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EXECUTIVE SUMMARY

SUBMISSION TO BOARD SUSTAINABILITY, SOCIAL, ETHICS AND SAFETY COMMITTEE ON 13 MAY 2011

1. TITLE OF THE SUBMISSION

Status of the Implementation of the Air Quality Strategy.

2. RESOLUTION REQUIRED

No decision required - for information purposes only.

Submission covers:

- Status of implementation of air quality strategy
- Results of Eskom's ambient air quality monitoring

3. SUMMARY OF FACTS

3.1 Salient Facts

Eskom Air quality strategy was approved by this Committee in November 2010 and its implementation is tracked through the Eskom Environmental Liaison Committee Air Quality Task Team.


Feedback on the status of implementation of the Eskom Air Quality Strategy

In addition to the **emission improvement plans** being implemented at stations, an Emissions Recovery Team, chaired by the Generation Divisional Executive (Mr Thava Govender), has been established to address poor emissions performance on the existing coal-fired fleet. The focus is initially on quick wins to improve plant performance, but will also consider resource needs and how to sustain improved emissions performance.

Particulate emission reduction: An overall business case, showing timing of Fabric Filter Plant retrofits, increase in planned capability loss factor (PCLF), and estimated cost, has been drafted. The impact on power station fleet management will peak in 2020, when retrofits will increase PCLF by up to 1.35% and costs over R2 billion per annum.

Gaseous emission reduction: The User Requirement Specification for the investigation into appropriate NOx emission reduction technologies has been drafted.

Application for postponement of compliance timeframes for Minimum Emission Standards: The Environmental Authorities were informed of Eskom's intention to apply for a postponement in a meeting in October 2011, and further discussions will be held in May 2011. With regard to looking at possible off-set projects, Eskom's tender

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committee has an approved contract with a consultant to look into the feasibility of emission offset projects which will be used as part of the engagement with authorities.

Stakeholder engagement: Meeting with Department of Environmental Affairs and all Emission Licencing Authorities held on 5 May 2011.

Emission licencing: Process to renew emission licences has commenced with the authorities.

Supporting activities: Continuous gaseous emission measurements have been verified at four power stations. A new ambient air quality monitoring station is operational in Kriel, and the establishment of a monitoring station downwind of Lethabo has commenced.

Results of Eskom’s ambient air quality monitoring

Extensive regional air quality monitoring has been undertaken since the late 1970's and has formed part of Eskom's ambient air quality management programme. This extensive ambient air quality network provides key information for future strategic planning processes, compliance with standards and as a guide for research activities.

Monitoring is currently undertaken at 11 ambient air quality monitoring sites measuring a range of pollutants including sulphur dioxide, nitrogen dioxide, fine particulate matter, and ozone amongst others. Meteorological parameters like wind direction, wind speed, wind velocity and temperature are also monitored. Although these sites are influenced by many sources, the majority are located strategically to monitor the level of pollutants at ground level resulting from power station emissions. The sites are therefore located close to power stations, in residential areas and some in remote areas (to measure regional air quality) – depending on the specific objectives of each site.

This report gives feedback for the 2011 financial year focusing on sulphur dioxide, nitrogen dioxide and fine particulate matter (PM10).

The pollution levels at most of the power stations were in compliance with the standards set by the Department of Environmental Affairs and only the particulate matter levels were observed to be increasing and exceeding the air quality limits (figure 1). Ash emissions from Eskom's power stations make only a very minor contribution to total particulate matter levels on the Highveld.

Ambient air quality is impacted by emissions from a number of sources, including Eskom, and the combined results from all these sources are reflected in the concentrations measured by the network. Our monitoring equipment is calibrated against National Meteorological Laboratory standards in a laboratory accredited by the South African National Accreditation System.

