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GOVERNMENT NOTICE

DEPARTMENT OF ENVIRONMENTAL AFFAIRS

No. 919

29 November 2013

NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT, 2004 (ACT NO. 39 OF 2004)

AMENDMENT TO THE 2007 NATIONAL FRAMEWORK FOR AIR QUALITY MANAGEMENT IN THE REPUBLIC OF SOUTH AFRICA

I, Bomo Edith Edna Molewa, Minister of Water and Environmental Affairs, hereby amend the 2007 National Framework for Air Quality Management in the Republic of South Africa , in terms of section 7(5) of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004), set out in the Schedule hereto.

BOMO EDITH EDNA MOLEWA
MINISTER OF WATER AND ENVIRONMENTAL AFFAIRS

SCHEDULE

THE 2012

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' Air Quality Management Plan as contemplated in Section 15(1) of the Act.

December 2012

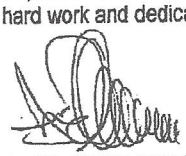
FOREWORD

It has been seven years since the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (The AQA) came into effect. Section 7 of the AQA requires the Minister to establish a National Framework for Air Quality Management. In line with that, the 2007 National Framework for Air Quality Management was established and it was a milestone in government's attempts to introduce a new efficient and effective air quality management regime in South Africa. With its establishment, all interested South Africans contributed to the establishment of the first national plan to clear our skies of pollution and ensure ambient air that is not harmful to health and well-being for the first time.

The year 2012 marks five years since the establishment of the 2007 National Framework and as the AQA stipulates, I reviewed the National Framework at the five year interval following a consultative and participatory process. The 2007 National Framework largely used cautious language as most of the work was envisaged while providing an excellent foundation for future frameworks. Although, there is some caution where new projects still need to be undertaken, the 2012 National Framework is more emphatic and has drawn largely on experiences gained over the years of the implementation of the inaugural 2007 National Framework.

During this five year period of the implementation of the 2007 National Framework, there have been major achievements in air quality management. To mention a few, air quality that is not harmful to health and well-being has been defined through the establishment of national ambient air quality standards; three national priority areas have been declared (Vaal Triangle Airshed, Highveld and Waterberg-Bojanala) and plans to improve and maintain good air quality in these areas are underway; and the South African Air Quality Information System (SAAQIS) continues to provide web-based access to national air quality information. Furthermore, the Atmospheric Pollution Prevention Act (Act No. 45 of 1965) was repealed and the AQA came into full effect on 01 April 2010. With this, atmospheric emission licensing authorities as stipulated in Section 36 of the AQA took up the licensing function. Furthermore, the national department continues to develop and maintain necessary tools for the effective and efficient implementation of the licensing function.

Finally, to provide context and accountability for measuring progress in the implementation of the Act and its National Framework in all the spheres of government, the department continues to publish annual National Air Quality Officer's Reports. The National Frameworks and all the work conducted in air quality management to date are products of the hard work and dedication of all South Africans and I take this opportunity to thank everyone who was involved.



BOMO EDITH EDNA MOLEWA
MINISTER OF WATER AND ENVIRONMENTAL AFFAIRS

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- Making application for an Atmospheric Emission Licence (AEL) and complying with its provisions.
- Compliance with any minimum emission standards in respect of a substance or mixture of substances identified as resulting from a listed activity.
- Designate an Emission Control Officer if required to do so.

3.4 Labour

Workers tend to be in the frontline of pollution problems and exposure to hazardous environments. Recognising this, the NEMA protects workers refusing to do environmentally hazardous work by providing that no person is civilly or criminally liable or may be dismissed, disciplined, prejudiced or harassed on account of having refused to perform any work if the person in good faith and reasonably believed at the time of the refusal that the performance of the work would result in an imminent and serious threat to the environment. Furthermore, the NEMA also protects 'whistleblowers' by providing that no person is civilly or criminally liable or may be dismissed, disciplined, prejudiced or harassed on account of having disclosed any information, if the person in good faith reasonably believed at the time of the disclosure that he or she was disclosing evidence of an environmental risk and the disclosure was made in accordance with certain provisions.

3.5 The General Public

As mentioned in the introduction, everyone, to a greater or lesser extent, is responsible for some form of atmospheric emission that has an impact on air quality. Hence, everyone has a role and social responsibility in respect of air quality management. As private individuals, we all have a responsibility not to impinge on everyone's right to air that is not harmful to health and well-being. As with industries, in terms of section 28 of the NEMA, persons that cause, have caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.

Notwithstanding the above, it can be argued that there is a social responsibility for everyone to actively participate in air quality governance by participating in the development of the regulatory framework for air quality management. In this regard, the AQA provides numerous opportunities to submit to the Minister or MEC written or oral representations on or objections in respect of, for example:

- The National Framework or any amendment to the framework.
- Ambient air quality standards.
- The declaration of priority areas
- Priority area air quality management plans
- The listing of activities that require and Atmospheric Emission Licence to operate
- The declaration of controlled emitters.
- The declaration of controlled fuels.
- Any regulation.

Finally, the public may be directly affected by air pollution. The public and civil society groups therefore contribute local perspectives and also have an important watchdog role to play in bringing to the attention of the authorities through their municipal AQO, matters of concern or of non-compliance.

5. TOOLS FOR THE IMPLEMENTATION OF THE NATIONAL FRAMEWORK

5.1 Introduction

The implementation of the National Framework is dependent on a combination of both process/governance and technical mechanisms/measures. The process issues are overarching and integrated throughout the National Framework and include among others cooperative governance and enforcement. The technical mechanisms and measures are more specific and include norms and standards for matters relating to air quality management and meeting the requirements of the AQA.

5.2 Air quality information management

Informed decision-making is fundamental to good governance and decisions can only be informed if decision-shapers and decision-makers have ready access to accurate, relevant, current and complete information. Constructive participation in, and implementation of, air quality management matters are also dependent on the same information. Section 32 of the Constitution of the Republic of South Africa, 1996, states that all South Africans have the right of access to any information held by the state, and any information that is held by another person and that is required for the exercise or protection of any rights. Section 32 further states that national legislation must be enacted to give effect to this right. In this regard, the Promotion of Access of Information Act, 2000 was enacted to give effect to the constitutional right of access to information. For example, Section 31(1)(a) of the NEMA provides that "every person is entitled to have access to information held by the State and organs of state which relates to the implementation of the NEMA and any other law affecting the environment, and to the state of the environment and actual and future threats to the environment, including any emissions to water, air or soil and the production, handling, transportation, treatment, storage and disposal of hazardous waste and substances".

