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## 1 PURPOSE

This document provides the terms of reference for the specialist consultants to be appointed by the department to undertake a project that will result in the publication of listed activities and their related minimum emission standards as contemplated in Section 21 of the National Environmental Management: Air Quality Act (Act No. 39 of 2004).

## 2 INTRODUCTION

Arguably one of the most effective regulatory tools for controlling industrial emissions to the atmosphere is the traditional 'command and control' governance tool wherein certain activities are identified that may only operate if they are correctly permitted to do so by the regulatory authority. Furthermore, the regulatory authority usually provides various conditions within the permit. This form of regulation was the basis for regulatory control of industrial emissions in terms of the Atmospheric Pollution Prevention Act (Act No. 45 of 1965) (hereinafter "the APPA") and has been, repeated, with some significant modifications, in the National Environmental Management: Air Quality Act (Act No. 39 of 2004) (hereinafter "the AQA") as described below.

### 2.1 The identification of industries to be regulated

Not all industries emit pollution into the atmosphere and not all industries that do have atmospheric emissions could be regarded as having significant negative impacts on air quality. As such, it makes no practical or administrative sense to regulate every industry. However, there are certain industries that have a significant impact on air quality and these industries must be regulated if the nation's ambient air quality standards are to be met and/or bettered (see 3.1).

To this end, S.21 of the Act requires the Minister or MEC to identify these industries for regulatory control by publishing a list of activities which the Minister or MEC reasonably believe result in atmospheric emissions that have or may have a significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage. Once identified, these activities are known as "listed activities".

In terms of S.22, once an activity has been identified, no one is allowed to conduct the activity unless they are permitted to do so.

Furthermore, it is not enough for the Minister or MEC to just identify the industries to be controlled, minimum emission standards for specified pollutants emitted by the identified industries must also be set in terms of S.21(3).

### 2.2 Sections 21 and 22 of the AQA

The following provides an extract from the AQA that provides the departure point for the project that is the subject of these terms of reference.

#### 21. Listing of activities

- (1) The Minister must, or the MEC may, by notice in the Gazette -
  - (a) publish a list of activities which result in atmospheric emissions and which the Minister or MEC reasonably believes have or may have a significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage; and
  - (b) when necessary, amend the list by -
    - (i) adding to the list activities in addition to those contemplated in paragraph (a);
    - (ii) removing activities from the list; or
    - (iii) making other changes to particulars on the list.

- (2) A list published by the Minister applies nationally and a list published by the MEC applies to the relevant province only.
- (3) A notice referred to in subsection (1) -
  - (a) must establish minimum emission standards in respect of a substance or mixture of substances resulting from a listed activity and identified in the notice, including-
    - (i) the permissible amount, volume, emission rate or concentration of that substance or mixture of substances that may be emitted; and
    - (ii) the manner in which measurements of such emissions must be carried out;
  - (b) may contain transitional and other special arrangements in respect of activities which are carried out at the time of their listing; and
  - (c) must determine the date on which the notice takes effect.
- (4)
  - (a) Before publishing a notice in terms of subsection (1) or any amendment to the notice, the Minister or MEC must follow a consultative process in accordance with sections 56 and 57.
  - (b) Paragraph (a) need not be complied with if the notice is amended in a non-substantive way.

**22. Consequences of listing**

No person may without a provisional atmospheric emission licence or an atmospheric emission licence conduct an activity -

- (a) listed on the national list anywhere in the Republic; or
- (b) listed on the list applicable in a province anywhere in that province.

**2.3 The shift from stack to site**

With reference to the first goal of the Integrated Pollution and Waste Management (IP&WM) Policy (2000) (Clause 5.2.1), government is required to - "establish a single, streamlined and efficient administrative system for the authorisation process... replacing the current fragmented and inefficient systems." Although the Constitutional separation of functions currently precludes a "one-stop-shop" environmental authorisation system, AQA's clear links to the EIA process are in line with the spirit of a single, streamlined and efficient administrative system for the authorisation process.

Notwithstanding the above, AQA takes a further step by moving from the 'stack-based' authorisations of APPA to a 'site' authorisation.

Under APPA, a specific authorisation was required for each 'scheduled' activity undertaken at a site. This often meant that one industrial facility could hold several APPA Registration Certificates. Furthermore, as the APPA authorisations only dealt with specific activities, other atmospheric emissions were often overlooked, e.g. dust from stockpiles and un-surfaced roads.

In contrast, AQA's atmospheric emission licences specifically contain not only the maximum allowed amount, volume, emission rate or concentration of pollutants that may be discharged into the atmosphere, but also any other operating requirements relating to atmospheric discharges, including non-point source or fugitive emissions as well as on-site ambient air quality measurement and reporting requirements.

As such, the description of the 'listed activities' in terms of the AQA (see 2.1) will look somewhat different to those currently used to describe 'scheduled processes' in terms of the APPA.

**3 BACKGROUND**

With the introduction above, the following sections provide some background on various initiatives undertaken by the department that will have a bearing on the project that is the subject of these terms of reference.

**3.1 Ambient Air Quality Standards**

As alluded to in 2.1, emission standards will be strongly influenced by, among others, ambient air quality standards.

On 2 June 2006, the Minister announced his intention to set new ambient air quality standards in terms of section 9(1)(a) and (b) of the AQA. In accordance with government's Integrated Pollution and Waste Management Policy, these standards will define the ambient air quality targets for all air quality management interventions. These standards are listed in the following table (Table 1).

**Table 1: Proposed Ambient Air Quality Standards for Common Air Pollutants**

Substance	10-minute maximum	1-hour maximum	8-hour maximum	24-hour maximum	Annual average
1	2	3	4	5	6
Sulphur Dioxide (SO <sub>2</sub> )	500 µg/m <sup>3</sup>	350 µg/m <sup>3</sup>		125 µg/m <sup>3</sup>	50 µg/m <sup>3</sup>
Nitrogen Dioxide (NO <sub>2</sub> )		200 µg/m <sup>3</sup>			40 µg/m <sup>3</sup>
Carbon Monoxide (CO)		30 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>		
Particulate Matter (PM10)				75 µg/m <sup>3</sup>	40 µg/m <sup>3</sup>
Ozone (O <sub>3</sub> )		200 µg/m <sup>3</sup>	120 µg/m <sup>3</sup>		
Lead (Pb)					0.5 µg/m <sup>3</sup>
Benzene (C <sub>6</sub> H <sub>6</sub> )					5 µg/m <sup>3</sup>

### 3.2 The National Air Quality Management Programme, Phase II, Transition Project

In 2003 in anticipation of the AQA, the department contracted CSIR Environmentek to implement Phase II of the National Air Quality Management Programme. This project, the so-called "Transition" project, had the objective of "preparing the ground" for the new Act in order to ensure a smooth and seamless transition between the APPA and the AQA.

One of the outputs of this project (Output B.4.) required the consultants to generate "A *Schedule of Listed Activities*". This output comprised the compilation of a schedule of Listed Activities to be published in terms of the new Act and required a reworking of the existing APPA 'scheduled processes' (see 2.3) and the addition of new processes requiring regulation.

The product of this process is summarised as follows -

#### 3.2.1 APPA Criteria

Over the years, the principle for identifying a process for inclusion as a Scheduled Process in the APPA was based on the following criteria:

- Historical replication of processes in the older British Clean Air Act Scheduled Processes (applicable at the time of setting up the APPA in the 1960s and 1970s); and
- Response to complaints and problem areas. Hence, processes or problem-areas that attracted the most complaints were included in the schedules so that the department could put controls in place to reduce emissions.