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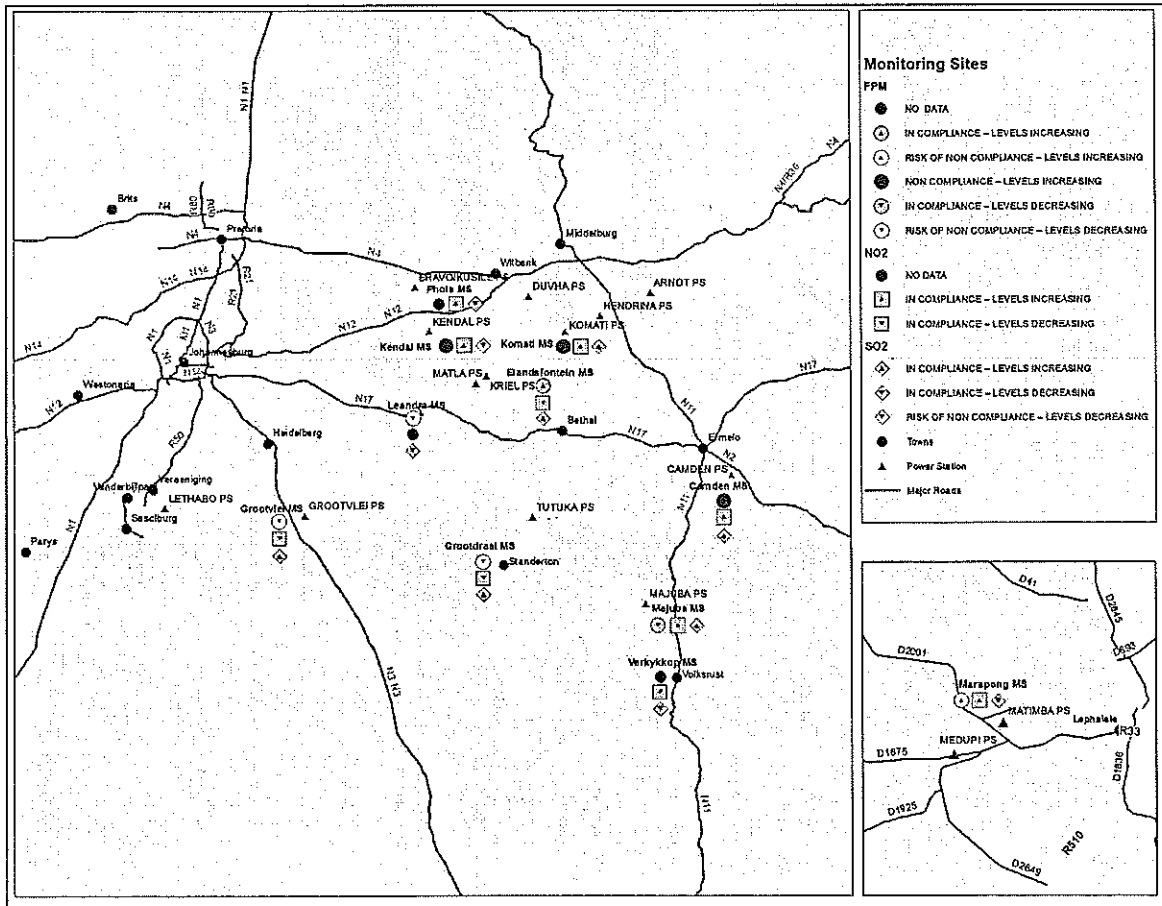


Figure 1. Map showing current air quality levels

Name of Eskom Monitoring site	General description of area
Grootvlei, Komati, Phola, Marapong, Leandra	Urban
Elandsfontein, Verkykkop, Grootdraai	Regional
Camden, Majuba and Kendal	Maximum impact zone – close to emission source

