

Charles Norman - Impact Assessment Proposed Eskom Open Cycle Gas Turbine Power Plant: PetroSA Mossel Bay

From: "Delmarie Lewis" <delmarie@edendm.co.za>
To: <charles.norman@shands.co.za>
Date: 2007/04/20 07:53 AM
Subject: Impact Assessment Proposed Eskom Open Cycle Gas Turbine Power Plant: PetroSA Mossel Bay
CC: <faan@edendm.co.za>, "Johan Compion" <JCompion@edendm.co.za>

Refer to your request for comments on Monday 16 April 2007 and our discussion at Eden offices, Mossel Bay.

The following for your attention:

- 1) It is not very clear which fuel will be used.
- 2) Your comments towards the visual impact of the proposed doubling of the plant.
- 3) The information relating to noise levels referring to night shifts in particular.
- 4) We would require more information on the emission rate, nox rates.
- 5) More information on the chimney heights.
- 6) In case of emergencies – a contingency plan to be realigned with Eden District Municipality's Disaster Plans.

Regards

Piet van Rensburg
Municipal Manager Health Langeberg

Delmarie Lewis

Secretary Health Department / Sekretarisese Geondheidsdepartement
Environmental Health - Personal Health / Omgewingsgesondheid - Persoonlike Gesondheid
Eden District Municipality / Eden Distriksmunisipaliteit / uMasipala wesiThili sase-Eden

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Verwysing
Reference
Isalathiso



Navrae
Enquiries
Imbuzo

JB Roelofse

Datum
Date
Umhla

15 March 2007

Departement van Omgewingsake en Ontwikkelingsbeplanning
Department of Environmental Affairs and Development Planning
(Sebe leMicimbi yeNdalo esiNgqongileyo noCwangciso loPhuhliso)

The Lead Consultant
Ninham Shand Consulting Services
P O Box 509
GEORGE
6530

Dear Sir

ENVIRONMENTAL IMPACT ASSESSMENT: OPEN CYCLE GAS TURBINE POWER PLANT IN MOSSEL BAY: ADDITIONAL UNITS

In terms of paragraph 6.2 of the Department's letter dated 21 December 2006 I am required to comment on the above document.

The responsibility of the Directorate Strategic Environmental Management is to promote sustainable development within provincial and municipal programmes. The Department appreciates the fact that Eskom has to implement measures to address peak electricity demand. The Department is however concerned about the large quantities of fuel needed to sustain the power plant over a long period. The Department is also concerned about the burning of large quantities of fossil fuels and the concomitant emission of CO₂ and other greenhouse gases.

Yours faithfully

DIRECTOR: STRATEGIC ENVIRONMENTAL MANAGEMENT

Date: *15/3/07*

DEPARTMENT OF LABOUR
Labour Centre: George

DEPARTEMENT VAN ARBEID
Arbeidsentrum: George

Tel.: (044) 801 1200 Fax: i Faks: (044) 873 2568



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The Chief Executive Officer
Ninham Shand
P O Box 509
GEORGE
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Enquiries/Navrae: D Landman

Ref. No/Verw. No.: 400.001

For attention: Mr. Charles Norman

10 April 2007

OCCUPATIONAL HEALTH AND SAFETY ACT, ACT 85 OF 1993
Comments with regard to the Environmental Impact Assessment: Open Cycle Gas Turbine Power Plant in Mossel Bay: Proposed additional units.

Your letter dated 22 March 2007 and your subsequent visit on 30 March 2007 has reference.

The draft Environmental Impact Report was studied and the following were found:

Before Construction

That due to the high volume of fuel (5.4 million litres of Diesel fuel, 13 m³ of Propane fuel) on site as well as the fuel pipeline supplying 120 tons diesel fuel per hour to the new turbines, this site must be registered under the Major Hazardous Installation Regulations and the minimum requirements as set out in the Regulations must be met. This not only applies when this new site is built, but already applies to the current Power Plant units.

