

NOVEMBER 2015

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

PROPOSED

**GAS TO POWER PLANT ON A SITE WITHIN THE
RICHARDS BAY INDUSTRIAL DEVELOPMENT ZONE**

KWAZULU-NATAL PROVINCE

BACKGROUND INFORMATION DOCUMENT



Richards Bay Gas Power 2 (Pty) Ltd (a Special Purpose Vehicle (SPV) established for the project) is proposing the establishment of a gas to power plant and associated infrastructure on a site located within the Richards Bay Industrial Development Zone 1F, located within the Umthlathuze Municipality, Kwazulu-Natal Province. The power station will have a capacity of up to 300 MW and will be developed in 2 phases to operate with a wide variety of fuels, including diesel, Heavy Fuel Oil (HFO), Light Fuel Oil (LFO), Liquefied Petroleum Gas (LPG) (phase 1 of the development) and ultimately Liquid Natural Gas (LNG) / Natural Gas (NG) (phase 2 of the development). This project is to be developed in response to the Department of Energy's request for projects to be developed by Independent Power Producers in order to provide alternative power generation technologies as part of the technology mix for the country.

In terms of sections 24 and 24D of the National Environmental Management Act (NEMA) (Act 107 of 1998), as read with Government Notices R982 - R985, Richards Bay Gas Power 2 (Pty) Ltd requires environmental authorisation from the National Department of Environmental Affairs (DEA), in consultation with the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs for the construction and operation of the undertaking of the proposed project. In order to obtain authorisation, comprehensive, independent environmental studies must be undertaken in accordance with the EIA Regulations, 2014.

The purpose of this document is to:

- » provide interested and/or affected parties (I&APs) with background information on the proposed project;
- » to provide an overview of the Environmental Impact Assessment (EIA) process and the specialist studies being undertaken to identify and assess the potential positive and negative impacts associated with the project; and
- » provide details of how I&APs can become involved in the EIA process, receive information, or raise issues which may be of concern and/or interest.

DESCRIPTION OF THE PROJECT

The gas to power plant and associated infrastructure is proposed to be located on erven 17455, 17443 and 17442 within the Richards Bay IDZ Zone 1F. The facility will have a maximum capacity of 300MW (defined based on the grid limit of existing Indus substation), to be developed in 2 phases to operate with a wide variety of fuels:

- » Phase 1 to operate on liquid fuel (including diesel, Heavy Fuel Oil (HFO), Light Fuel Oil (LFO), Liquefied Petroleum Gas (LPG))
- » Phase 2 to operate on Liquid Natural Gas (LNG)/Natural Gas (NG) once the Transnet/DoE infrastructure in this regard is implemented

The main infrastructure associated with the facility includes the following:

- » Various Generation technologies are being considered:
 - * Simple Cycle Gas Turbines
 - * Simple Cycle Gas Engines
 - * Combined Cycle Gas Turbines (CCGT) and 1 - 2 steam turbines utilising the heat from all the engines for power production in a steam cycle.
- » The power plant will comprise multiple engine halls, each of ~50MW. Each engine hall will typically comprise up to 6 engines. Stacks associated with engine halls will be up to 30m in height.
- » Access roads within project locality boundaries.
- » Fuel tanks (4 x 10 000m³) which will be used as an interim fuel storage facility until the gas infrastructure is constructed by Transnet. Twelve fuel unloading stations will be associated with these tanks.
- » Water storage facilities for process water and fire-fighting purposes.
- » An HV-Yard and Substation, adjacent to the power plant.
- » A new 132kV power line to connect into the Municipal grid, connecting directly to the Indus Substation bordering the site.
- » Guard house, admin building, workshops and a warehouse.

The proposed gas to power plant will utilise minimal amounts of water for the power generation process and cooling purposes. Water volumes of between 50 000m³ and 270 000m³ per annum are expected to be required for the project. Water is to be sourced from the Umthlathuze Water Works.