#### 3.2.2 Proposed AQA "listed activity" identification criteria

The following criteria were proposed for identifying a process for inclusion as a listed activity in the AQA:

- The process should be active in South Africa and should apply to large scale operating plants.
- The activity should not be listed if it is an activity identified in Government Notice No. 386 of 2006 - being the schedule to the environmental impact assessment regulations promulgated in terms of S.24 of the National Environmental Management Act (Act No. 107 of 1998) (hereinafter "NEMA"), i.e. identified activities that require basic assessment.
- The activity should be listed if it is an activity identified in Government Notice No. 387 of 2006 - being the schedule to the environmental impact assessment regulations promulgated in terms of S.24 of NEMA, i.e. identified activities that require environmental impact assessment (EIA). However this does not mean that all activities requiring an EIA should be identified, but only those activities that "are likely to have significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage"
- The emissions of the individual activity "are likely to have significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage". This implies that the combination of the toxicity of the pollutants with the released quantity may cause the quoted effects.
- There must be a method to measure the emissions of the activity.

With regard to the latter, the USA Emission Measurement Center (EMC) of the Environmental Protection Agency (EPA) has developed methods of measuring air pollutants emitted from the entire spectrum of industrial processes causing air pollution, which are also widely used in South Africa.

It was also proposed that measurement methods developed by the EMC and accredited in South Africa should be followed or used as a guideline to measure specific pollutants in the stack for the listed activities.

### 3.2.3 Proposed additional activities

The consultants proposed that, as nearly all of the processes that are currently listed in the APPA schedule meet the proposed criteria outlined in 3.2.2, there was no requirement to remove processes from the list. However, the following activities were regarded as being necessary additions based on the proposed criteria:

- *Gold refining* - This is a large industry in South Africa and hazardous chemicals are used by this activity;
- *Platinum Group Metals (PGMs) refining* - This is a large industry in South Africa and hazardous chemicals are used by this activity. The usage of specifically chlorine and hydrogen chloride may lead to significant emissions. (Some aspects of PGM refining are covered under the current APPA list);
- *Pharmaceutical industry* - The potential release of active pharmaceutical components is a concern;
- *Plastics industry* (This heading serves as a subsection under organic chemicals) - The addition of this subsection is in line with international practice and helps with the grouping into categories (see 3.2.4);
- *Monomer production* (as a subsection under plastics industry) - The addition of this subsection is in line with international practice and helps with the grouping into categories (see 3.2.4);
- *Explosives industry* - This is a relative large industry and hazardous chemicals are used by this activity. Different chemicals are used and different emissions may occur, dependent on the different types of explosives being manufactured. The addition of this subsection is in line with international practice.
- *Disposal of hazardous and general waste* - The addition of this activity is in line with the minimum requirements for the disposal of hazardous waste as well as with Government Notice No. 387 of 2006, i.e. identified activities that require environmental impact assessment (EIA);
- *Wood products industry* - The inclusion is not an addition, but a grouping of three currently listed activities. The change is in line with international practice (see 3.2.4); and
- *Production and formulation of pesticides* - The potential release of active pesticides is a concern.

In this regard, most of the activities listed above are based on Government Notice No. 387 of 2006, i.e. identified activities that require environmental impact assessment (EIA). The selection was also based on the fact that such activities "are likely to present a threat to health or the environment".

### 3.2.4 Proposed grouping of listed activities in the current APPA schedule

It was also proposed that all the listed activities in the current APPA schedule and the proposed additions (see 3.2.3) should be grouped under specific industrial categories and the following advantages were described as a motivation for this grouping:

- Enables a systematic approach for identifying and comparing air pollution releases from related activities.
- Brings South Africa into line with international practice (i.e. American and European methods).
- Enables an integrated pollution control approach (focussing on the expected pollutants from the specific industrial category) and provides an opportunity for cleaner production and waste minimization guidelines to be included (in line with trading partner approaches to management of technologies and industrial ecology).

The following table (Table 2) provides the proposed list of activities which result in atmospheric emissions and which have, or may have, a significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage.

**Table 2: Proposed activities to be listed in terms of S.21 of the AQA**

Ref.	Proposed Listed Activity	Description	Size	Reference to APPA Scheduled Process
1.	Combustion Installations	The generation of electricity	where electricity output is >20 Megawatts	29 and 56
2.	Petroleum industry	The bulk storage of crude petroleum and liquid petroleum products	Storage facilities with individual capacity >1 000 cubic metres each. NB: All petroleum processes will be listed because they are large scale processes and no small scale processes exist.	14 and 25
3.	Carbonisation and coal gasification	Activities involving Coke and Gas processes		34, 33, 16 and 3
4.	Metallurgical industry	Activities involving: Gold Refining; PGM Refining; Aluminium processes; Cadmium processes; Chrome processes; Copper processes; Iron and Steel processes; Lead processes; Mercury processes; Manganese processes; Metal recovery processes; Metal spray processes; Metallurgical slag processes; Roasting processes; Zinc processes; Vanadium processes; Galvanising processes; Silicon processes; Magnesium processes; Arsenic processes; Antimony processes; Beryllium processes; Nickel processes		11, 17, 23, 27, 30, 31, 32, 40, 50, 51, 52, 53, 54, 55, 57, 60, 61, 62, 63, 66 and 71
5.	Mineral processing industry	The storage and handling of ore or coal and not situated on the premises of a mine or works as defined in the Mines and Works Act, 1956.	Dumps designed to hold 100 000 tons or more	22, 65, 35, 10, 36, 28 and 59
6.	Organic chemical industry	All of the following processes: pyridine; anhydride; benzene; acetylene; aldehyde; amine; acrylonitrile; plastics production; monomer production; and vinyl chloride monomer processes	Independent of scale	19, 49, 18, 45, 48, 46, 70 and 72
7.	Inorganic chemical industry	All of the following processes: ammonium sulphate and Ammonium chloride; carbon disulphide; caustic soda; bromine; calcium carbide; fluorine; phosphate fertilizer; chlorine; hydrochloric acid; hydrogen cyanide; sulphuric acid; sulphide; sulphocyanide; nitric acid; phosphorus; alkali; ammonia; macadam preparation; sulphite reduction; bisulphite; and selenium processes	Independent of scale	5, 12, 38, 20, 47, 24, 2, 6, 7, 44, 1, 8, 13, 4, 42, 26, 43, 58, 37, 15 and 41
8.	Explosives Industry	The manufacturing of explosives including ammunition	Independent of scale	
9.	Pharmaceuticals production			
10.	Incineration processes including hazardous waste	The use, recycling, handling, treatment, storage or final disposal of hazardous wastes (NEMA chapter 4 (23))		39
11.	The disposal of hazardous and general waste		All hazardous waste and the final disposal of general waste covering an area in excess of 100 m <sup>2</sup> or 200 m <sup>3</sup> of airspace (NEMA chapter 4 (23))	

Ref.	Proposed Listed Activity	Description	Size	Reference to APPA Scheduled Process
12.	Wood products industry	All of the following processes: pulp and paper; alkali waste; and wood burning and wood drying processes		68, 9 and 67
13.	Production and formulation of pesticides		Independent of scale	
14.	Animal matter processing	Processes for the rendering cooking, drying, dehydrating, digesting, evaporation or protein concentrating of any animal matter not intended for human consumption (The description needs to be extended to cover large slaughter houses and large tanning plants)		69

### 3.2.5 Further recommendations

Other than the proposals outlined above, the consultants also made the following recommendations –

- The descriptions of all processes for the current APPA guidelines should be reviewed or revised, as the descriptions for a number of processes is incomplete or lacking. Also some of the threshold limit values (TLV) and exposure data is not up to date with current knowledge.
- Typically the information on the process is very short or absent as well as information on the guidelines. More information will help to decide which pollutants require monitoring. E.g. copper processes release a variety of pollutants such as SO<sub>2</sub>, lead and arsenic.
- For many processes no emission limits are given.
- For a number of processes different limits are given depending on when the plant was erected. There is a need to agree upon a time frame for older plants to adhere to the same emissions as new plants.
- For a number of processes, decisions are left to the discretion of the Air Pollution Control Officer. This needs review as it is important to arrive at a uniform approach.
- It is likely that for a number of processes emission limits of pollutants require review.
- The issue of quantity released versus concentrations needs more attention.
- The issue of the phasing in of new technologies for certain processes need more attention.

