ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

PROPOSED CONSTRUCTION OF A COMBINED CYCLE GAS TURBINE (CCGT) POWER PLANT IN THE AMERSFOORT AREA, MPUMALANGA PROVINCE

BRIEFING PAPER

FEBRUARY 2008

WHAT DOES THIS DOCUMENT TELL YOU?

This document aims to provide you, as an Interested and Affected Party (I&AP), with background information regarding the proposed construction of a Combined Cycle Gas Turbine (CCGT) power plant by Eskom Holdings Ltd in the Amersfoort area, Mpumalanga Province. The document also provides information regarding the Environmental Impact Assessment (EIA) process to be undertaken. Furthermore, the document advises how you can become involved in the project, receive information and/or raise issues, which may concern and/or be of interest to you. The sharing of information forms the basis of the public participation process and offers you the opportunity to become actively involved in the project from the outset. Public participation plays an important role in the undertaking of an EIA as input from I&APs ensures that all potential issues are considered within the study.

WHAT DOES THE PROJECT ENTAIL?

In order to be able to adequately provide for the growing electricity demand, Eskom proposes to construct a CCGT power plant in the Amersfoort area. It is anticipated that the CCGT power plant will have an installed capacity of approximately 2100 MW.

The proposed project will consist of the following elements:

- the CCGT power plant (comprising 6 units of approximately 350 MW each);
- a compressor plant;
- ignition gas plant, for unit start-up (using commercial propane);
- weather and communication mast of up to 60 meters in height;
- high voltage yard;
- a gas pipeline from the adjacent gas cleaning plant to the CCGT;
- a water supply pipeline from the Rietpoort Balancing Dam (for construction and operational water supply);
- electricity supply for construction;
- a water treatment plant as well as ancillary works such as access roads and other associated infrastructure;
- sewage treatment plant;
- storage facility for hazardous materials;

- storage facility for waste; and
- borrow pits.

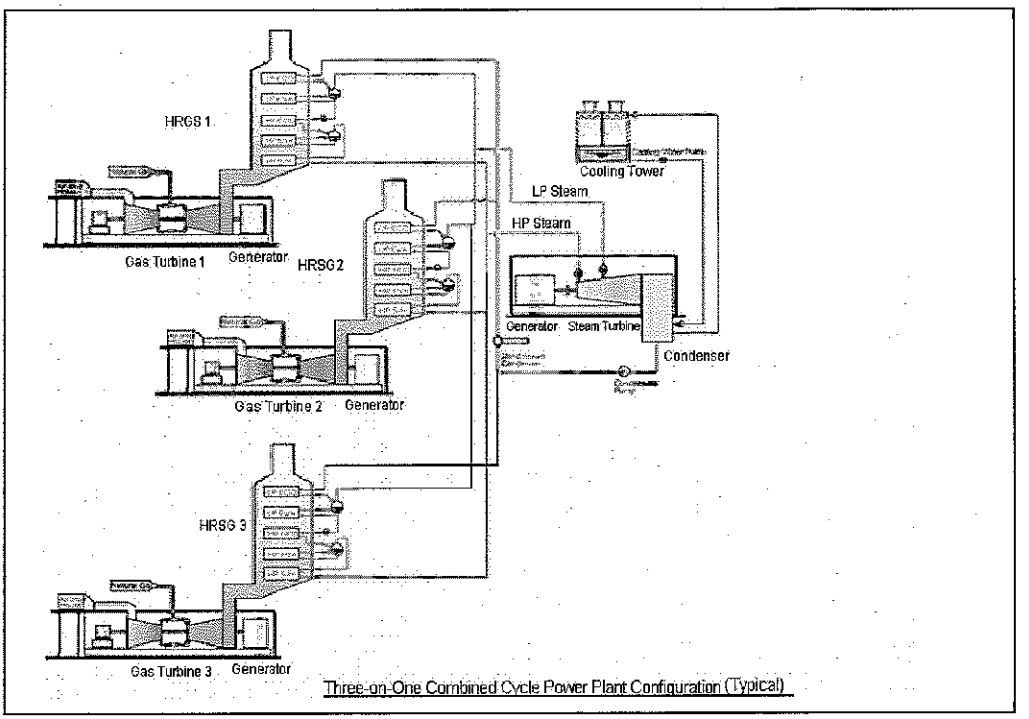

Figure 1: Typical schematic presentation of Combined Cycle Gas Turbine (CCGT) plant

WHY IS THE PROJECT NEEDED?

Eskom Holdings Limited ("Eskom") is responsible for the provision of reliable and affordable power to South Africa. Electricity cannot be stored in large quantities and must be used as it is generated. Therefore, electricity must be generated in accordance with supply-demand requirements. The demand for electricity in South Africa is currently growing at approximately 4% per annum. This growing demand is placing increasing pressure on Eskom's existing power generation capacity. South Africa was expected to require additional peaking capacity (i.e. times of peak demand for electricity) from 2007, and baseload capacity (i.e. average/normal electricity demand) by 2010, depending on the average growth rate. Eskom, through the National Energy Regulator of South Africa (NERSA), therefore needs to address what can be done to meet these energy needs both in the short- and long-term.