NEED FOR THE PROJECT

Approximately 90% of South African electricity comes from coal-fired power stations, with Eskom being the dominant electricity producing company generating 95% of all electricity in South Africa (as detailed in the SA Yearbook 2009/2010). The demand for electricity in South Africa has grown, on average, at more than 4% over the past few years, with a simultaneous reduction in the surplus generating capacity due to limited commissioning of new generation facilities. Although the electricity demand shows a slight negative trend over the recent past, the maximum demand, together with the greater need for maintenance of existing power plants, has put the available power supply under pressure. In spite of capacity coming on line in the near future (as a result of the commissioning of Medupi Power Station near Lephalale, and a number of renewable energy projects across the country), the electricity demand within the country is still higher than the available capacity.

The Integrated Resource Plan (IRP) 2010 developed by the Department of Energy projected that an additional capacity of up to 56 539MW of generation capacity will be required to support the country's economic development and ensure adequate reserves over the next twenty years. The



required expansion is more than two times the size of the existing capacity of the system. In order to meet this required generation capacity, the IRP includes a mix of generation technologies, including a nuclear fleet of 9.6 GW; 6.3 GW of coal; 17.8 GW of renewables; and 8.9 GW of other generation sources, including gas. Although natural gas (NG)-fuelled combined cycle gas turbines are considered to be one of the alternative baseload power generation options in the least-cost Base Case presented in the IRP, the potential to develop these plants has been constrained by the availability of fuel and the capacity to build. Transnet is currently working with Department of Energy Independent Power Producer (IPP) office to help expedite the 3126 MW Ministerial determination for Gas IPPs. It is in response to this initiative that this project is being proposed.

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

The construction of the gas to power plant and associated infrastructure trigger a number of listed activities detailed within the EIA Regulations of December 2014 (GNR983 – GNR985). In this regard, a detailed Scoping and EIA process is required to be undertaken in order to identify and assess potential environmental consequences resulting from the proposed project. The EIA is an effective planning and decision-making tool which forms an essential part of the feasibility assessment for a project. It provides the opportunity for the applicant to be forewarned of potential environmental issues, and allows for planning and design of the project to be undertaken in a manner which considers these identified issues and inputs from I&APs.

Richards Bay Gas Power 2 (Pty) Ltd has appointed **Savannah Environmental (Pty) Ltd**, as the independent environmental consultants, to undertake the required EIA process as required in terms of the EIA Regulations. As part of these environmental studies, I&APs will be actively involved through the public participation process.

The EIA process will be undertaken in two phases as follows:

Scoping Phase

1. Desk-top specialist studies to identify and describe issues.
2. I&APs are identified and notified of the EIA Process.
3. I&APs are consulted to identify issues and concerns.
4. A Scoping Report and Plan of Study is compiled.

EIA Phase

1. Detailed specialist studies assess potential positive & negative impacts.
2. Recommendation of appropriate mitigation measures to minimise potentially significant impacts.
3. An EIA Report and draft EMPr are compiled.
4. I&APs are consulted to verify that their issues and concerns have been adequately recorded.

Decision Making Phase

1. The DEA decides whether to grant an Environmental Authorisation or not.
2. I&APs are notified of the DEA's decision in writing.

POTENTIAL ENVIRONMENTAL IMPACTS ASSOCIATED WITH THE PROPOSED PROJECT

An environmental risk evaluation of the site has been undertaken as part of the feasibility studies for the IDZ. Through this study, a number of sensitivities have been identified, including the presence of wetlands, air quality concerns, and poor geotechnical conditions. Based on this study, as well as on an understanding of the project scope at this stage in the process, the following potential environmental impacts are expected to be associated with the project:

- » Impacts on air quality
- » Impacts on ambient noise levels
- » Impacts on ecology (including flora, fauna and wetlands)
- » Impacts on heritage resources
- » Visual impacts
- » Traffic impacts, specifically during phase 1 of the project which will involve delivery of fuel to the site using trucks
- » Impacts on the social environment