### 3.3 The APPA Registration Certificate Review Project

In January 2006, the department contracted the services of specialist consultants to undertake the APPA Registration Certificate Review Project - a project that will review and amend prioritised Registration Certificates issued in terms of section 10 of the Atmospheric Pollution Prevention Act (Act No. 45 of 1965) and to build initial licensing capacity. This project will run in parallel to the project that is the subject of these terms of reference. As the APPA Registration Certificate Review Project will benefit from inputs in respect of emission standards and the project that is the subject of these terms of reference will benefit from inputs in respect of, among others, transitional and other special arrangements in respect of activities which are carried out at the time of their listing, both projects will provide both inputs and outputs to each other.

### 3.4 The National Framework Development Project

In terms of Section 7 of the AQA, the Minister must, within two years of the date on which this section took effect (i.e. 11 September 2007), by notice in the *Gazette*, establish a national framework for achieving the object of the AQA, which must, among others, include: mechanisms, systems and procedures to attain compliance with ambient air quality standards (S.7(1)(a)); and national norms and standards for the control of emissions from point and non-point sources (S.7(1)(c)). Furthermore, these national norms and standards must, among others, be aimed at ensuring: the prevention of air pollution

and degradation of air quality (S.7(2)(c)); and the reduction of discharges likely to impair air quality, including the reduction of air pollution at source(S.7(2)(c)).

Although a project to develop the required National Framework will be initiated by the department in the near future – the AQA Implementation: National Air Quality Management Framework Development Project, it is clear from the above that the project that is the subject of these terms of reference will provide valuable input into the development of the National Framework.

### 3.5 Intergovernmental coordination and cooperation

In December 2005, the department's Director General (DG) approved a submission relating to intergovernmental coordination and cooperation in respect of air quality management governance. In summary, the DG approved the establishment of the National – Provincial Air Quality Officer's Forum, the Provincial – Municipal Air Quality Officer's Forum and the annual Air Quality Management Governance Conference as described below -

#### 3.5.1 The National – Provincial Air Quality Officer's Forum

In essence, the National – Provincial Air Quality Officer's Forum is a subset of the existing MINTEC Working Group II. As such, Working Group II meetings have been structured to separate waste and air quality management issues. Hence, quarterly Working Group II deliberations on air quality management issues are regarded as the deliberations of the National – Provincial Air Quality Officer's Forum.

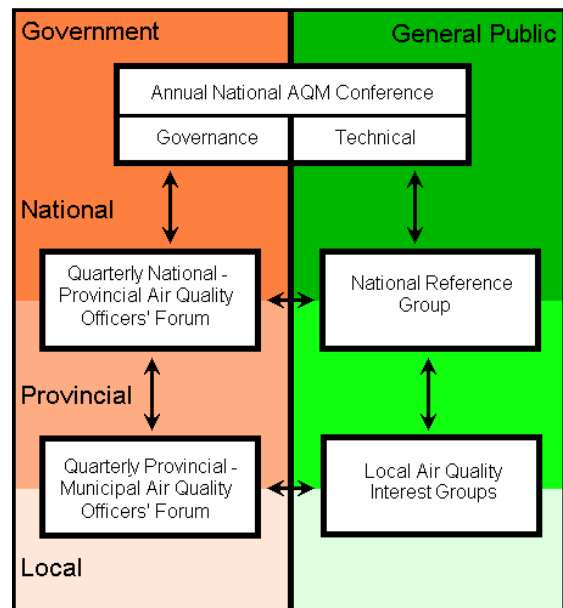
The arrangement has been under implementation for the last two working group meetings and appears to be functioning well.

#### 3.5.2 The Provincial – Municipal Air Quality Officer's Forum

Provincial-Municipal Air Quality Officer's Forums have been established in the three key industrialised provinces of Gauteng, Western Cape and KwaZulu-Natal and the establishment of the Eastern Cape forum is immanent. The National Air Quality Officer has attended meetings of the Gauteng, KwaZulu-Natal and Western Cape forums, and, from this limited interaction and reports to the National-Provincial forum, it appears that these forums are functioning well.

In order to facilitate the efficient, effective and cohesive functioning of these forums, the department provided all provincial air quality officers with generic terms of reference for such forums.

The overall objective of the Forum is framed as a desired outcome as follows: *"An effective governance framework is developed, maintained and implemented in a manner that ensures that the unacceptable current and future impacts of atmospheric emissions are minimised, mitigated or managed in line with government policy, legislation, goals, strategies, norms and standards that are protective of everyone's right to an environment that is not harmful to their health or well-being and protect the environment for the benefit of present and future generations through reasonable legislative and other measures that prevent pollution and ecological degradation, promote conservation and secure ecologically sustainable development and the use of natural resources while promoting justifiable economic and social development."*



**Figure 1: Air Quality Management Participatory Governance Structures**

#### 3.5.3 The Annual Air Quality Management Governance Lekgotla

In essence, this two day event, to be held back to back with the annual National Association of Clean Air (NACA) conference, will focus on practical air quality governance challenges facing all affected spheres of government, especially municipalities.

With the promulgation of the AQA in 2005, one of the key challenges that government has to address with respect to the efficient and effective implementation of the AQA is governance capacity. These capacity constraints relate to:

- **Governance Structures** - sustainable financing; adequate numbers of staff in well-defined positions; continuity of key staff; and access to infrastructure and equipment.
- **Systems** - adequate legislation and regulations; operating policy, management systems; defined procedures and mechanisms for achieving efficient and effective air quality management; adequate data and resource availability to update and collect more when necessary.
- **Skills** - staff that have been trained adequately to perform the functions and implement the various systems
- **Strategies** - clearly articulated overall approach to achieving prescribed goals and objectives; air quality problems adequately defined and recognised; long-term vision; short-, medium- and long-term goals; the avoidance of overlap or duplication with other organisations, spheres of government and/or sections.
- **Interrelationships** - access to key people at various levels in other internal and external organisations; influence in decision-making and policy adoption; credibility vis-à-vis the public, industry and other government departments; political will; linkages to and complementarities with related programs, projects and organisations.

Given the above, the Annual Air Quality Governance Lekgotla will provide government air quality managers with a unique opportunity to discuss and debate ways and means of addressing the various governance challenges and planning the year ahead. The Lekgotla will also be the premier event for officials to interact with their colleagues and peers and share experiences and lessons learned and will also provide the department with an effective platform for informing all spheres of government about the national AQA rollout plans and progress reports.

The inaugural Annual Air Quality Governance Lekgotla is scheduled to take place from 16-17 October 2006 in East London.

