made available to the stakeholders. A stakeholder or the applicant can appeal the decision through the correct channels.

BASIC ASSESSMENT PROCESS

What is a Basic Assessment and why is it necessary?

In terms of legislation a Basic Assessment has to be conducted as part of the investigation process for the upgrade of the existing low water bridge. A Basic Assessment for this project is conducted under Section 10 of Government Notice No R 386 of the National Environmental Management Act (NEMA) (Listing 1).

The Basic Assessment is used to obtain an objective view of the potential environmental and social impacts that could arise during the investigation, construction and operation of the proposed project.

The information contained in the Basic Assessment Report must provide the relevant authorities with adequate information for informed decision-making. The Basic Assessment Report, which is the final stage of investigation and recommendation, must:

- Ü Identify the potential impacts of the proposed development;
- Ü Record the issues, concerns and suggestions raised by I&APs; and;
- Ü Outline the measures to be taken to avoid or reduce negative impacts and enhance positive impacts.

The Basic Assessment process is subdivided into two processes which run in parallel, namely: the technical process and the public participation process.

Technical process

Inception Phase

During this phase the inspection of the site was done to establish the extent of the anticipated impacts and the required mitigation measures. A technical environmental team was commissioned to inspect the site, identify the potential impacts and to recognise mitigation measures. The team then approached the DEAT to confirm whether the technical and public participation measures followed, are in accordance with their requirements.

Basic Assessment and Investigation Phase

The public participation process was started in parallel with specialist assessments. During this investigation phase a flora and fauna, traffic, noise, aquatic, terrestrial ecology, heritage and archaeological, visual and social impact specialist investigations will be conducted. The findings of these studies,

together with input from the public participation process will be incorporated into a Draft Basic Assessment Report, which is the outcome of this phase.

Should further specialists studies be required, these will be considered by the environmental specialists.

Public participation

In addition to undertaking the Basic Assessment for the proposed project, Zitholele Consulting will also conduct the public participation process required for the Basic Assessment. This process will enable stakeholders to influence the course of the investigations and to review the findings of the independent studies that are to be undertaken. The steps of the public participation process are outlined below.

The public participation process is designed to elicit a joint effort by stakeholders to produce better decisions than if they had acted independently. The primary aim of such a process is to facilitate better decision-making.

The following activities will be utilised to achieve the aforementioned objectives:

- Ü Advertising: Public notice in regional and local newspapers;
- Ü Supplying adjacent landowners with a Background Information Document;
- Ü Contacting stakeholders and notifying them of the process;
- Ü Documenting stakeholder correspondence within the Draft Basic Assessment Report that will be made available for public review;
- Ü Notifying stakeholders when the Environmental Authorisation is issued.

Announcing the Opportunity to Comment

Stakeholders will be informed about the proposed project and the Basic Assessment to be undertaken by means of the distribution of a Background Information Document (BID), a newspaper advertisement and on-site notices.

This Information Document further updates information to stakeholders for a further opportunity to comment and raise potential issues of concern. The issues raised will be captured in an Issues and Responses Report.

Draft Basic Assessment Report, Environmental Management Plan (EMP) and public review period

A draft Basic Assessment Report (BAR), together with the Issues and Responses Report will be made available for comment by I&APs in September 2008. These reports will contain preliminary descriptions of the proposed project, the potential impacts identified, and a record of all issues raised by I&APs. The commenting period on the draft BAR will be four weeks. A stakeholder meeting will be held towards the review of the draft report. Further details on such a meeting will be communicated to stakeholders in due course.

Final Basic Assessment Report and EMP

The final Basic Assessment Report will be prepared, incorporating all additional inputs received during the comment period. This final report will then be submitted to the DEAT for authorisation.

Final notification from the authorities

Once the authorities have issued the Environmental Authorisation for the Basic Assessment, stakeholders will be notified of the decision and what procedure to follow should they wish to appeal the Environmental Authorisation.

Your registration as I&AP and comment are important, please

The purpose of the BA is to provide the authorities with sufficient information on which to base a decision on whether to grant Environmental Authorisation to the proposed project or not, and if yes, under which conditions. The contributions of stakeholders from all sectors of society will assist in an informed decision-making. Zitholele Consulting invites all stakeholders to participate freely, and to submit any comments or information they feel may be useful. Your comments will ensure that all relevant issues are evaluated during the Basic Assessment process. You are therefore requested to register as a stakeholder by completing the enclosed reply sheet and faxing it to the public participation office.

Alternatively write a letter, telephone or e-mail Zitholele Consulting's offices. All registered stakeholders will receive further information about the proposed project and the Basic Assessment Report as they become available.

Fig 2: Location map of the existing low-level bridge, crossing the Braamhoekspruit.