Implicit in this right is that all South Africans shall have access to air quality information and that access shall be facilitated by the AQA and through the National Framework. In order to uphold this right and effectively address the air quality information requirements contained in the AQA, the national department, in partnership with the South African Weather Service (SAWS), have established the South African Air Quality Information System (the SAAQIS), and developed guidance manuals and publications to provide support to AQOs and air quality information to a wider audience. Air quality information management is discussed in this paragraph, considering the requirements of the SAAQIS (5.2.1), the DEA publication series (5.2.2) and air quality reporting (5.2.3).

Management of air quality information in this paragraph includes the following:

- Ambient air quality information;
- Norms and standards for air quality monitoring;
- Emission inventories (including GHG inventory);
- Listed Activities and compliance monitoring;
- Air quality related legislation and regulations;
- Norms and standards for air quality information management;
- Air Quality Management Plans;
- Air quality publications; and
- Technical and scientific air quality reports.

5.2.1 The South African Air Quality Information System (SAAQIS)

The SAAQIS (www.saaqis.org.za) makes air information available to stakeholders, provide a common system for managing air quality in South Africa and provide uniformity in the way data; information and reporting are managed in South Africa. A central aim of the SAAQIS is that it allows the public access to air quality information. Improving the availability of information facilitates transparency in processes, informs decision making, and builds capacity. The SAAQIS streamlines the flow of relevant information; provides a tool to assist in managing air quality and builds awareness about air quality among stakeholders in general. Where appropriate air quality information is geographically referenced through a GIS interface. The SAAQIS is built in such a way as to assist providers and users of information

and, thereby, motivate the maintenance and updating of information by users. In achieving the objectives of the SAAQIS, the South African Weather Service (SAWS) as the custodian of the SAAQIS and performs air quality information functions stipulated in the South African Weather Service Act.

The SAAQIS aims to:

- Ensure that air quality information management and reporting requirements directed or implied by the AQA are met efficiently and effectively;
- Ensure that air quality management decisions, interventions, activities and actions are informed by accurate, current and complete information;
- Ensure that accurate, current, complete and relevant air quality information is available to all stakeholders and the public;
- And provide all South African's with information on the state of their air quality and the status of efforts to progressively ensure their right to air that is not harmful to health and well-being.

5.2.1.1 The national department's SAAQIS Phases Development

The SAAQIS is a dynamic information management system that will continue to grow in scope, complexity, utility and sophistication over time. The development of the SAAQIS is being carried out in phases to achieve the completion of the full system, allowing for modification and separate tendering at each phase. The suitability and user requirements of the each module are accessed and clarified before the implementation of each phase and adjusted where necessary. In this regard, a three-phase approach has been followed as:

SAAQIS Phase I – general air quality information, web landing page, document management module and the ambient air quality monitoring.

The national department's SAAQIS Phase I Development Project was initiated in July 2007 and was completed in September 2009. At the end of this project a number of tools were. The tools comprise different kinds of modules and components, services that can be accessed from a user-friendly interface. A variety of stakeholders can contribute with data and information, and in return, they benefit by having access to other information and a range of services. SAAQIS contains three main modules:

- Information input modules;
- Information extraction modules; and
- Application tools.

Each one of these modules has a number of different sub-modules that are designed for the different tasks needed by the system's users.

SAAQIS Phase II – the National Atmospheric Emission Inventory System (NAEIS)

At this stage, it is envisaged that the National Air Quality Officer will establish the internet-based National Atmospheric Emission Inventory System (NAEIS) as a component of SAAQIS. Once the NAEIS is established, AEL holders shall submit annual emissions inventory reports in the form necessary for the compilation of the national emission inventory profile. The system will also provide an emission inventory reporting platform for non-listed activities, including all sector categories from the Intergovernmental Panel for Climate Change (IPCC) such as Energy; Industrial Processes and Product Use (IPPU); Agriculture, Forestry and Other Land Use (AFOU) and Waste. Emissions will be estimated inside NAEIS or outside the system depending on the emission sources types. The NAEIS will provide guidance and methodologies for the compilation both air pollutants and greenhouse gases emission inventories following best international practices. These tools will be available for emission inventory compilation by all spheres of government. The NAEIS will also serve as a platform for current and future emissions estimations. Section 5.2.1.5 gives more detail regarding the atmospheric emission inventory information management plans for the near future. The NAEIS will include the following:

- Details of emissions from all source types (e.g. point, mobile, area, line, volume).
- Details of emissions by pollutant and greenhouse gas type.

- Norms and standards for emission inventories compilation.
- Examples of emission inventories compiled in South Africa.
- Search tools to interrogate the inventories.
- Details of licensed emissions.
- A database of emission factors for various activities.
- Documentation on Best Available Techniques (BAT).
- The NAEIS has been under development since April 2011 and will be finalised in 2014.

Table 9: Emissions Inventory Modules development targets

Key Milestone, Product or Output	Timeframe
Emission Inventory tools to be developed in the SAAQIS	
Emission inventory compilation tool	2014/15
Top-down and bottom-up Greenhouse Gas Inventory compilation tool	
Emission data reporting facilitation tool	
Emission data report/view generating tool	
Emission data import facility component	
Emission data assessment tool	
Emission data export tool	
Emission inventory guidelines, manuals and reporting regulations	2015/16

SAAQIS Phase III – the air quality real time reporting and forecasting

- This component of SAAQIS will provide air quality forecasting information to the general public. The forecasting will communicate to the public how polluted the air is at a point in time or how polluted it is forecast to become. It is envisaged that a National Air Quality Index will be developed to assign health related warning messages to pollution forecasts as part of the SAAQIS phase III. With this, SAAQIS will be able to advise the public on the possible precautionary actions to take in order to reduce adverse air quality effects.

5.2.1.2 Ambient air quality information

The SAAQIS provides information on how to produce and present ambient air quality data. Ambient air quality information is achieved by deploying monitoring equipment (e.g. passive and/or continuous monitoring equipment) and analysing the results. The SAAQIS also provides the users with quality assurance and quality control (QA/QC) systems, data storage and presentation/reporting routines to assist users in meeting their monitoring and reporting requirements. The SAAQIS provides assistance with the importing of raw data into the system and associated reporting requirements, validation, assessment and exporting of the data, as well as the reporting and viewing of processed data. Currently the SAAQIS ambient air quality information management module (SAAQIS Phase I) is undergoing major revisions to improve its functionality and data manipulation capabilities. This upgrade is expected to be complete by 2014.