### 3.6 External stakeholder engagement

Although Section 13 of the AQA provides that the Minister may establish a National Air Quality Advisory Committee as a subcommittee of the National Environmental Advisory Forum established in terms of NEMA to advise the Minister on the implementation of the AQA, it is unlikely that this committee will be established in the near future. However, the requirement for meaningful stakeholder engagement in the rollout of the AQA will be a prerequisite for successful implementation. To this end, the following structures have relevance to the project that is the subject of these terms of reference –

#### 3.6.1 *The National Air Quality Management Stakeholder Reference Group*

As illustrated in Figure 1, the establishment of a National Air Quality Management Stakeholder Reference Group is envisaged to ensure that key stakeholders are actively engaged in the rollout of the AQA over and above the very formal participatory mechanisms provided in the AQA (see S.57 of the AQA).

The department hopes to establish this reference group following the national stakeholder workshop on the development of the National Framework (see 3.4) scheduled for 18 October 2006.

#### 3.6.2 *The Affected Industry Reference Group*

As the project that is the subject of these terms of reference may have significant implications for industrial sectors identified as listed activities, there is a requirement for a coordinated, cohesive and consistent engagement with industry especially in respect of –

- The establishment of minimum emission standards in respect of a substance or mixture of substances resulting from a listed activity and identified in the notice, including - (i) the permissible amount, volume, emission rate or concentration of that substance or mixture of substances that may be emitted; and (ii) the manner in which measurements of such emissions must be carried out (S.21(3)(a) of the AQA);
- The establishment of any necessary transitional and other special arrangements in respect of activities which are carried out at the time of their listing (S.21(3)(b) of the AQA); and
- The determination of the date on which the notice should take effect (S.21(3)(c) of the AQA).

To this end, the project will establish an "Affected Industry Reference Group" with a view to this structure providing the required coordinated, cohesive and consistent engagement with affected industrial sectors. In this regard, it is proposed that this reference group comprise representatives of industrial sector organisations and/or associations as apposed to individual companies although this may not always be possible (e.g. Eskom).

**3.7 Organisational arrangements within the department**

In December 2005, the department's Director General approved a new establishment for the Chief Directorate: Air Quality Management and Climate Change. The component of the establishment that is relevant to this project is the Directorate: Atmospheric Policy, Regulation and Planning and specifically its Sub-directorate: Atmospheric Policy, Norms and Standards.

The purpose or performance objective for the Directorate: Atmospheric Policy, Regulation and Planning has been framed as follows:

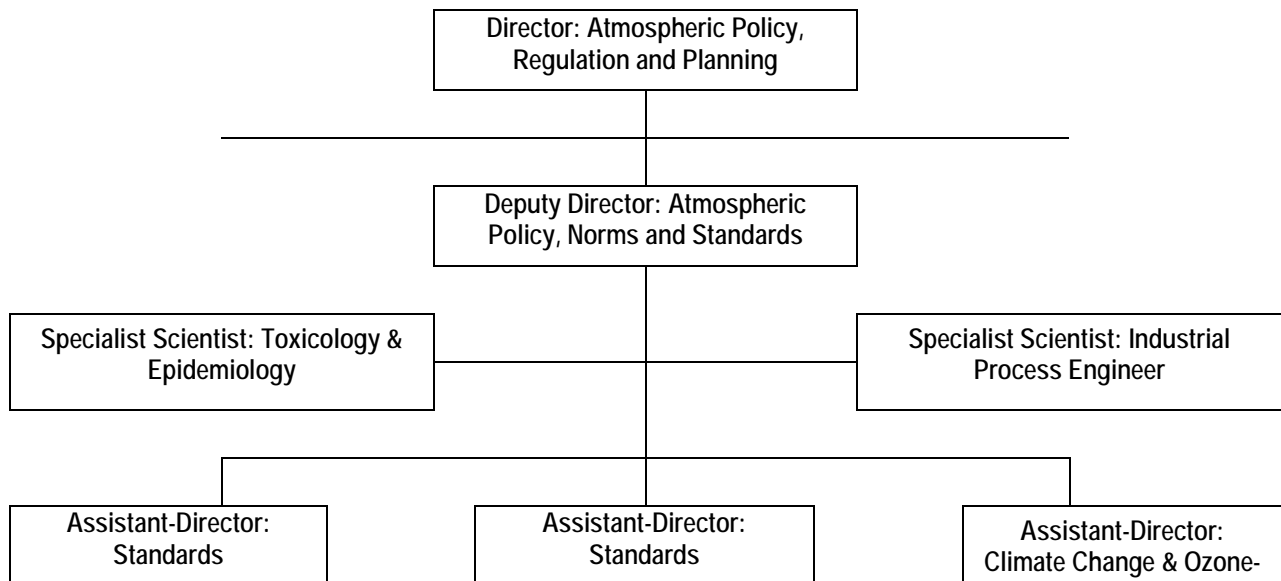
*To ensure that the necessary policy, strategy, legislation, regulations and plans are developed and implemented with a view to protecting and defending the right of all to air and atmospheric quality that is not harmful to health and well-being.*

In order to fulfil its purpose, the directorate through its atmospheric policy, norms and standards sub-directorate must, among others, carry out the following functions of relevance to this project:

- *Ambient air quality standards*, including, among others: (i) the identification, development and promulgation of national ambient air quality standards; (ii) the periodic review of national ambient air quality standards; and (iii) support to provinces in the development of provincial ambient air quality standards, where required.
- *Listed Activities and related emission standards*, including, among others: (i) the identification of listed activities and the development and promulgation of schedules of listed activities and their related emission standards; (ii) the periodic review of listed activities and their related emission standards and (iii) support to provinces in development and promulgation of schedules of provincial listed activities and their related emission standards, where required.
- *Controlled Emitters and related emission standards*, including, among others: (i) the identification of controlled emitters and the development and promulgation of schedules of controlled emitters and their related emission standards; (ii) the periodic review of controlled emitters and their related emission standards; and (iii) support to provinces in development and promulgation of schedules of provincial controlled emitters and their related emission standards, where required.

Given its purpose and associated functions, the Sub-directorate: policy, norms and standards is staffed as follows –

**Table 3: Sub-directorate: Policy, Norms and Standards organogram**



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**Table 4: Sub-directorate: Policy, Norms and Standards staffing**

	Post	Purpose
1.	<b>Deputy-Director: Atmospheric Policy, Norms and Standards</b>	Ensure that the department's atmospheric policy, norms and standards functions are carried out efficiently and effectively.
2.	<b>Specialist Scientist: Industrial Process Engineer</b>	Provide expert input into the standard development process and to monitor local and international developments and trends in respect of air quality related cleaner production initiatives and technology.
3.	<b>Specialist Scientist: Toxicology &amp; Epidemiology</b>	Provide expert input into the standard development process and to monitor local and international developments and trends in respect of air quality related toxicology & epidemiology.
4.	<b>Assistant-Director: Standards (X 2)</b>	Development, promulgate and review the National Air Quality Management Framework, identify and develop ambient air quality standards, List Activities and related emission standards and Controlled Emitters and related emission standards.
5.	<b>Assistant-Director: Climate Change &amp; Ozone-layer protection</b>	The compilation and submission of technical briefing documents and draft position papers for all regional, continental and global bilateral and multi-lateral engagements around air and atmospheric quality related issues (e.g. climate change, ozone-layer depletion, etc.); the development and management of all required policies, strategies and action plans related to the implementation of commitments made in respect of MEAs and the provision of technical support to all negotiating teams involved in atmospheric quality related MEAs.