Eskom continually assesses the projected demand for electricity through the Integrated Strategic Electricity Planning (ISEP) process. The NERSA has a parallel process called the National Integrated Resource Plan (NIRP) that also gives a long-term view of capacity expansion in South Africa. Through these processes, the most likely future electricity demand based on long-term Southern African economic scenarios is forecasted, and provides the framework for Eskom and South Africa to investigate a wide range of supply and demand-side technologies and options. The most recent ISEP plan provides

economically and environmentally acceptable options for flexible and timely decision making.

As part of an ongoing effort to evaluate the viability/feasibility of all supply-side options, a number of power generation technologies, not yet implemented in South Africa on a commercial basis, are being evaluated in terms of technical, socio-economic and environmental feasibility. These research, development and demonstration investigations include:

- Underground high head pumped storage (hydro) schemes using worked out mines
- Ultra fine coal
- Pebble Bed Modular Reactor (PBMR) technology
- A 100 MW solar thermal power plant
- Photovoltaic and biomass gasification applications as part of the Government's Integrated Rural Development Programme

Hence, as part of the increased electricity supply plan, Eskom is proposing the construction and operation of a commercial Underground Coal Gasification (UCG) plant in the Majuba Power Station area. The commercial operation of the UCG plant has been proven to be technically feasible for operation beyond pilot plant level. Fuel (combustible gas) from this UCG plant will be utilised to fire the proposed CCGT power plant, as well as to be co-fired with coal into the existing Majuba Power Station boilers. Thus, the development of a UCG-CCGT power complex (as illustrated in **Figure 2** below). **This briefing note, and the EIA process, only deals with the CCGT component of the complex as the UCG component is the subject of a separate EIA process.**

It must be noted that the CCGT power plant is not a demonstration project and that CCGT technology has been technically proven and is commercially viable.