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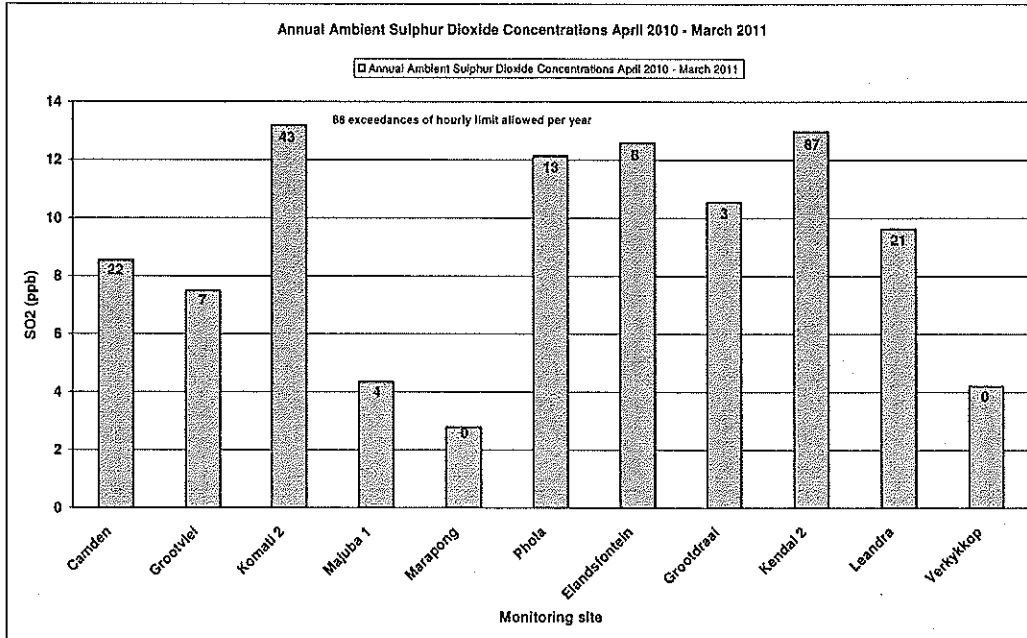


Figure 2. Annual ambient sulphur dioxide concentrations. The number of exceedances of the hourly limit (88 exceedances allowed per year) are shown in red

The annual sulphur dioxide levels were within permissible limits at all the monitoring sites. A significant number of exceedances of the hourly limit value were recorded at Kendal and Komati 2; however they were still below the allowed number of exceedances per year. The exceedances recorded at Kendal were due to emissions from Kendal power station. The monitoring station is about 2 km downwind of the power station. Sulphur dioxide levels have been decreasing at all the monitoring sites in residential areas over the past three years.



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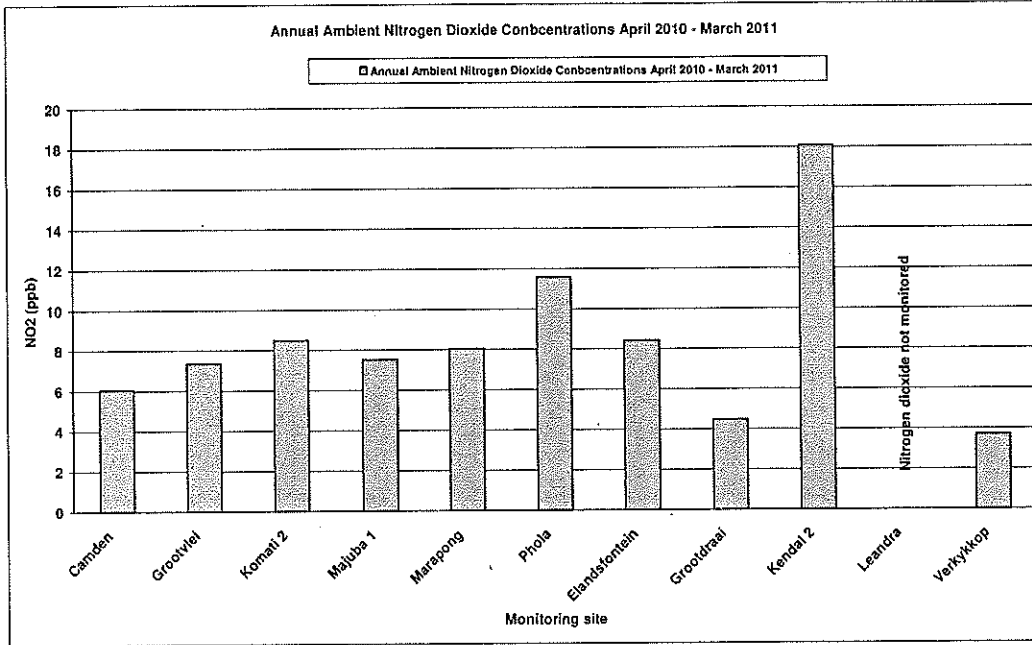


Figure 3. Annual ambient nitrogen dioxide concentrations

A slight increase in the annual nitrogen dioxide levels was recorded over the past three years although the levels were still well within the permissible limits. A higher annual level was recorded at the Kendal 2 monitoring site this year but this was still below the prescribed limit value. No exceedances of the hourly limit value were recorded at any of the sites.