Table 10: SAAQIS ambient air quality related implementation targets

Key Milestone, Product or Output	Timeframe
SAAQIS Phase I upgrade	2013/14
Reporting of all government-owned air quality monitoring stations into SAAQIS	Ongoing Quarterly reporting
National Ambient Air Quality Monitoring Strategy	2013/14
Live reporting of air quality monitoring stations into SAAQIS (at least 30%)	2015/16

5.2.1.3 Ambient air quality monitoring

In order to ensure integrity, quality and representativeness of the ambient monitoring data, ambient air quality monitoring needs to be conducted according to accepted norms and standards. The SAAQIS will make national norms and

standards for ambient air quality monitoring available. The norms and standards for air quality monitoring will include the following:

- Procedures on ambient monitoring programme design, pollutants to monitor, considerations on siting of stations and monitoring station classifications.
- Procedures on the use of verified monitoring equipment, reference and equivalence monitoring methods in accordance with appropriate norms.
- Procedures on how ambient air quality data will be recorded, analysed, processed, reported and archived following best-practice principles.
- Guidance on monitoring station operation, maintenance and calibration following best- practice principles.
- Quality control and quality assurance procedures fit for ambient air quality monitoring and reporting.
- Guidance concerning air quality measurements by passive sampling.
- Systems for transferring data in SAAQIS.
- National Air Quality Index for simplified reporting of daily air quality to the general public.

Table 11: SAAQIS ambient air quality monitoring related implementation targets

Key Milestone, Product or Output	Timeframe
National norms and standards for air quality monitoring	2013/14

Notwithstanding the monitoring standards underway, the following should be taken into account when siting monitoring equipment:

Location

In respect of the macro-scale siting of SO_2, NO_2, PM_{10}, CO, C_6H_6 and Pb sampling points, sampling points directed at the protection of human health shall be sited to provide:

- data on the areas within zones and agglomerations where the highest concentrations of pollutants occur to which the highest density of the population is likely to be directly or indirectly exposed for a period which is significant in relation to the period used to derive averages in the case of limit value(s), and
- data on levels in other areas within the zones and agglomerations which are representative of the exposure of the general population.

The following factors can also be taken into account:

- interfering sources affecting the airflow in the vicinity of the sampler, e.g. overhanging trees, etc;
- security;
- access;
- availability of electrical power and telephone communications;
- visibility of the site in relation to its surroundings;
- safety of the public and operators;
- desirability of co-locating sampling points for different pollutants;
- educational awareness opportunity associated with the siting; and
- planning requirements.

Criteria for determining the recommended minimum number of sampling sites

The number of sampling sites will vary according to the class of air quality experienced in a given area (See Figure 7, page 61). Monitoring in areas where class 1 or class 2 is experiences does not need to be as intensive as that in class 3, 4 or 5 air quality areas. The intensity refers to the type of monitoring required and the recommended number of monitoring sites required.

The recommended minimum number of sampling points for fixed measurements to assess compliance with SO_2, NO_2, PM_{10}, CO, C_6H_6 and Pb limit values for the protection of human health and alert thresholds in zones and agglomerations

where fixed measurement is the sole source of information is presented in Table 12. The recommended minimum number of sampling points for O_3 measurement is presented in Table 13.

In the case of areas polluted by NO_2, particulate matter, benzene and carbon monoxide, in class 4 and 5 air quality areas, at least one urban background station and one traffic-orientated station will be included, provided this does not increase the number of sampling points.

For the assessment of pollution in the vicinity of point sources, the number of sampling points for fixed measurements will be calculated taking into account emission densities, the likely distribution patterns of ambient air pollution and potential exposure of the population.

Sampling points for fixed measurements shall be sited so as to ensure that the samples taken will be representative of the exposure of the sampled population.

Table 12: Recommended minimum number of sampling points for fixed measurements to assess compliance with national ambient standards for SO_2, NO_2, PM_{10}, CO, C_6H_6 and Pb (adapted from SANS 1929)

Population density in agglomeration or zone (thousands)	Recommended minimum number of sampling points		
	Class 4 and 5 air quality areas	Class 3 air quality areas	Class 1 and 2 air quality areas
0 – 249	1	1	Not applicable
250 – 499	2	1	1
500 – 749	2	1	1
750 – 999	3	1	1
1000 – 1499	4	2	1
1500 – 1999	5	2	1
2000 – 2749	6	3	2
2750 – 3749	7	3	2
3750 – 4749	8	4	2
4750 – 5999	9	4	2
> 6000	10	5	3

Table 13: Recommended minimum number of sampling points for fixed measurements to assess compliance with ozone limits values for the protection of human health in zones and agglomerations where fixed measurement is the sole source of information (adapted from SANS 1929).

Population density in agglomeration or zone (thousands)	Recommended minimum number of sampling points		
	Agglomerations (urban and suburban)[a]	Other zones (suburban and rural)[a]	Rural background
0 – 249	-	1	One station per 50 000 km^2 as an average density over all zones within the country[b]
250 – 499	1	2	
500 – 999	2	2	
1000 – 1499	3	3	
1500 – 1999	3	4	
2000 – 2749	4	5	
2750 – 3749	5	6	
> 3750	One additional station per two million inhabitants	One additional station per two million inhabitants	

[a] least one station in suburban areas, where the highest exposure of the population is likely to occur. In agglomerations, at least 50% of the stations will be located in suburban areas.
[b] One station per 25 000 km^2 for complex terrain is recommended.

Requirements for meteorological monitoring

Meteorological motioning is an important aspect of air quality management. Monitoring and analysis of meteorological conditions should be part of air quality monitoring programme.

5.2.1.4 The National Air Quality Indicator

The national department has developed a methodology for calculating and ascertaining an indicator to monitor the state and trend of air ambient quality in South Africa, the National Air Quality Indicator (NAQI). The methodology will be

published as part of the revised National Framework for Air Quality Management in South Africa in the National Norms and Standards for Air Quality Monitoring during 2014.

