



**THE 2007**

# **NATIONAL FRAMEWORK**

## **FOR AIR QUALITY MANAGEMENT IN THE REPUBLIC OF SOUTH AFRICA**

As contemplated in Section 7 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) and serving as the Department of Environmental Affairs and Tourism's Air Quality Management Plan as contemplated in Section 15(1) of the Act.

**11 September 2007**

Table 23: Pollutants of Concern

Current Criteria Pollutants	Possible Future Pollutants	
	National Pollutants	Local Pollutants
Sulphur dioxide (SO <sub>2</sub> ); Nitrogen dioxide (NO <sub>2</sub> ); Ozone (O <sub>3</sub> ); Carbon monoxide (CO); Lead (Pb); Particulate matter (PM <sub>10</sub> ); Benzene (C <sub>6</sub> H <sub>6</sub> ).	Mercury (Hg); Particulate matter (PM <sub>2.5</sub> ); Dioxins; Furans; POPs; Other VOCs; Pollutants controlled by international conventions ratified by South Africa	Chrome (Cr <sub>6</sub> <sup>+</sup> ); Fluoride (particulate and gas); Manganese (Mn).

In addition to the criteria pollutants discussed above, the four-band scale for dust deposition in residential and industrial areas is will be adopted (SANS 1929).

### 5.3.3 Identifying and prioritising emitters of concern

The following factors must be considered when identifying and prioritising emitters of concern:

- Emitters located in relatively close proximity to sensitive receptors, e.g. residential areas, schools, hospitals or sensitive ecological areas;
- Emitters of pollutants of concern based on volumes of emission and the nature of the pollutant, i.e. those identified in Table 23;
- Emitters that cannot, or do not, operate successfully within the conditions of their AEL;
- Emitters that are not regulated by an AEL, but emit pollutants identified to be of concern;
- Continuous emissions and accredited high emissions;
- Peak emissions in short time steps, and;
- Emitters of pollutants identified by multilateral environmental agreements that are ratified by South Africa.

### 5.3.4 Identifying and prioritising areas of concern

Air quality areas of concern are all areas where the ambient air quality does not comply with the national ambient air quality standards<sup>2</sup>. In order to establish an indicative list of areas of concern, the national department has conducted an initial assessment of the current air quality status of the metropolitan and district municipalities in South Africa based on available information. Although current available information does not allow for a conclusive identification of areas of concern, Table 24 reflects the outcome of this initial assessment.

The municipalities have been rated as either:

- **Acceptable** – generally good air quality
- **Potentially Poor** – air quality may be poor at times or deteriorating
- **Poor** – ambient air quality standards regularly exceeded

The information used to rate the air quality status has been gathered from a number of different sources and include the following:

- The ambient air quality standards contained in Schedule 2 of the AQA;
- The draft State of Air Report (DEAT, 2007);
- NAQMP Phase II Project Report – Summary of Ambient Air Quality Monitoring in South Africa (DEAT, 2006);
- Discussions with national, provincial and municipal air quality officials;

<sup>2</sup> In terms of Section 63 of the AQA -Transitional provision regarding ambient air quality standards, until ambient air quality standards have been established in terms of section 9, 10 or 11, the ambient air quality standards contained in Schedule 2 apply.

- Environmental Impact Assessments;
- Strategic Environmental Assessments;
- Monitoring Campaigns; and
- Academic Research.

**Table 24: Metropolitan and District Municipalities initially rated as having Poor or Potentially Poor Air Quality (an indicative assessment only)**

Province	Metropolitan or District Municipality	Air Quality Rating	Reasoning
Northern Cape	Kgalagadi DM	Potentially Poor	Mining
Western Cape	West Coast DM	Poor	Industrial
	City of Cape Town MM	Poor	Urban
	Cape Winelands DM	Poor	Agriculture
	Eden DM	Potentially Poor	Urban and Industrial
Eastern Cape	Nelson Mandela MM	Poor	Urban
	Amatole DM	Potentially Poor	Urban
KwaZulu Natal	Ugu DM	Potentially Poor	Urban and Agriculture
	eThekweni MM	Poor	Urban and Industrial
	uMgungundlovu DM	Potentially Poor	Urban and Agriculture
	Uthukela DM	Potentially Poor	Urban and Agriculture
	iLembe DM	Potentially Poor	Urban and Agriculture
	Uthungulu DM	Poor	Industrial and Agriculture
	Amajuba DM	Potentially Poor	Urban and Agriculture
Mpumalanga	Ehlanzeni DM	Potentially Poor	Industrial
	Gert Sibande DM	Poor	Industrial
	Nkangala DM	Poor	Industrial
Gauteng	West Rand DM	Potentially Poor	Urban and Mining
	City of Johannesburg	Poor	Urban
	Sedibeng DM	Poor	Urban and Industrial
	Ekurhuleni DM	Poor	Urban and Industrial
	City of Tshwane	Potentially Poor	Urban
	Metsweding	Potentially Poor	Mining
North West	Bojanala Platinum DM	Poor	Mining
	Southern DM	Potentially Poor	Urban and Mining
Limpopo	Mopani DM	Potentially Poor	Mining
	Capricorn DM	Potentially Poor	Urban and Mining
	Waterberg DM	Potentially Poor	Industrial