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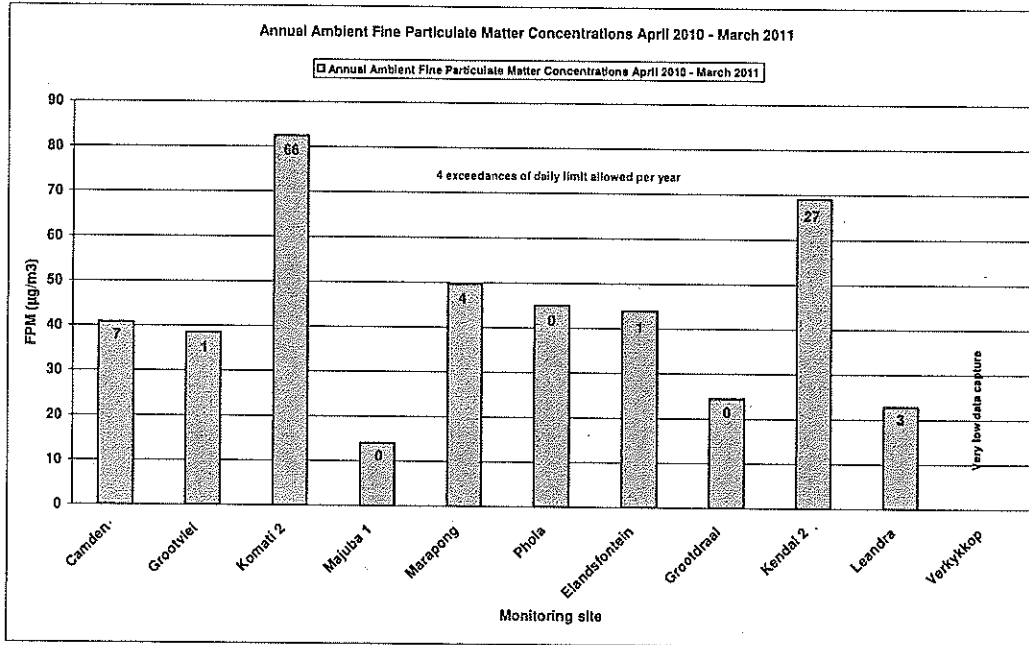


Figure 4. Annual ambient particulate concentrations. The number of exceedances of the hourly limit (4 exceedances allowed per year) are shown in red

The annual fine particulate matter (PM₁₀) limit was exceeded at two sites and the trends have been increasing over the past three years. The daily PM₁₀ standard was contravened at Komati 2, Kendal 2 and Camden monitoring stations. The high particulate matter levels can be mainly attributed to mines and domestic fuel combustion, amongst other sources. The Komati 2 urban site, is impacted by ash dams, mining coal stocks and open cast mining in the area. Fine particulate matter concentrations are a cause for concern as they are increasing and a stricter daily limit of 75µg/m³ will come into effect in January 2015. Ash emissions from Eskom's power stations only have a minor contribution to total PM₁₀ levels.

3.2 Key assumptions


None

3.3 Financial implications

None

3.4 Human Resource implications

None

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3.5 Risks (including Environment, Legal or Contractual risks)