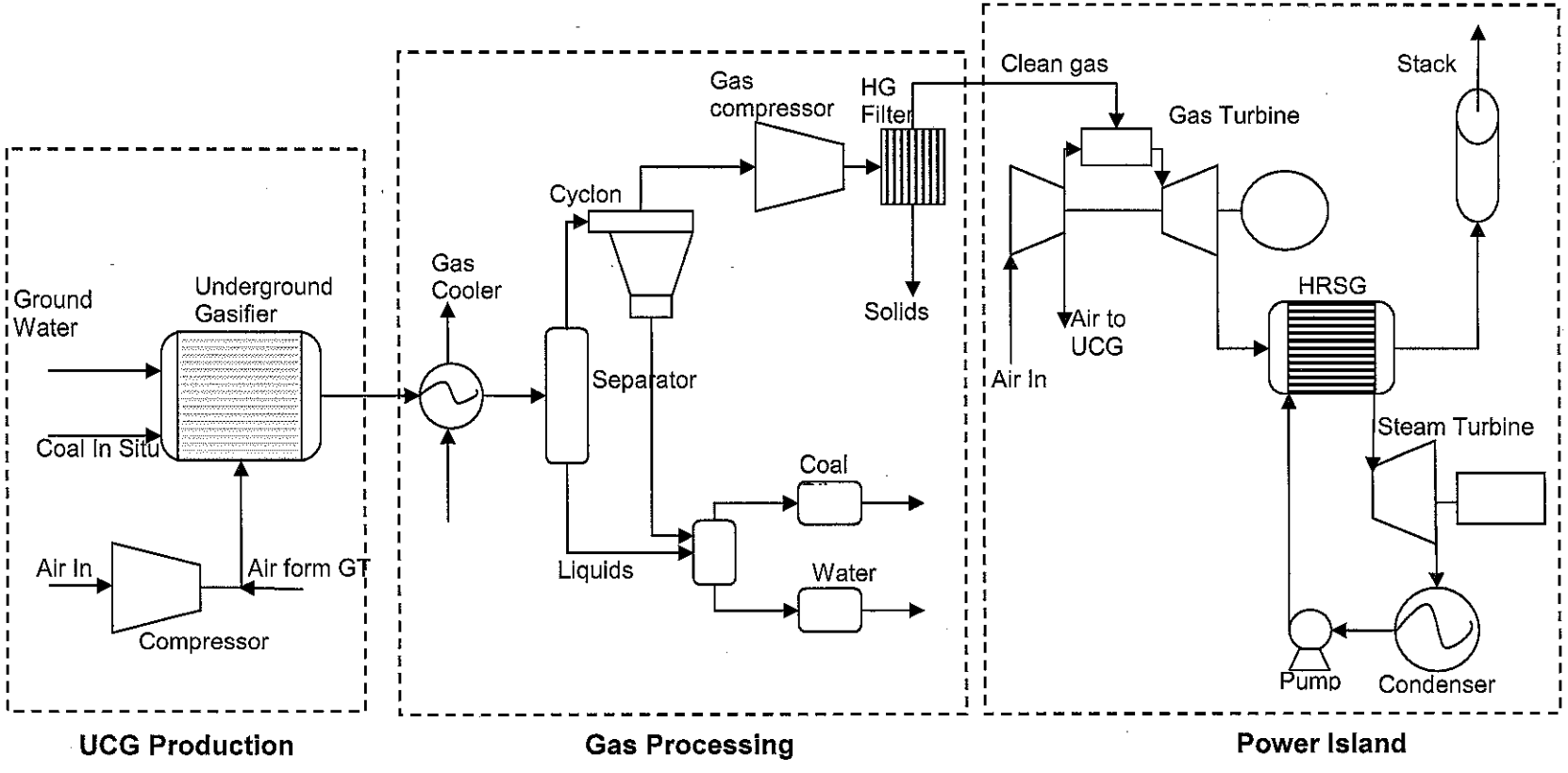

Figure 2: Layout of a UCG-CCGT plant

PROJECT SITING

The EIA process commenced with an Environmental Screening Study during which a site selection process was initiated to identify potential ideal/preferred areas within the study area. As part of the site selection process, a sensitivity mapping exercise was undertaken for the study area, in order to establish the best possible sites to evaluate during the Scoping phase of the project. The site selection process was informed by the following specialist studies *viz.* Hydrogeology; Hydrology; Biodiversity; Air Quality; Noise; Social; Visual, Heritage and Risk.

Ten (10) sites have been identified, in the site identification process, as potentially feasible sites for the construction of the CCGT and associated infrastructure, although 4 of them were identified to be technically unfeasible, and were screened out of the EIA process. Figure 3 illustrates the broader farms where potential alternative sites can be located

These farms include:

- Site 1 (Portions 3 and 4 of the farm Roodekopjes 67 HS)
- Site 2
    - Site 2a (Portion 7 of the farm Bergvliet 65 HS; Portion 4 of the farm Rietpoort 83 HS; Werda 116 HS)
    - Site 2b (Portions 3 and 4 of the farm Rietpoort 83 HS and Werda 116 HS)
- Site 3 (Portions 3 and 4 of the farm Rietpoort 83 HS)
- Site 4 (Portion 1 of the farm Rietpoort 83 HS and Portions 2, 6 and 7 of the farm Welgedacht 82 HS)
- Site 5 (Portions 4, 5 and 8 of the farm Welgedacht 82 HS)
- Site 6 (Portions 1, 3 and 7 of the farm Palmietspruit 68 HS; Portion 6 of the farm Strydkraal 53 HS; Portion 1 of the farm Roodekopjes 67 HS)
- Site 7
    - Site 7a (Portions 1, 2, 6, 10 and 11 of the farm Witkoppies 81 HS)
    - Site 7b (Portions 1, 5 and 6 of the farm Witkoppies 81 HS)
    - Site 7c (Portions 4, 5, 8, 9, 12, 13 and 14 of the farm Witkoppies 81 HS)

After further discussions with the project technical team, Site 1; 3; 4 and 5 listed above were eliminated as they occur in the area earmarked for the future expansion of UCG operations. The following six (6) sites will, therefore, be assessed during the Scoping phase (refer to Figure 4):

- Site 1 (Portions 1, 3 and 7 of the farm Palmietspruit 68 HS; Portion 6 of the farm Strydkraal 53 HS; Portion 1 of the farm Roodekopjes 67 HS)
- Site 2
    - Site 2a (Portion 7 of the farm Bergvliet 65 HS; Portion 4 of the farm Rietpoort 83 HS; Werda 116 HS)
    - Site 2b (Portions 3 and 4 of the farm Rietpoort 83 HS and Werda 116 HS)

- Site 3
    - Site 3a (Portions 1, 2, 6, 10 and 11 of the farm Witkoppies 81 HS)
    - Site 3b (Portions 1, 5 and 6 of the farm Witkoppies 81 HS)
    - Site 3c (Portions 4, 5, 8, 9, 12, 13 and 14 of the farm Witkoppies HS)

WHAT IS A COMBINED CYCLE GAS TURBINE (CCGT) AND HOW DOES IT WORK?

As illustrated in Figure 1 above, the gas turbine is the first stage in the process of electricity production through the CCGT plant. The gas turbine compressor draws in air from the environment via a filter. This air is compressed in the compressor – thus pressurised to a higher pressure - and then directed into the combustion chamber, where the combustible gas is mixed in and combustion takes place generating hot gases under high pressure. The energy that is released is converted into a mechanical rotation which drives the generator and generates electricity.

When the hot gas exits the turbine as exhaust gas, it has a temperature of up to 600°C. This heat energy is transferred to the water in the heat recovery steam generator. The heat is used to generate water vapour, which powers the steam turbine. The resulting mechanical energy is transferred to the generator. In the generator mechanical energy from the steam turbine is converted into electricity. The condenser converts exhaust steam from the steam turbine back into water by means of cooling.

WHAT ARE THE POTENTIAL ENVIRONMENTAL IMPACTS ASSOCIATED WITH THE PROPOSED PROJECT?

