

## ENVIRONMENTAL IMPACT ASSESSMENTS

# • **ESKOM BRAAMHOEK TRANSMISSION POWER LINE & SUB-STATION INTEGRATION** • **CONSTRUCTION & UPGRADE OF ACCESS ROADS**

for the Eskom Braamhoek Pumped Storage Scheme

### ESKOM: Braamhoek Pumped Storage Scheme

The Braamhoek Pumped Storage Scheme will be located 23 km northeast of Van Reenen on the farms Braamhoek, Zaaifontein and Bedford, within the uThukela Regional District (on the boundary of KwaZulu-Natal and the Free State, within the Drakensberg escarpment). The scheme will utilise surplus electricity generation capacity on the Eskom system during off-peak hours by pumping water from a lower, to an upper reservoir and then releasing this water during peak load hours to generate electricity. A pumped storage scheme relieves the need for other peaking plants to meet peak loads, as well as relieving the need for the de-loading of coal fired generation during periods of low power system load. The scheme will have a total potential generation capacity of approximately 1332 MW. Eskom obtained environmental authorisation for the Braamhoek Pumped Storage Scheme during 2002, and it is anticipated that the first unit will be commissioned in 2011 with the next three units commissioned at three month intervals.

### **TRANSMISSION POWER LINE & SUB-STATION INTEGRATION**

(EIAs: 12/12/20/672 & 12/12/20/673 & 12/12/674)

Electricity cannot be stored. It is necessary to generate and deliver power over long distances at the instant it is required. In South Africa, thousands of kilometres of high voltage lines transmit power from power stations to major substations where the voltage is reduced for distribution. The integration of the Braamhoek Pumped Storage Scheme into the National Grid requires the construction of a sub-station, turn-ins and transmission lines connecting the power station to the grid. Generated power can then be transmitted from the power station to the grid for transmission to wherever it is required. The project team is currently investigating site and route options (Refer to Figure 1 on the opposite page) for transmission integration into the National Grid.

### **CONSTRUCTION AND UPGRADE OF ACCESS ROADS**

(EIA: A24/16/3/110)

To implement and operate the Braamhoek Pumped Storage Scheme, road access is required to the upper and lower dam sites. Prior to the construction of the scheme, it will be necessary that access roads are constructed and/or existing roads upgraded for site access and that provision is made for internal access between the dams. Various options for the access routes have been identified and the project team is currently investigating these options to ascertain the preferred option (Refer to Figure 2 on the opposite page). It is expected that most of the access roads will follow existing roads, which will be upgraded. Three levels of road will be required as follows:

- External access roads: Providing access to the scheme from the existing regional roads.
- Internal access roads: Linking the upper and lower reservoir sites.
- Internal site roads: Providing access within the upper and lower sites, as well as within the campsites.

### Environmental Impact Assessments

Environmental Impact Assessments are currently being done for the above-mentioned projects. The environmental consequences of the proposed projects are identified up-front which helps to ensure that, over the life cycle, the projects will be environmentally acceptable and sustainably integrated into the surrounding environment. Assessments are done in terms of the EIA Regulations under Section 21 of the Environment Conservation Act. Public Participation is an essential component of any environmental assessment and principles of Public Participation include the provision for sufficient and transparent information, on an ongoing basis to Interested and Affected Parties (I&APs), to enable them to comment on the proposed project. The key objective of Public Participation during an environmental study is to assist Interested and I&APs to identify issues of concern and to make suggestions for enhanced benefits.

Issues are raised by the I&APs, the Authorities, EIA technical specialists and the project proponent, and captured in a Draft Scoping Report. It is anticipated that the Draft Scoping Reports will be available for public review during March / April 2005. These reports will be finalised once I&APs have had the opportunity to verify that their issues have been accurately recorded and understood.

For further information or to register as an I&AP, please contact the Public Participation Office:

**ACER (Africa) Environmental Management Consultants**

P O Box 503, Mtunzini, 3867

Tel: 035 340 2715 or Fax: 035 340 2232

**TRANSMISSION POWER LINE & SUB-STATION INTEGRATION EIA:**

Contact: Bongzi Shinga (Email: [bhkintegration@acerafrica.co.za](mailto:bhkintegration@acerafrica.co.za))

**CONSTRUCTION AND UPGRADE OF ACCESS ROADS EIA:**

Contact: Debbie McKirdy (Email: [bhkroads@acerafrica.co.za](mailto:bhkroads@acerafrica.co.za))



# Study Area Map