During Construction

The project manager must give specific attention to the Construction Regulations during the construction phase and where foreign contractors are used, that they be made aware of the minimum requirements as set out under our Act.

Where the current transmission substation is to be extended, special care must be taken that no situation occurs where employee be exposed to electrically live equipment and only trained personnel be used in this process.

After construction

The storage and handling of hazardous chemical substances (Hydrocarbon-based solvent) for the cleaning of the compressor blades must be done in accordance with the Hazardous Chemical Substances Regulations.

The Department has no objections in the construction of the additional power plant for as long as Eskom and all the appointed contractors adhere to the Occupational Health and Safety Act and Regulations.

Yours sincerely

Danie Landman
Teamleader: Occupational Health and Safety

No: 7-341	File:	
Date: 17 APR 2007		
To:	Seen:	Action:
BL		
CN.		

0446911480

No: 7.366.	File:
Date: 19 APR 2007	
To:	Seen: Action:
BL	

MOSEL BAY MUNICIPALITY
MOSELBAAI MUNISIPALITEIT
UMASIPALA MOSEL BAYI



In antwoord verwys na nommer
In reply quote number
X: Uphendula chaza Le Nombolo

/C. Mackay/012/FP

12th April 2007

Ninham Shand
Consulting Services
PO Box 509
George
6530

Dear Brett Lawson

**Re: STUDY FOR EIA FOR ENVIRONMENTAL IMPACT ASSESSMENT FOR
ADDITIONAL UNITS AT THE OCGT ON PORTION 1 OF THE FARM
PATRYSFONTEIN, MOSEL BAY**

With reference to your recent visit with regard to the abovementioned subject.

We have perused your submission for the above-mentioned installation and hereby recommend the following:

1. That Eskom register the facility as a Major Hazard Installation in terms of Section 3(1) of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), with the Chief Director: Occupational Health and Safety of the Department of Labour.
Storage of bulk flammable liquids (5.4 million litres Diesel & 13 m³ Propane)
2. Provide an On-site Emergency plan (Section 6(1)(a), (b) & (c) and 6(2))
3. Provide adequate Fire Protection for the plant as a whole.
4. Provide relevant safety signs and symbols.
5. That Eskom investigate the possibility of a Mutual Aid agreement between themselves and the PetroSA Fire Services. That PetroSA Fire Services respond as First Responder to any Hazardous Incident within the Eskom plant.
6. That a major incident or an incident that activated the plan is reported within 48 hours to the Mossel Bay Fire and Rescue Services (Section 7(1)).

We look forward to being of continued service to you.

Yours faithfully

pp. K. Nicol
Municipal Manager



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Western Region
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Offices in Menlyn - Pretoria, Pietermaritzburg, Port Elizabeth

Reference: W11/2/3-2/6-16 **Fax No:** +27 (0) 21 946 1630
Date: 12 April 2007 **Direct No:** +27 (0) 21 957 4600
Email: runkelc@nra.co.za **Website:** www.nra.co.za

Mr B Lawson
Ninham Shand Consulting Services
P O Box 509
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Dear Mr Lawson

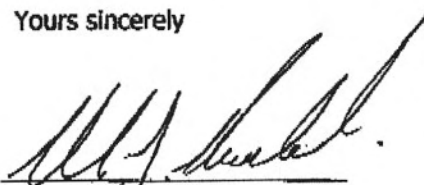
NATIONAL ROUTE 2 SECTION 6: USE OF EXISTING PETROSA ACCESS AT KM 74,0: MOSSEL BAY OPEN CYCLE GAS TURBINE (OCGT) POWER PLANT: ADDITIONAL UNITS DEA&DP REFERENCE NO: EG12/2/3/2-D6/27-352/06 PATRYSFONTEIN 228/1 OCGT NOTICE OF RELEASE OF DRAFT ENVIRONMENTAL IMPACT REPORT (EIR)

Thank you for the Draft Environmental Impact Report dated March 2007.