Identifying pollutants to be considered in the national indicator is relatively easy as the pollutants must include those for which the National Ambient Air Quality Standards have been set - the criteria pollutants. However, although all monitoring stations are measuring some of the criteria pollutants, they may not be measuring all of the pollutants. At least for the immediate future, the pollutants chosen for the indicator are those:-

- That are considered to be problems at the majority of measurement points, i.e. problem pollutants at a national scale; and
- That are measured at the majority of stations; and where historical data sets are available to measure progress since, at least, 2005.

From these criteria, particulate matter (PM_{10} of aerodynamic diameter equal or less than 10 µm) is the first obvious choice with sulphur dioxide (SO_2) second. There is really no benefit in considering an indicator in respect of pollutants that seldom, if at all, exceed national standards such as carbon monoxide.

The NAQI has been developed to weigh, balance and manipulate data in such a way as to provide a verifiable and reportable measure of air quality at the national scale that is broadly accepted as being an adequate indicator, much like the National Ambient Air Quality Standards (NAAQS) are broadly accepted as a proxy for air that this not harmful to health and well-being. The NAQI will be used by a range of stakeholders from air quality managers to the general public. The main purposes of a NAQI are to:

- Inform the objectives of the AQA (enhancement, protection, governance).
- Monitor national progress in implementing AQA policy targets – towards national compliance by 2020.
- Provide an overall picture on the efficacy of air quality interventions.
- Provide a monitoring tool to measure the effects of policy responses.
- Serve as an environmental air quality indicator in order to assess the condition and reflect air quality trends nationally.
- Provide a tool to support policy-makers in air quality management, policy development, prioritisation and evaluation; and
- Serve as a communication tool on air quality matters by simplifying complex atmospheric observations to plots and figures easily understood by the public.

The indicator has been developed on the following basic principles:

- *Simple, but not simplistic* - As the indicator is meant to provide all South Africans with an indication of the quality of their air as well as whether this quality is improving or getting worse, the indicator must be simple enough for anyone to understand. However, it should not attempt to over-simplify what is actually a very complex concept, i.e. the indicator should not end up being regarded as simplistic and of little value by air quality managers.
- *Credibility* - Everyone should have confidence that the indicator provides a fair indication of the quality of their air as well as whether this quality is improving or getting worse.
- *Transparency and complexity* - In order to ensure the credibility of the indicator, methodologies of defining the indicator and the types and sources of data must be fully transparent, i.e. anyone should theoretically be able to generate the indicator.
- *Accuracy and reproducibility* - In order to reinforce the credibility of the indicator, the data used in the generation thereof must be accurate, complete and current. Furthermore, the use of the agreed methodologies must render the same result every time.
- *Sensitivity* - The indicator must be sensitive enough to demonstrate significant changes over time, but must not be so sensitive as to allow dramatic changes resulting from once-off or isolated events.
- *Balance* - As discussed above, the indicator must provide a balanced measure, for e.g. if one solitary measurement reflects non-compliance it would be unfair for the indicator to reflect that the entire nation is non-compliant.

The number of monitoring stations reporting to SAAQIS changes over the years as more monitoring stations begin to report to the SAAQIS. Also, the NAAQS annual average of PM_{10} is getting stricter from 01 January 2015. These changes would impact the credibility of the NAQI as the value will be derived from a continuously moving baseline and target. For these reasons, the NAQI will be defined over specified reporting phases/periods during which the number of stations and the NAAQS are constant:

- **NAQI Reporting Phase I** - 2008 to 2014
  - In this phase, the NAQI will be based on the monitoring stations that have been operating since 2008.
  - The annual average NAAQS of PM10 will be 50 µg/m^3.
  - The NAQI from 2008 annual averages of PM_{10} and SO_2 will serve as the baseline for this reporting phase.
  - It is envisaged that, once more networks start reporting to the SAAQIS, particularly with the increase in historical observations, a better picture on the trends will emerge.

- **NAQI Reporting Phase II** – from January 2015 to 2020
  - In this second phase, all stations measuring PM_{10} and SO_2 from 2014 will be incorporated into the development of the NAQI.
  - The annual average NAAQS of 40 µg/m^3 of PM_{10} will also apply.
  - The NAQI from 2014 annual averages of PM_{10} and SO_2 will serve as the baseline for this reporting phase.
  - It is also envisaged that by 2014, all government stations will be reporting to SAAQIS.
  -
- **NAQI Reporting Phase III** and future phases
  - To be defined in the future and specified in future National Frameworks.

5.2.1.5 Atmospheric emission inventory information management

Emission inventory information for air pollutants and greenhouse gases from all source sector types will be accessible from the National Atmospheric Emission Inventory System (NAEIS), which is described in Section 5.2.1.1. A National Atmospheric Emission Inventory System Data Management Policy will be developed to specify the protocols for data management and levels of accessibility for all users including stakeholders/general public. This data management policy and associated work packages will also give guidance with regard to the specific location of the NAEIS according to legal mandates, objectives of and the desired integrity of the system.

5.2.1.6 Listed Activities and compliance monitoring

Databases for Listed Activities and compliance monitoring will be accessible from the SAAQIS. Norms and standards for the production of information from operators of Listed Activities will be provided through the SAAQIS. Within the context of stack and other emitter-based monitoring data, protocols may be included in the SAAQIS to incorporate emissions data in a more significant manner. Further policy development will be necessary to establish strict parameters within which emitter-based monitoring data will be used, in order to maintain impartiality within the system.

Table 14: SAAQIS listed activity related implementation targets

Key Milestone, Product or Output	Timeframe
Database of Listed Activities	2014/2015

5.2.1.7 Policy, legislation and regulations

SAAQIS provides current legislation, regulations and by-laws through a user-friendly interface. The interface helps the user find relevant parts of the legislation and regulations. The SAAQIS provides search facilities in the documents, general advice to stakeholders and guidance as to roles and responsibilities of different actors and agencies within the various regulations that are available.

Table 15: SAAQIS policy and legislation related implementation targets

Key Milestone, Product or Output	Timeframe
All current policy and legislation	Ongoing

5.2.1.8 South African air quality research reference database

A large body of scientific literature that has been generated by the South Africa air quality scientific community over the years has been drawn together into the *South African Air Quality Research Reference Database*. This includes information on publications in the formal peer reviewed literature, presentations at international and national scientific conferences, 'grey literature' i.e. institutional research reports and post graduate theses. The database is searchable by fields that include details of the publication, and where this information is housed and available. The database has a facility for authors to record new material as it is published. This database is made publicly available via a link from the SAAQIS.