A number of potential environmental impacts associated with the project have been identified. As part of the EIA, these potential impacts will be assessed through the following specialist studies:

Specialist Study	Organisation
Impacts on surface & groundwater	SRK Consulting
Impacts on ecology & flora	Bathusi Environmental Consulting (BEC)
Impacts on terrestrial fauna	Bathusi Environmental Consulting (BEC)
Heritage impact assessment	National Cultural History Museum
Impacts on air quality	Bohlweki Environmental (Air Quality Unit)
Noise impacts	Jongens Keet and Associates
Impacts on the social environment	MasterQ Research
Risk assessment (MHI assessment)	Riscom
Visual impact assessment	MetroGIS
Traffic impact assessment	SSI Engineering and Environmental Consultants

In the Environmental Scoping Study, desk-top specialist studies combined with a site visit will identify potential issues which require further investigation within the EIA phase. Input from the public through the public participation process provides valuable input in

the identification of issues requiring investigation within this EIA process. The Environmental Scoping Study will highlight areas that should be avoided in order to minimise potential impacts, and evaluate the alternative sites recommended in the Environmental Screening exercise for the proposed CCGT plant and associated infrastructure. The Scoping Study will recommend the most favourable alternative site/s for the CCGT power plant and ancillary infrastructure for further investigation in the Environmental Impact Assessment phase.

The Environmental Impact Assessment phase will aim to achieve the following:

- to provide an overall assessment of the social and biophysical environments of the affected area by the proposed construction of the CCGT plant and associated infrastructure;
- to undertake a detailed assessment of the preferred site/s in terms of environmental criteria including the rating of significant impacts;
- to identify and recommend appropriate mitigation measures for potentially for potentially significant environmental impacts; and
- to undertake a fully inclusive public participation process to ensure that I&AP issues and concerns are recorded and commented on.

WHY ARE ENVIRONMENTAL STUDIES NEEDED?

In terms of the Environmental Impact Assessment (EIA) Regulations Government Notice. R. 385 to No. R. 387 of 2006 published in terms of Section 24(5) read with Section 44 of the National Environmental Management Act (NEMA), 1998 (Act No 107 of 1998), Eskom requires authorisation from the National Department of Environmental Affairs and Tourism (DEAT) for the undertaking of the proposed project as it includes activities listed under Regulation 386 and 387 of the NEMA EIA regulations. Activities under these listings may have a detrimental effect on the environment, hence a full EIA process, as prescribed in Regulations 27 to 36 of the Environmental Impact Assessment Regulations (Regulation 385), will have to be undertaken.

An Environmental Impact Assessment (EIA) is an effective planning and decision-making tool, which allows for the identification of potential environmental consequences of a proposed project, and its management through the planning process.

Eskom Holdings Ltd has appointed Bohlweki Environmental, as an independent Environmental Assessment Practitioner (EAP), to undertake environmental studies to identify and assess all potential environmental impacts associated with the proposed project. As part of these environmental studies, all I&APs will be actively involved through a public participation process. The environmental studies will follow a two-phased approach:

- Phase 1: Environmental Scoping Study (ESS)
- Phase 2: Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP)

PUBLIC PARTICIPATION PROCESS

It is important that relevant I&APs are identified and involved in the public participation process from the outset of the project. To ensure effective public participation, the process includes the following steps:

STEP 1: Advertise the EIA Process (local, regional & national press)
STEP 2: Register I&APs and key stakeholders on the database (on-going)
STEP 3: Consultation with, and transfer of information to, I&APs through consultation, public meetings, focus group meetings and key stakeholder workshops during the Scoping and EIA phases
STEP 4: Invite I&AP comment and input on the draft Scoping and EIA reports (30-day comment period)
STEP 5: Record all comments, issues and concerns raised by I&APs within an issues trail, which will form an integral part of EIA Reports

HOW CAN YOU GET INVOLVED?

1. By responding (by phone, fax or e-mail) to our invitation for your involvement in the process;
2. By completing the attached comment form and mailing or faxing it to Bohlweki Environmental;
3. By attending the meetings to be held during the course of the project. Should you register as an I&AP you will be invited to attend these meetings. The meeting dates will also be advertised in local newspapers and registered I&APs will be notified by mail as well;
4. By telephonically contacting consultants if you have a query, comment or require further project information; and
5. By reviewing and commenting on the draft Scoping and EIA Reports within the allowed 30-day review periods.

If you consider yourself an I&AP for this proposed project, we urge you to make use of the opportunities created by the public participation process to become involved in the process and provide comment, or raise those issues and concerns which affect and/or interest you, or about which you would like more information. Your input into this process forms a key part of the environmental studies and we would like to hear from you to obtain your views on the proposed project.

By completing and submitting the accompanying response form, you automatically register yourself as an I&AP for this project, and ensure that your comments, concerns or queries raised regarding the project will be noted.