The South African National Roads Agency Limited (SANRAL) herewith confirms that it is in agreement with the opinion of Ninham Shand with regard to the traffic impact statement (Annexure J of the EIR).

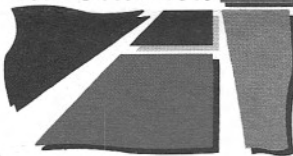
It is therefore not necessary to make modifications to the existing access at km 74,0.

Yours sincerely



MJ RUNKEL
STATUTORY CONTROL

Doc # 270150



REGISTRATION NO. 1998/009584/06

Western Region

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Offices in Menlyn - Pretoria, Pietermaritzburg, Port Elizabeth

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Fax No: +27 (0) 21 946 1630
Direct No: +27 (0) 21 957 4600
Website: www.nra.co.za

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Mr B Lawson
Ninham Shand Consulting Services
P O Box 509
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Dear Mr Lawson

NATIONAL ROUTE 2 SECTION 6: USE OF EXISTING PETROSA ACCESS AT KM 74,0: MOSSEL BAY OPEN CYCLE GAS TURBINE (OCGT) POWER PLANT: ADDITIONAL UNITS DEA&DP REFERENCE NO: EG12/2/3/2-D6/27-352/06 PATRYSFONTEIN 228/1 OCGT NOTICE OF RELEASE OF DRAFT ENVIRONMENTAL IMPACT REPORT (EIR)

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The South African National Roads Agency Limited (SANRAL) herewith confirms that it is in agreement with the opinion of Ninham Shand with regard to the traffic impact statement (Annexure J of the EIR).

It is therefore not necessary to make modifications to the existing access at km 74,0.

Yours sincerely

MJ RUNKEL
STATUTORY CONTROL

From: "Muamar Abrahams" <muabraha@pgwc.gov.za>
To: "Charles Norman" <Charles.Norman@shands.co.za>
Date: 2007/04/10 09:15:04 AM
Subject: Re: Mossel Bay OCGT: Additional Units (1)

Good Day Mr Norman

HWC would like to advise that after carefull perusal of your public participation notice and the bilateral meeting between representatives of your organisation and Mr Greg Ontong of Heritage Resource Management Services:

*That no further heritage assessments are required as the nature of the proposed development and contextual analysis reveals that the development does not warrant such action. The development can proceed and all other approval must be handled at the local municipality.

I trust you will find the above in order.

Mr M Abrahams
Senior Heritage Officer

>>> "Charles Norman" <Charles.Norman@shands.co.za> 03/29/07 4:59 PM >>>

Good day Mr Abrahams

Our telephone converstation this afternoon regarding the above matter refers.

Please read the cover letter attached below as file: Elet 290307 HWC.
Please note that the Heritage Statement referred to in the cover letter will be sent in a seperate email due to it's size.

Kind regards

Charles

=====
Charles Norman
Principal: Environment Discipline Group
Ninham Shand Consulting Services
Bloemhof Building, 65 York Street
PO Box 509
GEORGE 6530
Tel: 044-874 2165
Fax: 044-873 5843

For disclaimer please visit <http://www.shands.co.za/disclaimer.html>

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Reference
Verwysing EG 12/2/3-2-D6/27-352/06. Patrysfontein
Isalathiso



Enquiries: Navrae: Hans Lindu
Imibuzo: 021-483 2981

Date:
Datum: 26 April 2007
Umhla:

Departement van Omgewingsake en Ontwikkelingsbeplanning
Department of Environmental Affairs and Development Planning
ISEbe leMicimbi yeNdalo esiNgqongileyo noCwangciso loPhuhliso

Ninham Shand Consulting Services
P O Box 509
George
6530

Attention Mr. B Lawson

Dear Sir

COMMENT ON ENVIRONMENTAL IMPACT ASSESSMENT: OPEN CYCLE GAS TURBINE (OCGT) POWER PLANT IN MOSSEL BAY PROPOSED ADDITIONAL UNITS.