5.2.1.9 Air Quality Management Plans

Methodological approaches and guidance on the standards expected for development of the Air Quality Management Plans (AQMP manual) are available via the SAAQIS. AQMPs that have been developed at national, provincial and municipal spheres, and for Priority Areas are also made available.

5.2.1.10 Additional aspects of the SAAQIS

The SAAQIS is intended to provide a complete solution to the management of air quality information in South Africa, therefore the components discussed are expanded on and enhanced through mechanisms for education and skills development and accessing support on air quality issues and management. Provisions may also be included in the SAAQIS for:

- Interactive training using e-learning techniques;
- A support centre or helpdesk for assistance on air quality information related queries;
- A national website for updates on air quality status;
- A media library containing air quality information from media sources;
- A database of key stakeholders;
- A library of relevant links to relevant national and international air quality information.

5.2.2 Air quality publications

A series of information booklets are being developed by the national department with the objective of advancing the science and understanding of air quality management and to address the responsibility regarding the provision of air quality information to the public. The information series is also aimed at providing air quality management practitioners

with technical guidance. The completed publications are available from the national department and will be available for downloading on SAAQIS. The titles of the booklets and their publication status are presented in Appendix 1.

The publications are structured in series that are aimed at specific target groups:

Series A: the general information series. This series are aimed at a general readership.

Series B: the specialist information series. The series is targeted at undergraduate students and practising professionals. It comprises booklets covering topics such as air pollution meteorology, air pollution dispersion modelling, pollution control approaches, impacts of air pollution and international agreements and climate change.

Series C: the governance information series. This series provides detailed information on the implementation of air quality management, aimed at practitioners.

Series D: the cleaner production series. The series is aimed at cleaner production and various booklets book will be developed for sectors that have been identified as priorities (see relevant prioritisation Paragraph 5.3.3, page 46).

5.2.3 Air quality reporting

The main objective of reporting on air quality is to convey information to a target user group, with variation in the purpose and content of air quality reports according to user groups. The following sections outline different types of air quality reports that may be required. Reporting on international commitments is governed by the stipulations in the Climate Change White Paper

5.2.3.1 Atmospheric impact reports

An AQO may require any person to submit an Atmospheric Impact Report, in accordance with Section 30 of the AQA, provided that there is reasonable suspicion that the person has on one, or more, occasions contravened or failed to comply with the AQA or any condition of their AEL. The contents and compliance requirements of an Atmospheric Impact Report are detailed in Paragraph 5.5.4.

5.2.3.2 State of air reporting

State of environment report is necessary to describe baseline environmental conditions against which changes or trends may be measured. These reports are important in prioritising and setting goals for environmental management and will include a chapter on the state of the air. This chapter will be reviewed every 5 years and include the following:

- A set of defined indicators to measure ambient air quality;
- Information on:
    - Air quality standards and objectives;
    - Ambient air quality monitoring activities;
    - Listed Activities and their related emissions;
    - Status of ambient air quality and trends;
- Air quality management initiatives.

5.2.3.3 The Air Quality Officers' annual reports

In order to meet the progress reporting requirements in respect of air quality management plans, all municipal AQOs will be required to submit a Municipal Air Quality Officer's Annual Report to the provincial AQO at least 1 month prior to the Annual National Air Quality Governance Lekgotla (see Paragraph 4.4.6, page 39). The provincial AQOs will then use these reports to inform the compilation of a Provincial Air Quality Officer's Annual Report to be submitted to the National AQO at least 2 weeks prior to the Lekgotla. The National AQO will then compile the draft National Air Quality Officer's Annual Report for presentation to the Lekgotla for ratification and submission for publication. Details on the structure and content of the National Air Quality Officer's Annual Report can be found in Paragraph 6.2 of this document.

5.3 Problem identification and prioritisation

5.3.1 Introduction

There are a number of areas in South Africa that have recognised air quality problems (see Paragraph 5.3.4). These are areas where there are industrial activities resulting in emissions at various levels depending on quantities emitted and

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:

- Media campaigns in the press, on radio, television, bill boards, etc.;
- Public seminars and workshops;
- Distribution of information material
- Effective education programmes developed for primary and secondary schools taking into account the local context;
- The organisation of clean air events to coincide with recognised events such as World Environment Day; and
- Maintenance of an informative and up-to-date website.

5.4.3 Standard setting

The AQA provides for the setting of standards for:

- Ambient air quality;
- Listed activities;
- Controlled emitters, and
- Controlled fuels.

The setting of these standards shall follow problem identification and prioritisation process. Depending on the nature of the standard, the process followed in establishing the standards must consider various factors such as, but not limited to:

- The health, safety and environmental protection objectives;
- Analytical methodology;
- Technical feasibility;
- Monitoring capability; and
- Socio-economic consequences.

5.4.3.1 The generic standard setting process

The process of developing standards (for ambient air quality, emitted air pollutants by listed activities, controlled emitters and controlled fuels) in terms of AQA is summarised in Figure 5 below.

Director-General to assist it with the preparation of by-laws on matters affecting the environment and the Director-General may not unreasonably refuse such a request.

The AQA brings the system of air pollution control in line with the constitutional allocation of functions between the national, provincial and local spheres of government. It is within this constitutional approach and cooperative governance that the department has developed model air pollution control by-laws on the 2nd of July 2010 (Gazette No. 3342; Notice 579). The by-laws were published under AQA and may be adapted and adopted by municipalities. The objective of the model air pollution control by-laws is to ensure uniformity across the country on air quality management and not to impose the model bylaw on municipalities. The uniformity in air quality management will nonetheless assist government in implementing and enforcing air quality management plans and achieving acceptable ambient air quality.

One of the purposes, as set out in section 46(4)(a) of the NEMA, is to mitigate adverse environmental impacts. The model by-laws include measures for environmental management, including the following –

- auditing, monitoring and ensuring compliance; and
- reporting requirements and the furnishing of information.