Comments and Queries

Direct all comments, queries or responses to:
Bohlweki Environmental
PO Box 867 Gallo Manor 2052

Nicolette Raats or Sibongile Hlomuka
Phone: (011) 798 6001
Fax: (011) 798 6010
E-mail: majubaccgt@bohlweki.co.za

OMGEWINGS IMPAK EVALUERINGS PROSES

VOORGESTELDE KONSTRUKSIE VAN 'N GEKOMBINEERDE SIKLUS GASTURBINE (GSGT) AANLEG IN DIE AMERSFOORT AREA, MPUMALANGA PROVINSIE

AGTERGROND INLIGTINGS DOKUMENT

FEBRUARIE 2008

WAT BIED HIERDIE DOKUMENT?

Hierdie dokument poog om u as, betrokke en of geinteresseerde party (B&GP), 'n oorsig te gee rakende die voorgestelde konstruksie van 'n gekombineerde siklus gasturbine (GSGT) aanleg by Eskom Holdings Beperk in die Amersfoort area, Mpumalanga Provinsie, asook oor die omgewingstudies wat onderneem gaan word. Dit dui ook verder aan hoe u by die projek betrokke kan raak, inligting kan ontvang of kwessies wat u raak of waarin u belangstel aanhangig kan maak. Die dokument vorm deel van die openbare deelname proses en bied u die geleentheid om by die proses betrokke te raak. Insette van B&GPs sal verseker dat alle potensiele omgewingskwessies as deel van studie oorweeg sal word.

WAT BEHELS DIE PROJEK?

Eskom Holdings Beperk beplan die konstruksie van 'n gekombineerde siklus gasturbine aanleg in die Amersfoort area om die groeiende vraag na elektrisiteit aan te spreek. Die totale geinstalleerde kapasiteit van die GSGT aanleg word bereken op ongeveer 2100 MW.

Die voorgestelde projek sal uit die volgende komponente bestaan:

- die GSGT krag aanleg (met 'n totale geinstalleerde kapasiteit van ongeveer 2100 MW, bestaande uit ses eenhede van ongeveer 350 MW elk);
- 'n kompressie-aanleg;
- ontbrandings gas aanleg om die eenheid in werking te stel (propaan word vir die doeleindes gebruik);
- 'n weer en kommunikasie toring van tot en met 60 meter hoog
- 'n hoë spanningsafdeling;
- 'n gas pyplyn van die aangrensende gas skoonmaak aanleg na die GSGT;
- elektrisiteit voorsienings vir konstruksie;
- 'n water voorsienings pyplyn van die Rietpoort Balanserings Dam (vir konstruksie en operasie);
- 'n water behandelings aanleg sowel as dienste soos toegangspaaie en ander geassosieerde infrastruktuur;
- afval behandelings aanleg;
- steelgate (beperk tot 1.5ha elk);
- bergings fasiliteit vir afval; en

- bergings fasiliteit vir gevaarlike material (gedurende konstuksie en operasie)

HOEKOM IS DIE PROJEK NODIG?

Eskom Holdings Beperk is verantwoordelik vir die verskaffing van betroubare en bekostigbare krag aan Suid Afrika. Elektrisiteit kan nie in groot hoeveelhede gestoor word nie en moet dus gebruik word soos dit opgewek word. Dit is om die rede dat elektrisiteitsopwekking plaasvind soos die aanvraag dit vereis. Die aanvraag na elektrisiteit in Suid-Afrika groei teen ongeveer 4% per jaar. Die groeiende aanvraag plaas dus 'n toenemende druk op Suid Afrika se bestaande kragopwekkings kapasiteit.

Eskom ondersoek deurlopend die voorgestelde vraag na elektrisiteit deur gebruik te maak van die Geintegreerde Strategiese Elektrisiteits Beplannings proses. Hierdie proses loop parallel met die Nasionale Energie Reguleerde van Suid Africa (NERSA) se proses genoem die Nasionale Geintegreerde Hulpbron Plan wat 'n langtermyn uitsig gee vir die kapasiteit uitbreidings proses in Suid Afrika. Deur hierdie prosesse word die mees waarskynlikste toekomstige elektrisiteit vraag gebasseer op Suid Afrika se langtermyn ekonomiese vooruitsigte en voorsien Eskom van 'n raamwerk waarbinne alternatiewe vraag en aanbod tegnologie en opsies ondersoek kan word. Die mees onlangse Geintegreerde Strategiese Elektrisiteits Plan voorsien in ekonomiese en omgewings aanvaarbare opsies vir besluitneming.

- As deel van 'n deurlopende poging om die lewensvatbaarheid van al die voorsienings opsies te evalueer, word krag opwekkings opsies, wat nog nie in Suid-Afrika beskikbaar is nie, ondersoek in terme van tegniese, sosio-ekonomiese en omgewings uitvoerbaarheid.