Purpose

To comment on the abovementioned documentation.

Background

The project entails the addition of three (3) by 150 MW OCGT's units to the existing three (3) units at the abovementioned site resulting in a combined output of 900MW power generation. The units will be used as additional peaking capacity in order to meet the revised projected growth demand for electricity nationally.

Approximately 40 tons (52m³) of liquid distillate fuel (diesel) would be used per unit turbine for each hour of operation

Comment on the specialist air quality study

The specialist study simulated the following four (4) scenarios:

- 1 Plant operating 2 hours per day with NO_x = 165 mg/Nm³, CO = 31.25 mg/Nm³, PM10 = 50 mg/Nm³ and SO₂ = 10.45 g/s.
- 2 Plant operating 2 hours per day with NO_x = 600 mg/Nm³, (i.e. no NO_x reduction measures)

- 3 Plant operating 6 hours per day with NO_x = 165 mg/Nm³, CO = 31.25 mg/Nm³, PM10 = 50 mg/Nm³ and SO₂ = 10.45 g/s.
- 4 Plant operating 6 hours per day with NO_x = 600 mg/Nm³ (i.e. no NO_x reduction measures)
- The conclusion of the specialist study is that the operation of the OCGT plant, operating under the conditions as specified, will not result in any air quality standard transgressions.
 - That the NO_x emissions (165 mg/Nm³ and 600 mg/Nm³) will not exceed the guidelines or standards for the hourly, daily or annual averaging periods.
 - The emissions of NO_x per unit were taken as NO₂ and therefore the predicted emissions are very conservative. The latter is estimated to be in the order of 10%. It is recommended that the emission concentrations be verified once the power station is in operation. Clarification is required as to why these concentrations are not known at this stage. Similar plants are in operation across the world and the details must be available.

Comparison of specialist studies for the plants located in Mossel Bay and Atlantis

- Anomalies exist with the data and findings of the two reports, given that these are the same units and fuel type being used.
- The operation of the plant in Atlantis clearly indicates that NO₂ is problematic and will exceed air quality standards.
- The operation of the plant in Mossel Bay clearly indicates that NO₂ is not problematic and will not exceed the air quality standards.
- The emission factors used in the studies are not consistent.
- Clarity is required as to what is meant by using low NO_x burners in the two studies.
- The discrepancies make it difficult for the authorities to evaluate the reports.
- Therefore, a Peer Reviewer must be appointed, at the expense of the applicant, to peer review both air quality specialist studies, side by side. The reviewer, amongst other need to:
 - Check anomalies of emission factors.
 - Give clear and concise direction as to the anticipated emission and compliance with the new proposed DEAT ambient air quality standards.
 - Guidance is given as to the future monitoring of pollutants and locations.
 - Establish how similar plants operate internationally, what the best international practices are and compliance with ambient air quality standards (i.e. EU standards).

Comments on the Noise Impact Assessment

The Construction Phase

The mitigation measures as suggested by the noise consultant should be adhered to and construction must take place according to the operating times determined in SANS 10400 or in terms of the conditions prescribed by the municipality

The Operation Phase

The noise impact report indicates that the 24 hour operation of all six OCGT units will result in sound levels above the acceptable levels for the area.

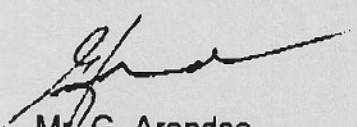
+27+21 4835654

According to the report, the only reasonable mitigation measures would be to reduce noise emissions from the 30m high stack by between 5dB and 10dB. This would significantly reduce sound radiation to have a low to medium impact on much of these areas.

Please inform our Department what these specific measures are for noise reduction from the stacks of these OCGT units and also indicate what level of noise reduction is achievable by this method.

The issue of managing the operation times as well as the number of units operating at any one time could possibly be an additional source of mitigation and must be included in the Environmental Management Plan that will be used to operate the site.