These potential impacts will be described and assessed through specialist studies, which will be undertaken in two (2) phases:

1. A **desktop Scoping Study** wherein potential issues associated with the proposed project are identified, described and evaluated. These specialist studies will be informed by existing information and input from the public participation process. Recommendations are made regarding issues requiring further investigation within the EIA Phase.
2. An **Environmental Impact Assessment** which includes a detailed study of the potentially significant impacts identified in the Scoping Phase. Specialist studies will include field investigations and will determine the nature, extent, duration, probability, magnitude and significance of the potential impacts. Practical and achievable mitigation measures will be recommended in order to minimise potentially significant impacts identified. These recommendations will be included within an Environmental Management Programme (EMPr).

PUBLIC PARTICIPATION PROCESS

The sharing of information forms the basis of the public participation process and offers you the opportunity to become actively involved in the EIA process from the outset. Comments and inputs from I&APs during the Scoping and the EIA phases are encouraged in order to ensure that potential impacts are considered within the ambit of the study. As an I&AP, your input is considered an important part of the EIA process, and we encourage you to become involved.



The public participation process aims to ensure that:

- » Information that contains all the relevant facts in respect of the application is made available to I&APs for review.
- » I&AP participation is facilitated in such a manner that they are provided with a reasonable opportunity to comment on the proposed project.
- » Adequate review periods (as legislated) are provided for I&APs to comment on the findings of the Scoping and EIA Reports.

In order to ensure effective participation, the public participation process includes the following:

- » Distribution of this Background Information Document at the start of the process.
- » Identification of I&APs including directly affected and adjacent landowners, Organs of State and municipal ward councillors.
- » Placement of site notices at the affected properties and within local newspapers.
- » Compilation of an I&AP database which is updated throughout the EIA Process. All registered I&APs will be personally notified at milestones in the EIA process through the distribution of written notifications.
- » Release of the Scoping and EIA Reports for 30-day public review periods.
- » Holding public meetings, and focus group meetings with I&APs to further facilitate the participation process.

YOUR RESPONSIBILITIES AS AN I&AP

In terms of the EIA Regulations, your attention is drawn to your responsibilities as an I&AP:

- » In order to participate in this EIA process, you must register yourself on the project database.
- » You must ensure that any comments regarding the proposed project are submitted within the stipulated timeframes.
- » You are required to disclose any direct business, financial, personal or other interest which that you may have in the approval or refusal of the application for the proposed solar energy facility.

HOW TO BECOME INVOLVED

1. By responding by phone, fax or email to the invitation for your involvement which has been advertised in newspapers.
2. By returning the attached reply form to the relevant contact person detailed herein.
3. By attending the meetings to be held during the course of the process. As a registered I&AP you will automatically be invited to attend these meetings. Dates for public meetings will also be advertised in local newspapers.
4. By contacting the consultants with queries or comments regarding the project.
5. By reviewing and commenting on the Scoping and EIA Reports within the stipulated 30-day

review periods.

If you consider yourself an I&AP for this project, we urge you to make use of the opportunities created by the public participation process to provide comment, raise issues and concerns which affect and/or interest you or request further information. Your input forms a key element of the EIA process.

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

COMMENTS AND QUERIES

Direct all comments, queries or responses to:

Gabriele Wood of Savannah Environmental
PO Box 148, Sunninghill, Johannesburg, 2157

Phone: 011 656 3237

Fax: 086 684 0547

E-mail: gabriele@savannahsa.com












To view project documentation, visit
www.savannahSA.com

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A SITE WITHIN THE RICHARDS BAY
INDUSTRIAL DEVELOPMENT ZONE,
KWAZULU-NATAL PROVINCE**

Locality Map

Legend

-  Town
-  Main road
-  Secondary roads
-  Eskom Power Line
-  Railway line
-  Cadastral Boundaries
-  IDZ Zone 1F
-  Project Site
-  Indus Sub-station
-  Power line
-  Access Road