Vervolgens as deel van die verhoogde elektrisiteit aanbod plan, stel Eskom die konstruksie van 'n Ondergrondse Steenkool Gas (OSG) aanleg in die Majuba Kragstasie area voor. Daar was bepaal dat die kommersiele werking van die OSG aanleg tegnies lewensvatbaar is. Brandstof (vlambare gas) van hierdie OSG aanleg sal aangewend word vir gebruik in die GSGT kragaanleg. Hierdie vlambare gas sal verder ook gebruik word, te same met steenkool in die huidige Majuba Kragstasie - dus die noodsaaklikheid vir 'n gekombineerde aanleg soos geillustreer in Figuur 2. **Hierdie inligtingsdokument en die OIE proses, handel egter slegs net met die GSGT komponent van die gekombineerde aanleg aangesien die OSG komponent onderworpe is aan 'n aparte OIE proses.**

Kennis moet geneem word dat die GSGT krag aanleg nie 'n demonstrasie projek is nie en dat die GSGT tegnologie tegnies bewys en kommersieel lewensvatbaar is

HOEKOM IS 'N OMGEWINGEVALUERING NODIG?

Om die nodige goedkeuring van die Nasionale Departement van Omgewingsake en Toerisme te bekom, moet 'n Omgewingsbestekopname en Omgewings Impak Evaluering

onderneem word in terme van die Nasionale Omgewings Bestuur Wet. Aktiwiteite onder hierdie lys mag 'n nadelige effek op die omgewing hê, daarom word 'n vol OIE proses gevolg soos beskryf in die Regulasies 27 tot 36 van die Omgewings Impak Evaluerings Regulasies gepubliseer in die Staatskoerant R 385 tot Nr. R 387 van 2006. .

'n Omgewings Impak Evaluering is 'n effektiewe beplanning en besluitnemings hulpmiddel wat potensiele omgewings impakte van 'n voorgestelde projek identifiseer en die bestuur van hierdie impakte beskryf.

Eskom Holdings Beperk het Bohlweki Environmental, aangestel as onafhanklike omgewingskonsultante met die doel om omgewingstudies te onderneem om potensiele omgewingsimpakte wat gepaard gaan met die voorgestelde projek te identifiseer en te bepaal. As deel van hierdie OIE, sal alle B&GP's aktief betrek word deur 'n openbare deelnameproses. Die omgewingstudie sal in twee fases plaasvind:

- Fase 1: Omgewings Bestekopname
- Fase 2: Omgewingsimpak evaluering en Omgewings bestuursplan

PUBLIEKE DEELNAME PROSES

Dit is belangrik dat alle relevante B&GP's geidentifiseer word en by die publieke deelname proses betrokke is van die begin van die projek af. Om 'n effektiewe publieke deelname proses te verseker word die volgende stappe gevolg:

STAP 1:	Advertering van die OIE Proses (plaaslik, streeks en nasionale pers)
STAP 2:	Registreer B&GP's en sleutel rolspelers op die databasis (deurlopend)
STAP 3:	Konsulteer met, en verspreiding van inligting na B&DP's deur middel van konsultasie, openbare vergaderings, fokus groep vergaderings en sleutel rolspeler werkswinkels gedurende die Bestekopname en OIE fase.
STAP 4:	Nooi B&GP kommentaar uit op die konsep Bestekopname verslag en OIE verslag (30-day kommentaar periode)
STAP 5:	Noteer alle kommentaar en geskilpunte wat deur B&GP's geopper word en vervat word in 'n geskilpunt verslag wat 'n integrale deel vorm van die OIE verslag.

HOE KAN U BETROKKE RAAK?

1. Deur te antwoord (telefonies, faks of e-pos) op ons uitnodiging om deel te neem aan die proses;
2. Deur die aangehegte kommentaar vorm te voltooi en te stuur aan Bohlweki Environmental hetsy per faks of epos;
3. Deur die vergaderings by te woon gedurende die verloop van die projek. Indien u as B&GP geregistreer het, sal u na die vergaderings uitgenooi word. Die

vergadering datums sal ook geadverteer word in die plaaslike koerant en geregistreerde B&GP's sal per pos in kennis gestel word;

4. Deur telefonies die konsultante te skakel vir enige navraag, kommentaar of inligting aangaande die projek; en
5. Deur die Bestekopname verslag en OIE verslag te hersien en kommentaar te lewer binne dertig dae.

Indien u uself as 'n B&GP van die voorgestelde projek beskou, word u aangemoedig om van die geleenthede gebruik te maak wat die openbare deelnameproses skep, deur by die proses betrokke te raak en sake aanhangig te maak wat u interesseer of affekteer en waaroor u meer inligting benodig.

Deur die ingeslote registrasie vorm te voltooi en in te handig word u as 'n B&GP van die projek geregistreer en verseker u dat sodeonde u bekommernisse of navrae oor die projek aangeteken sal word. Dit sal ook verseker dat u toekomstige inligting oor enige openbare deelname vergaderings en die beskikbaarheid van die konsepbestekopnameverslag vir kommentaar sal ontvang.