Yours Faithfully



Mr. G. Arendse
Director: Pollution and Waste Management.

Date: 23/4/2007

From: Brett Lawson
To: DeWaal, Genie
Date: Thu, Apr 26, 2007 3:57 PM
Subject: Fwd: PetroSA

>>> "Steyn CAREL" <CAREL.Steyn@petrosa.co.za> 2007/04/26 03:51:16 PM >>>

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is subject to the Standard PetroSA e-mail Disclaimer which is located at
<http://www.petrosa.com/Content/380.html>
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Dear Mr Lawson

This note serves to inform you that PetroSA has reviewed the Draft Environmental Impact Report for the planned extensions to the Eskom OCGT facility in Mosselbay. This review was conducted by the Environmental Section and the head of the Fire Department.

PetroSA is satisfied with the process followed in compiling this report. Furthermore, PetroSA has no comments on the content of the report.

We trust that this e-mail is in order. Should you require any further documentation from PetroSA, please do not hesitate to contact us.

Yours sincerely
Carel Steyn
Manager; Refinery Planning & Optimisation.

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The Petroleum Oil & Gas Corporation of South Africa (Pty) Ltd
trading as "PetroSA" Reg. No. 1970/008130/07.

Directors:

Dr P S Molefe (Chairman)
Mr S Mkhize (President and Chief Executive Officer),
Mr N G Nika (Executive), Mr A R Nkuhlu, Ms R J Huntley, Ms T C P Chikane,
Mr N H Gumede, Prof B Figaji, Mr A W Mjekula,
Mr M B Damane, Ms P S V Ngaba (Company Secretary)

=====

**MOSEL BAY MUNICIPALITY
MOSELBAAI MUNISIPALITEIT
UMASIPALA MOSSEL BAYI**



19 April 2007

Mr. F Krüger x 5070

In antwoord verwys na nommer
In reply quote number
Xa Uphendula chaza Le Nombolo

**Ninham Shand Consulting Services
PO Box 509
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Sir

**EIA: OPEN CYCLE GAS TURBINE POWER PLANT UNIT IN MOSSEL BAY:
PROPOSED ADDITIONAL UNITS**

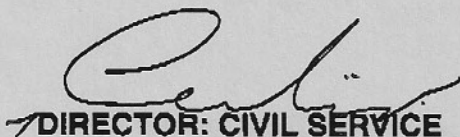
Your draft EIA report dated March 2007 has reference.

Thank you for giving opportunity to comment.

This office's concerns are the following:

1. Impact on air quality. Will this impact be measured and will the public/local authority be informed of these results.
2. Availability of water and irrigation of surrounding gardens. Please investigate the possibility to make use of roof runoff water to be stored in tanks.

Yours faithfully


DIRECTOR: CIVIL SERVICE

No: 7.387	File: 401629	
Date: 20 APR 2007		
To:	Seen:	Action:
B. DJ		





Our Reference : 20/9/24/7/178

Your Reference : N/A

Enquiries : JH Smit

Ninham Shand
PO Box 509
GEORGE
6530

Attention: Brett Lawson

**MOSSEL BAY OPEN CYCLE GAS TURBINE (OCGT) POWER PLANT: ADDITIONAL UNITS
PORTION 1 OF THE FARM PATRYSFONTEIN NO 228: DIVISION MOSSEL BAY**

Your letter of 22 March 2007 has reference.

The Department of Agriculture: Western Cape has no objection in terms of **land use for agriculture** to the proposed change in land use. The Department however recommends that the proposed area be rezoned and subdivided from the existing farm and consolidated to the adjacent property where the existing Open Cycle Gas Turbine Power Plant is located.

Yours sincerely

A. ROUX
ACTING DIRECTOR : SUSTAINABLE RESOURCE MANAGEMENT
2007-04-25

No: 7.436	File:	
Date: 26 APR 2007		
To:	Seen:	Action:
BL		