None

3.6 Verification by independent party (if applicable)

Not applicable

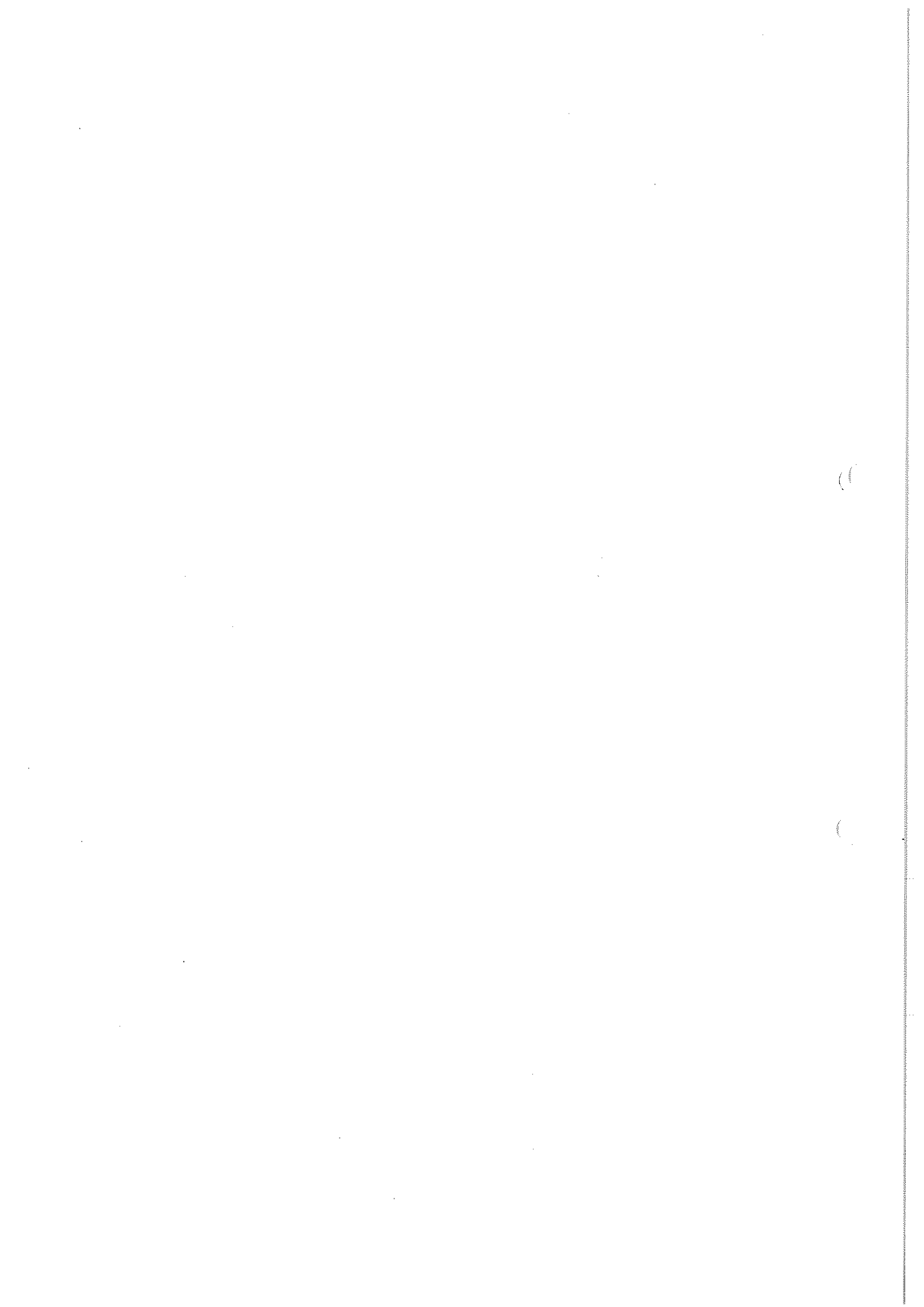
4. OTHER APPROVALS REQUIRED


SIGNED

_____ **DATE**
DR STEVE LENNON
DIVISION EXECUTIVE: ESKOM INTERNATIONAL
Who hereby represents that the above
Information is correct.

Submission prepared by: Dave Lucas
Corporate Specialist (Environmental Management) and Kristy Ross, Acting Generation
Environmental Manager

Contact Number: 011 800 4514 / 082 940 4517



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**EXTRACT FROM THE FINAL MINUTES OF THE BOARD SUSTAINABILITY
COMMITTEE MEETING 01/2011/12 HELD IN THE HUVU NKULU MEETING
ROOM, ON 13 MAY 2011 FROM 09:00 – 13:35**

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9. ISSUES FOR INFORMATION

9.1. STATUS REPORT ON AIR QUALITY STRATEGY

Resolved that:

The Committee notes the following:

1. the status of the implementation of the Air Quality Strategy;
2. the results of Eskom's ambient air quality monitoring;
3. the annual ambient nitrogen oxide graphs should reflect trends for the next three years;

CERTIFIED AS A TRUE EXTRACT

S Daniels

S Daniels
GROUP COMPANY SECRETARY
Date: 8/9/2016