#### 4 PROBLEM ANALYSIS

In order to implement the requirements of the AQA in respect of listed activities and their related minimum emission standards, government faces a number of challenges as described below, among others:

##### 4.1 The "listing" – "emission standards" link

During the development of the AQA, although the possibility of setting emission standards for listed activities was provided for in the Bill in a provision that read that a notice listing activities may establish minimum emission standards, the "may" was changed to "must" in the final draft. The implications of this seemingly minor change are, in fact, quite dramatic. Indeed, as witnessed by the "listed activity" output of the National Air Quality Management Programme, Phase II, Transition Project (see 3.2) that was initiated before the finalisation of the Bill, this output was designed with the understanding that activities need only be "listed" in order for the AQA's atmospheric emission licensing regime to be implemented. As such, the change of the "may" to a "must" has effectively delayed the entry into effect of those sections of the AQA concerned with atmospheric emission licensing as the process of emission standard setting is far more complex than a simple listing of an activity. In effect, the "listed activity" output of the National Air Quality Management Programme, Phase II, Transition Project has, thus, only brought the department part of the way in its efforts to ensure a smooth and seamless APPA – AQA transition.

##### 4.2 The scope and potential complexity of the standards to be set

In terms of section 21(3) before AQA's atmospheric emission licensing regime can be implemented the Minister must list the activities to be governed by this regime and must establish minimum emission standards in respect of a substance or mixture of substances resulting from an identified listed activity. From an analysis of this requirement, the following appears to be clear –

- Minimum emission standards in respect of a substance or mixture of substances resulting from each identified listed activity must be established; and

- Minimum emission standards need only be established for a substance or mixture of substances resulting from each identified listed activity, i.e. there is no requirement for setting minimum emission standards all substances or mixture of substances resulting from each identified listed activity.

Thus, the scope and potential complexity of the standards to be set will be influenced by the following, among others –

- The number of identified listed activities; and
- The number of substances identified for control through minimum emission standards for each identified listed activity.

Despite the above, if minimum emission standards for every significant pollutant from each of the APPA scheduled processes was required, the process of establishing such standards could potentially be very complex and could take many years to complete.

#### 4.3 The difficulty in simply converting APPA guidelines to AQA standards

Although the AQA atmospheric emission licensing regime is similar to the APPA Registration Certificate regime there are some significant differences that would complicate a simple conversion of APPA emission guidelines for scheduled processes to AQA minimum emission standards. The following table lists two fundamental differences –

**Table 5: Fundamental APPA - AQA differences**

Ref.	The AQA	The APPA
1.	Minimum emission standards in respect of a substance or mixture of substances resulting from each identified listed activity must be established.	Emission guidelines in respect of any substance or mixture of substances resulting from each identified listed activity may be established.
2.	Minimum emission standards must, among others: (a) be regarded as <u>reasonable measures</u> for – (i) the protection and enhancement of the quality of air in the Republic; (ii) the prevention of air pollution and ecological degradation; and (iii) securing ecologically sustainable development while promoting justifiable economic and social development; (b) be informed by Section 24(b) of the Constitution in order to enhance the quality of ambient air for the sake of securing an environment that is not harmful to the health and well-being of people; (c) be guided by the national environmental management principles set out in section 2 of the National Environmental Management Act, e.g. the standards must reflect “the best practicable environmental options”.	Emission guidelines based on the “best practicable means” approach.

Other than the two fundamental differences listed above, further complications include, among others –

- The “stack to site” approach detailed in 2.3 above; and
- The various shortfalls in the APPA schedule of activities and related emission guidelines alluded to in 3.2.5 above.

#### 4.4 Timing

Although for the reasons explained in 4.1, among others, the AQA atmospheric emission licensing regime was not brought into effect on 11 September 2005, there is a strong desire to bring these elements into effect with the publication of the National Framework required in terms of Section 7 of the AQA, i.e. 11 September 2007. Although this may not be practically possible for various reasons, a strong motivation to the Minister will be required in order to extent this deadline.

Furthermore, as the emission standard-setting process will provide valuable inputs into the APPA Registration Certificate Review Project (see 3.3), the project that is the subject of these terms of reference must be timed to provide these important inputs to this project that is already under way.

#### 4.5 Conflicting stakeholder positions

It goes without saying that the identification of activities and their associated minimum emissions standards will elicit conflicting positions among key stakeholders, especially industry and public interest groups. The balancing of these positions with government policy will, as such, be a key challenge for the project that is the subject of these terms of reference.

#### 4.6 Institutionalising emission standard setting

With the focus on standards in the AQA, the establishment of a dedicated standard-setting sub-directorate is regarded as a key intervention for ensuring sustained standard-setting capacity within the department (see 3.7). However, as the establishment of this sub-directorate is a very recent event, the directorate has yet to fully build its organisational capacity in the following areas:

##### 4.6.1 Structure

Structure refers to the division of labour amongst the staff and lines of command and communication within the sub-directorate. Typical characteristics associated with structure include: (i) sustainable financing; (ii) adequate numbers of staff in well-defined positions who, with an appropriate reporting structure, are able to address mandated responsibilities; (iii) continuity of key staff; (iv) access to infrastructure and equipment necessary to perform tasks; and (v) flexibility.

In this regard, although most of the structural elements of organisational capacity are now in place within the department, these structures have yet to be tested.

##### 4.6.2 Systems

Systems refer to the tools of the sub-directorate including hardware (machines) as well as software (operational procedures). These should allow for organisational resilience - the ability to adapt, adjust, and eventually even drop certain tools and activities, according to the changing institutional context. Typical characteristics associated with systems include: (i) adequate legislation and regulations to support its operation; (ii) written operating policy, and a management system providing regular feedback on whether policy is being met; (iii) defined procedures and mechanisms for achieving efficient and effective atmospheric quality information management (including the meeting of international commitments); (iv) adequate data available to perform the mandated role, and resource availability to update and collect more when necessary; and (v) adequate means to discuss issues internally and decide on appropriate management strategies.

In this regard, although regulatory tools are in place, e.g. the AQA, the other elements of systems capacity have yet to be developed.

##### 4.6.3 Skills

Skills refer to the ability of the staff to apply the systems described above. Typical characteristics associated with skills include: (i) staff have been trained adequately to perform the functions of their positions, with the necessary policy-making, planning, IT, biophysical, socio-economic, information collection and management and communications expertise to address air quality information management priorities, and (ii) the sub-directorate has access to specialised expertise which its members lack.

In this regard, many of the posts in the new establishment have yet to be filled and, in the absence of the systems described in 4.6.2, training and skill-building activities will have to be initiated as soon as the required officials are in place.

##### 4.6.4 Strategies

Strategy on the one hand is the attempted alignment of the components detailed above in pursuance of the sub-directorate's given objectives with given resources, and on the other, the sub-directorate's own evolution of objectives and revenue base. Typical characteristics associated with strategies include: (i) the sub-directorate has a clearly articulated overall approach to achieving its prescribed goals and objectives; (ii) The information management problems to be addressed by the sub-directorate are adequately defined and recognised; (iii) the sub-directorate has long-term vision: decades may be necessary to achieve goals - benefits do not come quickly, and sometimes are not readily measurable; (iv) the sub-directorate has a focus where success is reasonably achievable or most likely given the resources available, addressing short- (0-3 years), medium- (3- 5 years) and long-term (5+ years) goals; and (v) the sub-directorate avoids overlap or duplication with other organisations, spheres of government and/or sections of the department.

In this regard, although many of these elements have been addressed in the motivation for its establishment, they have yet to be tested.

#### 4.6.5 *Interrelationships*

Interrelationships refer to the extent to which, and how, the sub-directorate relates to other parts of the air quality management system in the country, especially the work of provinces, local authorities, NGOs and industry. Typical characteristics associated with inter-relationships include: (i) access through networks and committees to key people at various levels in other internal and external organisations; (ii) influence in decision-making and policy adoption; (iii) credibility vis-à-vis the public, industry and government departments; (iv) that political will exists to support the sub-directorate with ongoing top management commitment; and (v) linkages to and complementarities with related programs, projects and organisations.