Kommentaar en navrae

Verwys alle kommentaar na:
Bohlweki Environmental
Posbus 867 Gallo Manor 2052

Nicolette Raats of Sibongile Hlomuka
Tel: (011) 798 6001
Faks: (011) 798 6010
E-pos: majubaccgt@bohlweki.co.za

UHLELO LOKUCWANINGWA KWESIMO SEMVELO

KUHLONGOZWA UKWAKHIWA KWESIZINDA SE-COMBINED CYCLE GAS TURBINE (CCGT) (UHLELO LOKUKHIQIZA UGESI) E-AMERSFOORT ESIFUNDAZWENI SASE MPUMALANGA

INCWAJANA YOLWAZI
FEBRUARY 2008

ISIFINYEZO SALOKHU OKUBALULEKILE

IKUTSHELANI LENCWAJANA

Lencwajana iqonde ukukuchazela ngolwazi njengomunye wabantu abanentshisakalo noma abathintekayo(Interested and Affected Parties) ngaloluhlelo oluhlongozwa ngabakwa Eskom Holdings Limited e-Amersfoort esifundazweni saseMpumalanga. Lecwajana ibuye ikutshele ngocwaningo olwenziwayo ngesimo semvelo. Lencwajana ibuye ikwazise ukuthi ungazibandakanya kanjani kuloluhlelo ukuze ukwazi ukothola imininingwane mayelana naloluhlelo, bese uveza imibono yakho kanye nokungagculiseki kwakho. Ukuchathezelana ngolwazi kuyisisekelo sokuzibandakanya nomphakathi futhi kukunikeza ithuba lokudlala indima ebalulekile ekuqaleni kohlelo. Ukuzibandakanya komphakathi kusiza kakhulu ekucaciselweni ngolwazi nasekuxazululweni kwezinkinga ezingadalwa yiloluhlelo lokucwaningwa kwesimo semvelo.

IYINI I COMBINED CYCLE GAS TURBINE (CCGT) (UHLELO LOKUKHIQIZA UGESI)

U-Eskom ubhekene nokunikezela ngogesi othembekileyo futhi ofinyelelayo ebantwini lapha eNingizimu Africa. Ngakho ke inhlangano yakwa-Eskom ihlola izindlela ezahlukene zokunikezela ngogesi ukuze akwazi ukuhlangabezana nezidingo ezikhulayo zikagesi. Enye indlela yokuhlangabezana nalezi dingo ukwakhiwa kwesizinda sokukhiqiza ugesi esaziwa ngokuthi yi-CCGT kanye nezakhiwo ezihambisana naso endaweni yase Amersfoort esifundazweni saseMpumalanga.

Lesisizinda sisebenzisa ugesi (gas) oshiswayo phakathi kweshimela (gas turbine). Ukushisa okutholakala kuma-jeneretha abizwa – "heat recovery system generators and steam turbines" kusetshenziselwa ukukhiqiza ugesi. Loluhlelo oluhlongozwayo luqukethe lokhu okulandelayo.

- Isizinda sokukhiqisa ugesi omthamo wawo ocishe ubengu 2100MW onezinhlamvu eziyisithupha omthamo wazo ucishe ube 350MW ngalunye
- Isizinda sesicinanisi (compressor)
- Isizinda sokushisa ugesi
- Isiteshi sesimo sezulu nokuxhumana okuphakama kwaso kungamashumi ayisithupa amamitha
- Igceke elinamavolthi amakhulu kagesi
- Iphayiphi likagesi eliqhamuka esizindeni sokuhlanzwa kukagesi libange esizindeni se CCGT
- Ukuxhunywa kukagesi odingekayo ngesikhathi kusakhiwa
- Iphayiphi lamanzi eliqhamuka ku-Rietpoort Balancing Dam ukuthekela amanzi
- Isizinda sokuhlanza amanzi kanye nezindlela ezidingekayo nezinye izinqalasizinda
- Isizinda sokuhlanzwa kwendle
- Indawo yokubolekwa komhlabathi
- Indawo yokugcina izibi
- Indawo yokugcina izinto ezinobungozi ezisetshenziselwa ukwakha.
- Indawo yokuhlala abakhi

Umdwebo obonisa isizinda sokukhiqiza ugesi (CCGT) uboniswa ku Figure 1 ohlelweni lwesilungu

KUNGANI LOLUHLELO LUDINGEKA

U-Eskom Holdings Limited ('Eskom") ufanele ukuqhiqiza ugesi ngokuthembekile futhi ungambi eqolo eNingizimu Africa. Ugesi ngeke ukhiqizwe bese uyabekwa kodwa kufanele usetshenziswe ngenkathi usakhiqizwa. Ngako ke ugesi kumelwe ukhiqizwe ngokudingeka kwawo. Isidingo sikagesi eNingizumi Africa sikhule ngesivinini esingamaphesenti amane ngonyaka. Ukukhula kwalesisidingo kuba yisicindezeli ku-Eskom ngoba kufanele akhiqize ugesi ondlulele kunalo awuqhikizayo. Abakwa Eskom besebenzisana nabakwa National Energy Regulator baseNingizimu Africa (NERSA) kufanele ukuthi baxazulule loludaba lukagesi kulungiselelwe isikathi samanje nesizayo.