5.9 Cross-cutting principles

5.9.1 Public Participation

5.9.1.1 The importance of public participation in air quality decision-making

Government plays a crucial role in achieving and maintaining clean air in South Africa, but it cannot reach this goal alone. Active participation and contributions from individual citizens and citizen groups is of utmost importance in developing, implementing and enforcing air quality management decisions within the context of the AQA. The potential benefits of public participation are numerous. If well-planned and managed, public participation can bring new and important knowledge to the table, mediate between conflicting perspectives early in the process and facilitate more efficient air quality governance. Equally important, public participation in air quality management plays a vital role in strengthening and deepening democracy in South Africa and in giving effect to the constitutional right to an environment which is conducive to health and well-being.

Section 4(2) of the NEMA, which is the overarching environmental law in South Africa embodies a number of principles aimed at ensuring effective and equitable public participation. These principles were listed in Paragraph 1.4 of this document.

5.9.1.2 Promoting best practices for effective and equitable public participation

When designing and implementing air quality decision-processes, all three spheres of government in South Africa must strive to apply best practices of engaging with stakeholder groups and citizens, with the goal of reaping the full benefits of public participation. Although the AQA prescribes a standard approach to participation in its Sections 56 and 57, experience suggests that implementing the following measures and principles will significantly contribute towards ensuring effective and equitable participation, as called for in the NEMA. However, experience has also shown that a "one-size-fits-all" approach to public participation is not always effective or efficient and, as such, a flexible and innovative approach to participation must be considered.

5.9.1.3 Establishment of a national air quality reference group

In order to design and implement participation processes that are both efficient and effective, the national department may establish a representative national reference group or advisory committee (see Figure 11) as and when required. The committee may comprise of representatives from industry, business and civil society, to provide strategic guidance to the National AQO on important aspects of air quality management, especially with respect to participatory processes.

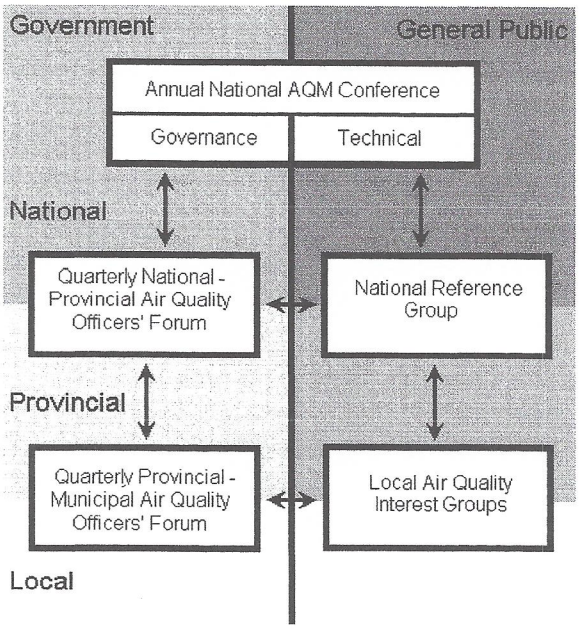

Figure 11: Vertical air quality governance interrelationships

The objective of national air quality reference group will be to:

- Inform the National Air Quality Officer of the views of stakeholders regarding the implementation of the AQA and the National Framework;
- Advise the National Air Quality Officer on any matter concerning air quality management and governance and specifically the setting and achievement of objectives and priorities for air quality governance;
- Advise the National Air Quality Officer on appropriate participatory processes related to the implementation of the AQA and the National Framework; and
- Advise the National Air Quality Officer on appropriate methods of monitoring progress in respect to the implementation of the AQA and the National Framework.

The national air quality reference group will consist of at least 12 but not more than 15 members appointed by the National Air Quality Officer. Membership of the group should be made up of persons who represent stakeholders, and persons who have experience, expertise or skills necessary to enable the group to carry out its functions. To this end, the National Air Quality Officer will invite nominations for membership of the national air quality reference group from interested and affected business and industry associations, non-governmental organisations, organised labour and community groups.

In response to the invitation, stakeholders should submit nominations and a justification for membership of the national air quality reference group to the Director-General: Department of Environmental Affairs.

It is envisaged that this group will meet four times a year, in regular meetings aligned with the quarterly meetings of the National-Provincial AQO forum (see 4.4.4). During these meetings, the national AQO will provide the reference group with an update on progress in respect of the implementation of the National Framework and other air quality related initiatives. In turn, the reference group will assist the National AQO in designing required participatory processes that take, at least, the following into account.

Provision of up-to-date information on project activities

To keep stakeholders informed about on-going and planned air quality management projects and decision-processes (and related public participation opportunities), all three spheres of government must make relevant information available in a timely manner through, for example, dedicated air quality management websites and other suitable means, such as actively notifying known stakeholders (See information dissemination in Paragraph 5.9.3, page 90). At the national level, the DEA will publish a monthly newsletter, the *National Air Quality Office News*, providing a regular overview of on-going and planned air quality related projects, decision-processes and other initiatives. In addition to websites and newsletters, other media will be considered to reach communities (See Paragraph 5.4.2).

Effective announcement of public participation opportunities

Public participation opportunities for air quality decision-processes referred to in the AQA must be publicised on the national department websites and in other appropriate media and notifications sent electronically to stakeholders directly using up-to-date databases and electronic mailing lists. Special efforts will be made to ensure that vulnerable and affected communities are informed about relevant decision-processes. Information on the stage in the decision-process at which public participation is planned and the type of public participation activities envisaged will assist stakeholders in planning their participation and assigning necessary time and resources. It will also allow stakeholders to suggest possible adjustments to the envisaged public participation process early in the decision-process.

Ensuring early and balanced participation

Public participation must take place early in the process, when key options are still open. This will ensure that all perspectives are captured and can be properly assessed at the outset. It will also ensure that all stakeholder groups have equal opportunities to convey their views. For major decision-processes, consideration must be given to the organisation of stakeholder workshops and other participatory tools that facilitate in-depth interaction and deliberation at early stages, and which promote face-to-face dialogue.

Responding to stakeholder contributions

Providing feedback and acknowledging written contributions from stakeholders is considered essential to participatory processes and will strengthen the relationship and build trust between government and the public. To address related stakeholder expectations in a practical manner, government must prepare concise response documents that explain the rationale for final decisions or outcomes. Government must also provide explanation on why important comments may not have been addressed. The response document must be made available to the public on request.

Addressing the needs of vulnerable groups

Vulnerable groups and communities have specific needs in order to effectively participate in air quality decision-making. Capacity constraints include lack of technical and human resources as well as lack of financial resources to attend meetings. Government must take cognisance of these constraints when organising meeting locations and times and when setting timelines for public comment.