Although some work has been initiated in this area, these initiatives need to be fully rolled-out.

## 5 STRATEGY ANALYSIS

Given the problems outlined above, the following strategy has been devised for the project that is the subject of these terms of reference.

### 5.1 Keep it simple

In order to meet the deadline outlined in 4.4, the project that is the subject of these terms of reference will be regarded as an "initiator" project in respect of the identification of listed activities and their related minimum emission standards, i.e. it will be a project that allows for the initial roll-out of the AQA Atmospheric Emission Licensing regime and will build capacity for the continued rollout of the standard-setting process and the increased sophistication of this process over time.

To this end, the project will attempt to, among others:

- Minimise the number of listed activities as far as practically possible without reducing the effective governance of significant industrial sources of air pollution; and
- Limit the number of substances identified for minimum emission standards as far as practically possible without reducing the effective governance of significant industrial sources of air pollution.

### 5.2 Participatory governance

In line with the principles contained in the National Environmental Management Act (Act No. 107 of 1989), government's Integrated Pollution and Waste Management Policy (2000) and the AQA, in order to ensure stakeholder buy-in (see 4.5), the project that is the subject of these terms of reference will provide various platforms for meaningful stakeholder engagement (see 3.5 and 3.6).

### 5.3 Project coordination and cooperation

As mentioned in 3.3 and 3.4, the project that is the subject of these terms of reference is only one of a number of projects already under implementation, or to be implemented, aimed at the implementation of the AQA and the APPA – AQA transition. As such, attempts will be made to ensure efficient and effective coordination and cooperation between these projects through joint meetings, workshops, etc.

### 5.4 Building from lessons learned

The project that is the subject of these terms of reference will build on, and not replicate, the work undertaken by the National Air Quality Management Programme, Phase II, Transition Project (see 3.2).

Furthermore, and most importantly, the identification of activities and their associated minimum emission standards is not unique to the AQA. Indeed, as alluded to in 3.2.2, 3.2.3 and 3.2.4, this approach is common in many international approaches to air quality governance. As such, the project that is the subject of these terms of reference will build on, and not replicate, international work in this regard.

### 5.5 Capacity Development

The project that is the subject of these terms of reference must ensure that sustained capacity is developed within the department to efficiently and effectively implement its activity identification and emission standard-setting responsibilities. In this regard, the project must address the capacity constraints outlined in 4.6.

## 5.6 Pre-project and/or preparatory activities

Due the timing constraints of the project that is the subject of these terms of reference and especially those related to the successful implementation of the APPA Registration Certificate Review Project (see 4.4), the department will hold a workshop with prioritised industrial sectors during the bidding process for this project. Although this workshop will focus specifically on the APPA Registration Certificate Review it will also encourage the prioritised sectors to make submissions in respect of activity definitions and related minimum emission standards.

## 6 OVERALL PROJECT OBJECTIVE

Given the above, the overall objective of the project is framed as:

*Section 21 of the AQA is implemented efficiently and effectively.*

## 7 IMMEDIATE PROJECT OBJECTIVES

In order to contribute to this overall objective, the following immediate objectives of the project are framed as:

### 7.1 Immediate Objective A – The participation objective

The identification of an initial list of activities and their related minimum emission standards are developed in accordance with the spirit and letter of the cooperative and participatory governance requirements and principles contained in Chapter 3 of the Constitution, the National Environmental Management Act (Act No. 107 of 1989), the Integrated Pollution and Waste Management Policy (2000) and the AQA.

### 7.2 Immediate Objective B – The review objective

Current national and international work related to the identification of activities and their related minimum emission standards is reviewed with a view to informing and fast-tracking the work directed or implied in order to implement S.21 of the AQA efficiently and effectively.

### 7.3 Immediate Objective C – The S.21 implementation objective

All work directed or implied in order to implement S.21 of the AQA efficiently and effectively is carried out to a standard such that the Minister is able to publish the required notice in the *Gazette*.

### 7.4 Immediate Objective D – The capacity development objective

The Sub-directorate: Atmospheric Policy, Norms and Standards is provided with initial assistance in the development of the structures, systems, skills, strategies and interrelationships necessary to ensure the continued rollout of the standard-setting process and the increased sophistication of this process over time.

## 8 PROJECT OUTPUTS

In order to meet the project objectives, the contracted consultants must generate, but are not limited to the generation of, the following outputs:

### 8.1 Outputs in respect of Immediate Objective A – The participation objective

Working in close cooperation with the National Air Quality Officer and the department's Directorate: Atmospheric Policy, Regulation and Planning, the contracted consultants must generate, but are not limited to the generation of, the following outputs that will ensure that the identification of an initial list of activities and their related minimum emission standards are developed in accordance with the spirit and letter of the cooperative and participatory governance requirements and principles contained in Chapter 3 of the Constitution, the National Environmental Management Act (Act No. 107 of 1989), the Integrated Pollution and Waste Management Policy (2000) and the AQA.

#### 8.1.1 Output A.1: *Efficient and effective intergovernmental coordination and cooperation*

The National – Provincial Air Quality Officer's Forum (see 3.5.1) will effectively be the steering committee for the project described in these terms of reference. The contracted consultants will provide any necessary secretariat and logistical

support to this Forum throughout the duration of the project. This will include, but is not limited to: compilation and circulation of project-related agenda items; minute-taking; and compilation and circulation of project-related meeting documentation.

To this end, bidders should provide for 20 senior consultant hours and 100 junior consultant hours within the bid as the required resource allocation for this output (see 14.2).

**Table 6: Output A.1: Efficient and effective intergovernmental coordination and cooperation: Success Indicators**

Description	Verifiable Indicator	Means of verification
Output A.1: Efficient and effective intergovernmental coordination and cooperation	Efficient and effective intergovernmental coordination and cooperation.	Meeting minutes.

*8.1.2 Output A.2: Efficient and effective public participation*

The contracted consultants will provide the necessary secretariat and logistical support to The National Air Quality Management Stakeholder Reference Group (see 3.6.1) and The Affected Industry Reference Group (see 3.6.2) throughout the duration of the project. This will include, but is not limited to: organisation of meeting venues and refreshments, compilation and circulation of meeting agendas; minute-taking; meeting announcements; compilation and circulation of meeting and other documentation; provision of audio-visual equipment for meetings; the maintenance of a membership database; and the maintenance of a stake-holder feedback database.

To this end, bidders should provide for 80 senior consultant hours and 320 junior consultant hours within the bid as the required resource allocation for this output (see 14.2).

**Table 7: Output A.2: Efficient and effective public participation: Success Indicators**

Description	Verifiable Indicator	Means of verification
Output A.2: Efficient and effective public participation	Efficient and effective public participation.	Meeting minutes and stakeholder feedback.

*8.1.3 Output A.3: Project website*

Working with the department's Chief Directorate: Communications, the contracted consultants will carry out all the required work to ensure that interested and affected parties are kept abreast of project developments through the use of the internet. This will include, but is not limited to: the design of a project webpage; the publication of the project webpage on the departmental website; the publication of progress reports and other project related documents approved for general publication; and the continuous update and maintenance of the project webpage.

**Table 8: Output A.3: Project website: Success Indicators**

Description	Verifiable Indicator	Means of verification
Output A.3: Project website	A project webpage containing current and relevant information relating to the project is available through the department's website.	Stakeholder feedback and webpage hits.