UEskom udingida izidingo zikagesi esebenzisa uhlelo lwe-Integrated Strategic Electricity Planning (ISEP). I-NERSA inolunye uhlelo oluhambisana kanye kanye ne-National Integrated Resource Plan (NIRP). Ngalezinhlelo u-Eskom uzama ukuxazulula izinkinga zikagesi. Ngazozonke lezinhlelo ezihleliwe u-Eskom izothola isikhathi esingezelekile sokuba ifunisise ngezindlela ezintsha zokukhiqiza ugesi.

Njengezinye zezindlela zokucwaninga kokunikezela ngogesi ezinye zazo ezingakaze zasetshenziswa eNingizimu Africa ekukhikizeni ugesi, lezizindlela zisacwaningwa

ngesimo sezomnotho kanye nesezemvelo. Izinhlelo ezinwaningwayo yilezi ezilandelayo

- Ukusetshenziswa kwamanzi angaphansi komhlabathi emamayini angasasetshenziswa
- Ukusethenziswa kwamalahle
- Uhlelo lwe-Pebble Bed Modula Reactor (PBMR)
- Uhlelo lokwakhiwa kwesizinda selanga
- Uhlelo lwe-photovoltaic and biomass gasification njengenxenye yezinhlelo zikahulumeni zokuxhumanisana eziphucula izinhlelo zasemaphandleni

I-CCGT njengenxenye yokwandisa ugesi, abakwa Eskom bahlongoza ukwakha nokusetsenziswa kwesizinda esisebenzisa amalahle angaphansi komhlabathi (Underground Coal Gasisification Plant) endaweni yase Majuba Power Station. Lohuhlelo oluhlongozwayo selike lahlolwa labayimpumelelo. Izibaswa ezishisekayo zizosetshenziswa kulesisizinda ukubasela isizinda se-CCGT kanye nengxenye yeMajuba Power Station esebenzisa izimbiza (ama-boilers). Uhlelo lonke olugcwele luchazwe ohlelweni lwesilungu.
Umdwebo obanisa izizinda ze-UCG-CCGT ukumdwebo 2

INQUBO YOKUSEBENZISANA NOMPHAKATHI

Kubalulekile ukuthi umphakathi uzibandakanye njengengxenye yenqubo yokusebenzisana nomphakathi ekuqaleni kwawo wonke umsebenzi. Ukuze siqiniseke ukuthi ukusebenzisana nomphakathi kuyaphumelela, kufanele kwenziwe okulandelayo:

- Isinyathelo sokuqala: Kufanele kubekhona izaziso zenqubo yokucwaningwa kwezemvelo emaphephandabeni omphakathi, ezifundazwe kanye nawezwe lonke.
- Isinyathelo sesibili: Kubhaliswe abathintekayo nabo bonke abantu ababandakanywa yilenqubo lapho kugcinwa khona imininingwane
- Isinyathelo sesithathu: Kubekhona ukuxhumana, ukubonisana nokunikana imibiko nabathintekayo, kusetshenziswa izindlela ezifana nemihlangano yomphakathi lapho kusaqhutshwa izifundo zokucwaningwa kwemvelo
- Isinyathelo sesine: Kumenywe abathintekayo ukuze nabo bafake imibono yabo embhalweni wombiko wezocwaningo. Abantu bazonikezwa izinsuku ezingamashumi amathathu ukuba baphawule.

- Isinyathelo sesihlanu: Kubhalwe imibono nezimpawulo zomphakathi kuhlelo lokuloba kwezimpawulo bese konke lokho kuba yingxenye yombiko wocwaningo wezemvelo.

UNGAZIBANDAKANYA KANJANI?

1. Ungasithinta ngocingo, ngefekisi noma nge- email kulesimemo esivela kithina ukuze uzibandakanye.
2. Ngokugcwalisa ipheshana esilifakile ubese uyalithumela kithina e Bohlweki Environmental nge-email noma ngefekisi
3. Ngokubakhona emihlanganweni ezobakhona kuloluhlelo. Uma ngabe uzibhalisile njengomunye wabathintekayo uzomenywa ukuba uzothamela imihlangano. Izaziso zemihlangano zizovela emaphepheni kanti abantu abathintekayo bazokwaziswa ngezincwadi.
4. Ungathintana nabasebenzisana nomphakathi uma ngabe unombono noma ufuna ulwazi olunzulu mayelana nohlelo.
5. Uma ngabe ufunda bese uzwakalisa imibono yakho embhalweni yezifundo zokucwaningwa kwemvelo kungakapheli amalanga angamashumi amathathu okucwaningwa kombiko.

Uma ngabe uzibona njengomunye wabathintekayo noma onentshisakalo ngaloluhlelo futhi uthanda ukuzibandakanya naloluhlelo uyacelwa ukuthi usebenzise lelithuba lokuzibandakanya komphakathi ukuze ukwazi ukuveza imibono yakho kanye nokungagculiseki ngokuhanjiswa kwaloluhlelo.

Ngokugcwalisa bese uthumela lelifomu, uyobe njalo usuzibhalisile njengomunye wabathanda ukuthunyelwa ulwazi maqondana naloluhlelo.

Uma udinga ukuzibhalisa ohlelweni lokuzibandakanya komphakathi, nikezela ngemininingwana yakho ku:

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