Although a conclusive rating will only be carried out in accordance with the framework for the use and application of the standards or objective-based approach to air quality management as illustrated in Figure 5 (page 53) following the publication of the National Framework, the national department, based on available information, reasonably believes that: (i) municipalities that are rated as Potentially Poor in Table 24 may be Class 3 or 4 Air Quality Areas (see 5.4.3.4, page 51); and (ii) municipalities that are rated as Poor in Table 24 may be Class 4 or 5 Air Quality Areas.

Given the above, municipalities that are listed in Table 24 will be prioritised for support in terms of the national department's air quality planning project (see 5.4.6.1, page 64) which will, among others, confirm the rating provided in the table or otherwise.

## 5.4 Strategy development

### 5.4.1 Introduction

This section of the National Framework provides details on the mechanisms and norms and standards to address the air quality issues that have been identified and prioritised in the previous section. The various sections that follow, namely Awareness-raising, Standard Setting, Regulations and Air Quality Management Planning are directly aligned with the stages of the governance cycle (Figure 1).

## **SCHEDULE**



**THE 2012**

# **NATIONAL FRAMEWORK**

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**December 2012**



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Table 17: Declared national priority areas

Priority area	Status
Vaal Triangle Airshed Priority Area	Declared in 2006. AQMP developed and under implementation
Highveld Priority Area	Declared in 2008. AQMP developed and under implementation
Waterberg-Bojanala Priority Area	Declared in 2012. AQMP development process initiated

5.3.4.2 *Municipal Areas of Concern*

Since the partial entry into effect of the AQA in 2005, and the subsequent development of its National Framework, the DEA has attempted to identify areas of concern within the republic with emphasis mostly on Metropolitan and District Municipalities. In doing so, the DEA developed table 24 of the 2007 National Framework – this table is currently shown in Table 18 of this document. The National Framework classified municipalities as either:

- **Acceptable** – generally good air quality;
- **Potentially Poor** – air quality may be poor at times or deteriorating; or
- **Poor** – ambient air quality standards regularly exceeded.

Table 18 replaces the former National Framework table 24. As it was with the former table 24, the information used to rate the air quality status in Table 18 has been gathered from a number of different sources; including:

- The State of Air Report;
- NAQMP Phase II Project Report – Summary of Ambient Air Quality Monitoring in South Africa;
- Discussions with national, provincial and municipal air quality officials;
- Environmental Impact Assessments;
- Atmospheric Emission Licensing Applications;
- Strategic Environmental Assessments;
- Monitoring Campaigns, and
- Academic Research.

In essence, where monitoring stations exist (as shown in column 5), the ratings were based on data reported to SAAQIS from those stations. For areas where there is no monitoring, the ratings were based on other means highlighted in the previous paragraph. In attempt to validate the information in this table, DEA has initiated a Passive Sampling Campaign under the project "Table 24 Ground Truthing". Passive samplers have been placed in the various locations (see column 6 of table below) to provide a cost effective means of confirming the ratings with regard to municipalities of concern.

A complete set of validated results of the current round of passive sampling campaigns will be available in 2013. It is expected that the results of the campaign will aid in the subsequent Framework reviews and improvement of this table.

Table 18: Metropolitan and District Municipalities initially rated as having Poor or Potentially Poor Air Quality

Province	Metro / District Municipality	Local Municipality	Initial Air Quality Rating	Number of Government – Owned Air Quality Monitoring Stations	National Ambient Air Quality Passive Sampling Campaign
Eastern Cape	Nelson Mandela Bay Metro	n/a	Poor	3	None
Free State	Motheo DM	Mangaung	Potentially Poor	3	None
	Lejweleputswa DM	Matjhabeng	Potentially Poor	0	None