*8.1.4 Output A.4: Public outreach events and workshops*

The contracted consultants will provide the necessary secretariat and logistical support to 1 public outreach event (around 200 people) and 1 public workshop (around 50 people) to be hosted at appropriate project milestones. This will include, but is not limited to: organisation of meeting venues and refreshments, compilation and circulation of meeting agendas; minute-taking; meeting announcements; compilation and circulation of meeting and other documentation; provision of audio-visual equipment for meetings; the compilation and maintenance of an interested and affected party database; and the maintenance of a stake-holder feedback database.

**Table 9: Output A.4: Public outreach events and workshops Success Indicators**

Description	Verifiable Indicator	Means of verification
Output A.4: Public outreach events and workshops	Well organised and productive public outreach events and workshops.	Stakeholder feedback.

## 8.2 Outputs in respect of Immediate Objective B – The review objective

Working in close cooperation with the National Air Quality Officer and the department's Directorate: Atmospheric Policy, Regulation and Planning, the contracted consultants must generate, but are not limited to the generation of, the following outputs that will ensure that current national and international work related to the identification of activities and their related minimum emission standards is reviewed with a view to informing and fast-tracking the work directed or implied in order to implement S.21 of the AQA efficiently and effectively.

### 8.2.1 Output B.1: International review

The contracted consultants will carry out a desk-top review of all relevant international information relating to the identification of activities and their related minimum emission standards and compile the "International Review" section of a review report that makes specific recommendations on how this work may be adopted and/or adapted with a view to informing and fast-tracking the work directed or implied in order to implement S.21 of the AQA efficiently and effectively.

**Table 10: Output B.1: International review Success Indicators**

Description	Verifiable Indicator	Means of verification
Output B.1: International review	An "International Review" section of a review report that makes clear and unambiguous recommendations on how international activity definitions and related minimum emission standards may be adopted and/or adapted with a view to informing and fast-tracking the work directed or implied in order to implement S.21 of the AQA efficiently and effectively.	The international review informs and fast-tracks the work directed or implied in order to implement S.21 of the AQA efficiently and effectively.

### 8.2.2 Output B.2: Transition Project output review

Using the information gathered in 8.2.1, the contracted consultants will carry out a desk-top review of the products of the National Air Quality Management Programme, Phase II, Transition Project (specifically the products in respect of Output B.4. - Schedule of Listed Activities) (see 3.2) and compile the "Transition Project listed activity" section of a review report that makes specific recommendations on how this work may be adopted and/or adapted with a view to informing and fast-tracking the work directed or implied in order to implement S.21 of the AQA efficiently and effectively.

**Table 11: Output B.2: Transition Project output review Success Indicators**

Description	Verifiable Indicator	Means of verification
Output B.2: Transition Project output review	A "Transition Project listed activity" section of a review report that makes clear and unambiguous recommendations on how the products of the National Air Quality Management Programme, Phase II, Transition Project may be adopted and/or adapted with a view to informing and fast-tracking the work directed or implied in order to implement S.21 of the AQA efficiently and effectively.	The Transition Project output review informs and fast-tracks the work directed or implied in order to implement S.21 of the AQA efficiently and effectively.

### 8.2.3 Output B.3: Priority industrial sector input review

Using the information gathered in 8.2.1 and 8.2.2, the contracted consultants will carry out a desk-top review of the various inputs received from prioritised industrial sectors (see 5.6) and compile the "Priority industry input review" section of a review report that makes specific recommendations on how these inputs may be adopted and/or adapted with a view to informing and fast-tracking the work directed or implied in order to implement S.21 of the AQA efficiently and effectively.

**Table 12: Output B.3: Priority industrial sector input review Success Indicators**

Description	Verifiable Indicator	Means of verification
Output B.3: Priority industrial sector input review	A "Priority industry input review" section of a review report that makes clear and unambiguous recommendations on how the inputs received from prioritised industrial sectors may be adopted and/or adapted with a view to informing and fast-tracking the work directed or implied in order to implement S.21 of the AQA efficiently and effectively.	The priority industrial sector input review informs and fast-tracks the work directed or implied in order to implement S.21 of the AQA efficiently and effectively.

#### 8.2.4 Output B.4: Review Report

Using the information gathered in 8.2.1, 8.2.2 and 8.2.3, the contracted consultants will carry out all interviews, meetings, literature reviews, web searches, etc. required to compile a Review Report that makes specific recommendations on how current national and international work related to the identification of activities and their related minimum emission standards may be adopted and/or adapted with a view to informing and fast-tracking the work directed or implied in order to implement S.21 of the AQA efficiently and effectively. The Review Report should contain, but is not limited to, the following sections: (i) Executive summary of key recommendations; (ii) Background and context; (iii) International Review; (iv) Transition Project listed activity review; (v) Priority industry input review; and (vi) Conclusions.

Once the draft Review Report has been approved by the department for broader circulation, the document will be work-shopped with key stakeholders (1 public workshop (around 50 people) – see 8.1.4) and finalised based on the proceedings of this workshop. The approved final Review Report should be published on the project web site (see 8.1.3).

**Table 13: Output B.3: Priority industrial sector input review Success Indicators**

Description	Verifiable Indicator	Means of verification
Output B.3: Priority industrial sector input review	Approved Review Report published on the project web site.	The Review report informs and fast-tracks the work directed or implied in order to implement S.21 of the AQA efficiently and effectively.

### 8.3 Outputs in respect of Immediate Objective C – The S.21 implementation objective

Working in close cooperation with the National Air Quality Officer, the department's Directorate: Atmospheric Policy, Regulation and Planning, and with input from The National – Provincial Air Quality Officer's Forum (see 3.5.1), The National Air Quality Management Stakeholder Reference Group (see 3.6.1) and The Affected Industry Reference Group (see 3.6.2) (hereinafter "the key stakeholders"), the contracted consultants must generate, but are not limited to the generation of, the following outputs that will result in a draft notice in terms of S.21 of the AQA of a standard such that the Minister is able to publish the required notice in the *Gazette*.

#### 8.3.1 Output C.1: Implementation Plan

Using the Review Report and the proceedings of Review Report workshop (see 8.2.4), the contracted consultants will compile an implementation plan that clearly describes how they intent to carry out the work directed or implied in order to implement S.21 of the AQA efficiently and effectively to a standard such that the Minister is able to publish the required notice in the *Gazette*. This plan must clearly describe key milestones and events, intergovernmental coordination and stakeholder engagement and timeframes for the delivery of project outputs other than those already completed.

Once the draft implementation plan has been approved by the department for broader circulation, the document will be circulated to key stakeholders for comment and finalised based on the comment received. The approved Implementation Plan should be published on the project web site (see 8.1.3).

**Table 14: Output C.1: Implementation Plan Success Indicators**

Description	Verifiable Indicator	Means of verification
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Output C.1: Implementation Plan	The approved Implementation Plan published on the project web site.	The approved Implementation Plan provides adequate direction for carrying out and monitoring the work directed or implied in order to implement S.21 of the AQA efficiently and effectively to a standard such that the Minister is able to publish the required notice in the <i>Gazette</i> .
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### 8.3.2 Output C.2: Draft S.21 Notice

The contracted consultants will carry out the work detailed in the approved Implementation Plan (see 8.3.1) and compile a draft Notice for publication in the *Gazette* in terms of S. 57(1)(a) of the AQA. The consultants must also summarise this draft Notice into a practical advert for publication in terms of S.57(1)(b).