Professional and skilled process management

Ensuring that public participation processes are managed in a professional manner will enhance the quality of engagement and strengthen the relationship of government with stakeholders. Relevant measures include, for example, neutral facilitation of meetings, making meeting and workshop reports available in a timely manner, and keeping stakeholders informed concerning follow-up activities. The national department will engage, as appropriate, in capacity building activities aimed at strengthening the skills of officials in all spheres of government concerning effective management of stakeholder processes.

5.9.1.4 Issues relevant for specific air quality decision-processes

The AQA includes more than 20 sections authorising government to initiate subsidiary decision-processes. In addition, there are public participation requirements in other existing legislation, such as the Promotion of Access to Information Act, Promotion of Administrative Justice Act, the Public Audit Act and the Municipal Systems Act apply. Government is responsible for the implementation of public participation in development of air quality management tools including the standard setting process and air quality management planning (See Chapters 3 and 4 of this document). Participation in the emission licensing process falls under the responsibility of the applicant (See Paragraph 5.5.2 of this document).

5.9.1.5 Raising awareness and engaging the public in air quality decision-processes

Progress towards achieving the goal of clean air in South Africa requires raising awareness and the meaningful involvement of all citizens (See Paragraph 5.4.2 of this document on awareness-raising and Paragraph 5.9.2 of this document on capacity development).

5.9.2 Capacity development

5.9.2.1 Introduction

Capacity development is a cross-cutting issue that underpins every element of the environmental governance cycle illustrated in Figure 1. Within the AQA, capacity development is not explicitly addressed, however, its consideration and

inclusion is necessitated by the obligation for the fulfilment of the duties and responsibilities stipulated in the AQA and elaborated upon in Chapters 3 and 4 of this document.

The scarcity of skills in South Africa is a key constraint to service delivery within both government and the country at large. National government has recognised this through the passing of the Skills Development Act (Act No. 97 of 1998), which aims to provide an institutional framework to devise and implement strategies to develop and improve the skills of the South African workforce. The national department has taken up the challenge through the initiation of an internship programme and the development of an internship policy, and by addressing capacity development as an integral part of many of their projects.

Whilst the skills shortage applies generally in South Africa, the shortage is critical in the field of air quality. The limited pool of current air quality specialists, along with the paradigm shift in approach to air quality management, justifies the need for urgent intervention. A multi-pronged approach to capacity development is needed, where tertiary level training at regional centres, complemented by in-service training, and other interventions are considered. In addition, there is the need for capacity development amongst the general public in order to ensure that civil society can fully contribute to the air quality management process in an effective manner. These latter aspects were addressed in Paragraph 5.4.2 of this document.

5.9.2.2 Definition of capacity building

Although capacity development is often seen as simply the provision of extra financial or staff resources, or the provision of extra skills through training and education, capacity development must be seen as the attempt to build an organisation's capacity to fulfil its role efficiently and effectively. The section below therefore describes a diverse range of strategies that can be implemented to allow effective and appropriate air quality work to be carried out at all levels of governance.

5.9.2.3 Strategies for capacity building

Strategies of capacity development can be distinguished based on the proposed outcomes and the approach of stakeholders to the project. They are categorised as follows:

- Applying additional financial and physical resources - addressing a simple lack of resources within a well-managed organisation to stimulate growth;
- Improving the organisational and technical capabilities - addressing lack of technique and proper structure through activities such as technical assistance, training, systems improvement and better working conditions;
- Helping to settle on a clear strategic direction - addressing lack of consistent direction, overextending, inappropriate objectives or lack of political consensus on organisational purpose though inducing policy dialogue for action and capacity development;
- Protecting innovation and providing opportunities for experimentation and learning - addresses lack of a protected learning space through development of social capital and creation of opportunities to experiment and learn;
- Strengthening the bigger organisational system - addresses systemic capacity through emphasising the development of interrelationships and resolving public policy issues collectively – public-private partnerships;
- Helping to shape an enabling environment - addresses the lack of an enabling environment through creating protected pockets of capacity development or trying to improve institutions and broader social and political patterns;
- Creating more performance incentives and pressures - addresses structural incentives that lead to poor performance by redesigning organisations and improving the overall approach to governance and democratisation.

By identifying the type of strategy to be pursued based on the desired outcomes as well as informed by the current context of capacity, the most appropriate path of capacity development can be followed. This allows the outcomes of the programme or project to fulfil the need identified prior to implementation.

Implicit in the list of strategies outlined above, is recognition that capacity development is much more than training and awareness programmes for individuals. It is also about organisational, management, financial and technical systems and procedures. Having noted this broad definition, proposed interventions for improving technical capacity in the field of air quality management are presented in the next section.

5.9.2.4 Technical capacity development

A variety of interventions is needed to address the skills shortage in air quality management. All are relevant, with some addressing longer term needs, others the immediate needs and others the need for an informed public.

Tertiary level qualifications

Tertiary level programmes present a long term planning measure aimed at securing future capacity in the field of air quality management. They provide an opportunity to enhance research in the field and to add to the national body of knowledge on air quality management. These inputs are necessary to guide the implementation of the AQA into the future.

There is a need to strengthen tertiary institution offerings in the air quality field. There are few national specialists in air quality and they are scattered across a handful of institutions around the country. A coordinated approach to offering a post-graduate qualification (NQF level 7 and/or 8 i.e. the equivalent of Honours and/or Masters degrees), which could be jointly offered at one or more institutions is recommended.

Internships

Internships provide a means to invest in young people and to provide them with relevant experience that will enable them to function effectively in the work place in the future. These programmes are targeted at providing on-the-job training under the guidance of a mentor and they provide a useful bridge between formal tertiary level training and employment. Internships also provide a means to directly transfer the expertise of people with long-standing professional experience to those with only a practical or theoretical training.

In-service short courses

Short courses provide a means of addressing current capacity needs and targeting particular people and skills that are most urgently needed for intervention. Short training courses, generally ranging from one to five days, are the fundamental aspect of capacity development for those who are already in employment. They provide a means for building on existing skills, refreshing or updating skills, for imparting specialist knowledge, and importantly they directly enhance the internal capacity in an organisation. In many cases single day courses can provide sufficient steerage in the process for AQOs to learn about key issues and follow up any specific issues relating to their own local issues through the means of a helpdesk facility (see below).