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Province	Metro / District Municipality	Local Municipality	Initial Air Quality Rating	Number of Government – Owned Air Quality Monitoring Stations	National Ambient Air Quality Passive Sampling Campaign
	Fezile Dabi DM	Metsimaholo	Poor	1	None
Gauteng	City of Johannesburg Metro	n/a	Poor	8	None
		City of Tshwane Metro	n/a	Poor	6
	Ekurhuleni Metro	n/a	Poor	9	None
	West Rand DM	Randfontein	Potentially Poor	1	Mohlakeng
		Westonaria	Potentially Poor	0	Bekkersdal
		Mogale City	Poor	1	Krugersdorp
		Merafong City	Potentially Poor	0	None
	Sedibeng DM	Emfuleni	Poor	1	None
		Midvaal	Poor	1	None
		Lesedi	Poor	0	None
KwaZulu-Natal	Ethekwini Metro	n/a	Poor	12	None
	uMgungundlovu DM	The Msunduzi	Potentially Poor	2	None
	Uthukela DM	Ennambithi-Ladysmith	Potentially Poor	0	None
		Umtshezi	Potentially Poor	0	None
	iLembe DM	Mandini	Potentially Poor	1	Mandini
		KwaDukuza	Potentially Poor	0	KwaDukuza
	Uthungulu DM	uMhlatuze	Poor	1	Richardsbay
	Amajuba DM	Newcastle	Potentially Poor	1	Newcastle
	Ugu DM	Umdoni	Potentially Poor	0	Umdoni
		Hibiscus Coast	Potentially Poor	1	Hibiscus
Limpopo	Mopani DM	Ba-Phalaborwa	Potentially Poor	0	None
	Capricorn DM	Polokwane	Potentially Poor	0	Polokwane
	Waterberg DM	Lephalale	Potentially Poor	1	None
	Greater Sekhukhune DM	Greater Tubatse	Potentially Poor	1	None
Mpumalanga	Ehlanzeni DM	Thaba Chweu	Potentially Poor	0	None
		Mbombela	Potentially Poor	0	Nelspruit
		Umjindi	Potentially Poor	0	None
	Gert Sibande DM	Msukaligwa	Poor	1	None
		Pixley Ka Seme	Poor	0	None
		Lekwa	Poor	0	None
		Dipaleseng	Poor	0	None
	Nkangala DM	Delmas	Poor	0	None
		Emalahleni	Poor	2	None
		Steve Tshwete	Poor	2	None
North-West	Bojanala Platinum DM	Madibeng	Potentially Poor	1	Brits
		Rustenburg	Poor	3	Marikana
	Dr Kenneth Kaunda DM	City of Matlosana	Potentially Poor	0	Kanana Township
Northern Cape	Kgalagadi DM	Gamagara	Potentially Poor	0	None
	Siyanda DM	//Khara Hais	Potentially Poor	0	None
	Frances Baard DM	Sol Plaatjie	Potentially Poor	0	Kimberley



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Province	Metro / District Municipality	Local Municipality	Initial Air Quality Rating	Number of Government – Owned Air Quality Monitoring Stations	National Ambient Air Quality Passive Sampling Campaign
Western Cape	City of Cape Town Metro	n/a	Poor	12	None
	West Coast DM	Saldanha Bay	Poor	0	None
	Cape Winelands DM	Drakenstein	Potentially Poor	0	None
		Stellenbosch	Potentially Poor	0	None
	Eden DM	Mossel Bay	Potentially Poor	0	None
		George	Potentially Poor	1	None

The national department, based on available information, reasonably believes that: (i) municipalities that are rated as Potentially Poor in Table 18 may be Class 3 or 4 Air Quality Areas (see 5.4.3.2, page 58); and (ii) municipalities that are rated as Poor in Table 18 may be Class 4 or 5 Air Quality Areas.

Given the above, municipalities that are listed in Table 18 will be prioritised for support in terms air quality management.

## 5.4 Strategy development

### 5.4.1 Introduction

This section of the National Framework provides details on the mechanisms and norms and standards to address the air quality issues that have been identified and prioritised in the previous section. The various sections that follow, namely Awareness-raising, Standard Setting, Regulations and Air Quality Management Planning are directly aligned with the stages of the governance cycle (Figure 1).

### 5.4.2 Awareness-raising

The AQA does not provide specifically for awareness-raising activities, however, awareness-raising is one of the strategies identified in the air quality governance cycle depicted in Figure 1 aimed at addressing air pollution problems. In contrast to the formulation of policy and legislation, and the setting of norms and standards, awareness-raising aims to bring about positive changes in air quality by voluntary rather than forced means. Improvements in public knowledge through environmental education, sharing of knowledge and experience, and access to information, can lead to voluntary changes that are often more sustainable than forced changes initiated by legislation.

Awareness-raising is directly linked to two of the cross-cutting issues in the National Framework, namely capacity development (See Paragraph 5.9.2) and information dissemination (See Paragraph 5.9.3). By raising awareness, community well-being and empowerment is promoted and a contribution is made to capacity development. It is important to recognise the value and potential of well-informed and committed citizens for effecting positive change in air quality. Meaningful public involvement in air quality management issues will be strongly encouraged (See Paragraph 5.9.1). Access to information is a key factor in raising awareness and increasing the knowledge of the public (See Paragraph 5.2.1).

Strategies to raise awareness will emphasise the adverse impacts of air pollution, climate change and ozone layer protection, human health and the environment; and the benefits of clean air. All spheres of government have a responsibility to raise awareness around air quality issues amongst the public, the private sector and their own departments. Strategies to raise awareness include, among others the following:



"DDIZ"



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Eye alt 4.46 km



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elev 30 m

1290 m  
36 J 304739.67 m E 6683788.45 m S