The most urgent need is for capacity development amongst government officials at all levels tasked with implementing the AQA. To this end, the national department will consider the development of a suite of air quality modules which could be South African Qualifications Authority (SAQA) accredited at NQF level 7 and delivered to relevant government officials in all spheres of government. In this regard, the use of e-learning through the SAAQIS (see Paragraph 5.2.1.10 of this document) will be investigated to provide broad access to the short courses.

A modular structure is proposed, with modules falling into one of the following categories:

- Bridging training module – a single module on air quality science designed to impart basic knowledge to an employee with no previous formal air quality courses;
- Basic training modules – a suite of modules designed to provide basic detail on all aspects of air quality management – both the scientific aspects and also the policy context;
- Specialist training modules – a suite of modules designed to provide advanced training in selected topics;
- Refresher training module/s – a module designed to provide scientific and technological updates on air quality science.

Partnerships

Bilateral partnerships (e.g. municipality-municipality and province-province) are an excellent means of promoting the replication of best practices and lessons learned, and allowing smaller, less capacitated provinces and municipalities to benefit from the experiences of their stronger counterparts. Pilot projects will be initiated by the national AQO and each of the provincial AQOs.

Forums

Quarterly provincial forums between province and municipalities as outlined in Paragraph 4.4.5 of this document must be used as a capacity development platform for provincial and municipal officials. Such forums can promote the sharing of experiences, the dissemination of ideas and the replication of best practice. These forums are important both in building

a sense of 'community' within the air quality profession, as well as playing a key role in the feeding of information on the effectiveness of the air quality management process upwards from municipal to national levels.

Public awareness campaigns

Capacity development is not confined to individuals working in the air quality field. There will also be awareness-raising amongst the general public using the approaches outlined in Paragraph 5.4.2 of this document. An informed and knowledgeable civil society leads to better decision-making.

Guidance

One of the key strategies for approaching the issue of capacity development is not to rely on there being a dispersed number of individual expert AQOs all trained to carry out their roles independently. Effective use of resources requires that specialist AQOs are used where they are needed most, where there are numerous pollution sources – or other issues leading to poor air quality. Where expert AQOs are not needed, all that is required is sufficient capacity to be able to ensure that good air quality is maintained.

One way to ensure that non-specialist AQOs are capable of making this judgement is by setting out clear and detailed guidance as to how initial screening and scoping analyses should be carried out. When these studies indicate the likelihood of a significant threat to good air quality, the municipal government will then be able to decide the most appropriate means to approach the problem (for example seeking new skilled officers or training up existing staff).

This guidance can also be used to outline key technical aspects of more advanced analyses; however, the basic role is to ensure that initial assessment of local air quality issues is carried out in a reliable and consistent manner which does not necessarily rely on the technical expertise of the officer responsible. By ensuring that this guidance is clear and prescriptive, it can also play an important role in developing the basic skills of untrained AQOs.

Helpdesk

In addition to any formal, printed guidance notes on aspects of air quality governance, the national department wishes to establish a helpdesk facility. The helpdesk, once available, will provide a means by which AQOs at the provincial and municipal spheres can seek expert advice and information relating to the implementation of the AQA from the national department and from the national department approved advisers. Air quality managers should be able to access the helpdesk by telephone and through e-mail.

National AQO communiqués

Based on frequently asked questions in the various intergovernmental air quality governance forums (see Paragraph 4.4 of this document), the National AQO will continue to compile various discussion, briefing and guidance documents aimed at providing guidance on air quality governance issues. The documents are circulated to all government air quality managers.

Table 25: Capacity development implementation targets

Key milestones	Target date
Capacity development programme developed and phases outlined	2013/2014
Progress on capacity development reported in the NAQO report	Annual

5.9.3 Information dissemination

All aspects of implementing the National Framework require the dissemination of information. The main instrument of dissemination of information will be through the SAAQIS. However, the SAAQIS has limitations in this regard in that it does not necessarily provide access to all stakeholders, especially those that do not have the necessary technology or prior exposure to air pollution information. This means that a strategy for reaching these parts of the population must be developed and tools other than the SAAQIS are needed.

The dissemination of information will raise awareness in the population and this awareness will greatly support the achievement of compliance with air quality standards. Dissemination of information is a skill and experts may be employed to inform and/or drive this process. At the same time, on-going public participation processes will identify the best ways of effectively communicating with all stakeholder groups of the population (see also Paragraph 5.9.1.3 of this document). The following approaches to disseminating air quality information will be considered, amongst others:

- Newspaper articles;
- Booklets/Pamphlets /brochures/leaflets;
- Posters on air pollution in central places such as schools and hospitals;
- Radio, national and local;
- TV;
- Public meetings;
- Bill boards; or
- Website.

Key information will, where appropriate, be made available in more than one South African official language. The dissemination of information can be done through different stakeholders. Possible routes for dissemination may include:

- The formal schooling system;
- Programmes targeting women;
- Programmes targeting health professionals;
- Programmes targeting political bodies and parties;
- Programmes targeting religious organisations;
- Programmes targeting industry; or
- Programmes targeting NGOs.

To be able to conduct successful awareness-raising, information is required at the appropriate technical level and teachers (or facilitators) need to be trained in the subject matter. The SAAQIS will have a dedicated facility for educational and awareness-raising material so that it is readily available for course presentations and awareness-raising campaigns. Based on this, material and courses can be accessed, printed and copied and made available.

5.9.4 National Air Quality Officer's (NAQO) Report

The National Air Quality Officer will report on an annual basis on the progress relating to the implementation of the National Framework (see also Paragraph 5.2.3.3 of this document). The reports will be issued annually and will be based on the previous year's assessment indicators but will also allow the reporting of additional information relating to the implementation of the National Framework. The draft report will be presented by the National Air Quality Officer during the Annual Air Quality Governance Lekgotla, with the final report published by March each year.

This report will include:

- Progress with respect to implementation of the National Framework;
- A list of priority issues collated by air quality officers at a national, provincial and regional level;
- An identification of recommendations that are required to improve the indicator output;
- Recommendations for the development of new indicators or the amendment of existing indicators;
- A commentary by the national department on the recommendations and proposals, and taking appropriate action on these recommendations over the subsequent 12 months.

Table 26: The National Air Quality Officer's Annual Report related implementation targets

Key milestones	Target date
Publication of the National Air Quality Officer's Annual Report	Annually from 2007/8