Once the draft Notice and advert have been approved by the department for broader circulation, the documents will be circulated to key stakeholders for comment and finalised based on the comment received. The department will then submit the documents to the Minister with a request for approval to publish the Notice and advert in terms of S.57 of the AQA.

The consultants will also draft the letters from the Minister to other affected Ministers and MECs as implied by S.56(2) of the AQA.

The Gazetted Notice should also be published on the project web site (see 8.1.3).

**Table 15: Output C.2: Draft S.21 Notice Success Indicators**

Description	Verifiable Indicator	Means of verification
Output C.2: Draft S.21 Notice	Draft S.21 Notice published in the <i>Gazette</i> and project web site and summarised in an advert in one national newspaper for public comment.	<i>Gazette</i> , project web site and newspaper.

### 8.3.3 Output C.3: Draft S.21 Final Notice

Immediately following the publication of the draft Notice in the *Gazette* for public comment (see 8.3.2) the contracted consultants will organise a public workshop (1 public workshop (around 200 people) – see 8.1.4) or appropriate outreach events in which the draft Notice and the process that informed the notice may be presented for verbal comment and discussion.

During the comment period, the consultants will also compile a database of all comments received during the comment period. This database should, as a minimum, contain the following fields: (i) Details of source of comment including names, organisational details, contact details etc.; (ii) Comment, suggestion or recommendations; (iii) cross-reference to the specific section of the draft Notice; and (iv) proposals/recommendations on how the specific comment should/could be addressed.

At the end of the prescribed comment period, the database (excluding field iv) should be published on the project web site (see 8.1.3).

At the end of the prescribed comment period the contracted consultants will submit their proposals/recommendations on how the specific comment should/could be addressed to the department providing detailed motivation for each specific proposal or recommendation.

Based on the directions received from the department, the contracted consultants will then amend the draft Notice and submit this draft Final Notice for Ministerial approval or otherwise.

**Table 16: Output C.3: Draft S.21 Final Notice Success Indicators**

Description	Verifiable Indicator	Means of verification
Output C.3: Draft S.21 Final Notice	Draft Final Notice submitted for Ministerial approval or otherwise.	Draft Final Notice and comments database.

#### 8.3.4 Output C.4: National Framework input

Working closely with the project team for the AQA Implementation: National Air Quality Management Framework Development Project, the consultants will compile inputs for the National Framework (see 3.4) based on the lessons learned from the implementation of the project that is the subject of these terms of reference. These inputs will include, but are not limited to, national norms and standards for the control of emissions from point and non-point sources and the reduction of discharges likely to impair air quality, including the reduction of air pollution at source.

**Table 17: Output C.4: National Framework input Success Indicators**

Description	Verifiable Indicator	Means of verification
Output C.4: National Framework input	Written input to the National Framework	The National Framework reflects the lessons learned from the AQA Implementation: Listed Activities and Minimum Emission Standards Project.

#### 8.4 Outputs in respect of Immediate Objective D – The capacity development objective

Working in close cooperation with the Directorate: Atmospheric Policy, Regulation and Planning and specifically its Sub-directorate: Atmospheric Policy, Norms and Standards, the contracted consultants must generate, but are not limited to the generation of, the following outputs that will result in the Sub-directorate: Atmospheric Policy, Norms and Standards being provided with initial assistance in the development of the structures, systems, skills, strategies and interrelationships necessary to ensure the continued rollout of the standard-setting process and the increased sophistication of this process over time.

##### 8.4.1 Output D.1: Implementation Manual

Based on the lessons learned from the implementation of the activities in respect of Immediate Objective C – The S.21 implementation objective (see 7.3), the contracted consultants will compile a user-friendly implementation manual for department staff that clearly outlines the all the steps required to, among others: (i) identify activities to be listed in terms of S.21 of the AQA; (ii) add activities; (iii) remove; (iv) making other changes to particulars on the list; (v) establish minimum emission standards in respect of a substance or mixture of substances resulting from a listed activity, including - the permissible amount, volume, emission rate or concentration of that substance or mixture of substances that may be emitted and the manner in which measurements of such emissions must be carried out; (vi) the establishment of transitional and other special arrangements in respect of activities which are carried out at the time of their listing; and (vii) determine the date on which a notice takes effect.

The manual should contain any necessary check-lists, flow charts, templates, standard formats, examples, etc. necessary to ensure that, in using the manual, S.21 of the AQA is efficiently and effectively implemented by departmental staff.

**Table 18: Output D.1: Implementation Manual Success Indicators**

Description	Verifiable Indicator	Means of verification
Output D.1: Implementation Manual	User friendly implementation manual.	Use of the manual ensures that S.21 of the AQA is efficiently and effectively implemented by departmental staff.

##### 8.4.2 Output D.2: Capacity development plan

The contracted consultants will carry out all the work required to successfully host an internal workshop that will be used to discuss and test the draft Implementation Manual (see 8.4.1) and workshop strategies to develop the required implementation capacity within the department. Based on the proceedings of the workshop, the contracted consultants will carry out all the activities required to develop a comprehensive capacity development plan for the department. It is envisaged that the plan will include, among others: (i) the development of written operating policy and a management system providing regular feedback on whether policy is being met; (ii) the development of defined procedures and mechanisms for achieving efficient and effective implementation of the manual; (iii) the identification of appropriate training courses for staff; and (iv) an intensive training course on the use and implementation of the manual, operating policy, procedures and mechanisms.

**Table 19: Output D.2: Capacity development plan Success Indicators**

Description	Verifiable Indicator	Means of verification
Output D.2: Capacity development plan	A capacity development plan that clearly identifies short-term capacity development initiatives to be undertaken by the project as well as medium- and long-term initiatives to be implemented following project conclusion.	The implementation of the plan ensures that the department is able to carry out its S.21 functions efficiently and effectively.

#### 8.4.3 Output D.3: Operating policy and management system

In line with the approved "capacity development plan" (see 8.4.2), the contracted consultants will carry out all the work required to compile a written operating policy for the sub-directorate relating to S.21 implementation and a management system that provides regular feedback on whether policy is being met. Once drafted, the contracted consultants will test the draft by way of an introductory training course with the affected staff. Based on the proceedings and feedback from the staff, the contracted consultants will finalise the required operating policy and management system and amend the Implementation Manual where required.

**Table 20: Output D.3: Operating policy and management system Success Indicators**

Description	Verifiable Indicator	Means of verification
Output D.3: Operating policy and management system	Written operating policy and management system.	The implementation of the operating policy and management system ensures the efficient and effective management of the department's S.21 functions.

#### 8.4.4 Output D.4: In service capacity support

The department will assign the staff of the sub-directorate to work on this project as follows: (i) 1 X Deputy Director – 8 hours per week; (ii) 1 X Assistant Director – 8 hours per week; and (iii) 1 X Assistant Director – 32 hours per week. The consultants are required to engage and involve these departmental personnel in all aspects of the project and provide hands-on training, mentorship and ensure effective skills-transfer. The consultants will, where possible and appropriate, also assist the sub-directorate in addressing those elements of organisational capacity highlighted in 4.6.

With regard to the latter point, the contracted consultants will set aside 200 senior consultant hours and 400 junior consultant hours with a view to providing the required assistance (see 14.2).

**Table 21: Output D.4: In service capacity support Success Indicators**

Description	Verifiable Indicator	Means of verification
Output D.4: In service capacity support	Active involvement of departmental staff in the implementation of the project.	Staff able to efficiently and effectively manage future S.21 responsibilities.

## 9 ACTIVITIES

Specific activities to be carried out by the contracted consultant in generating the above outputs must be detailed in the proposal contained in the bid (refer to section 14, page 3).

## 10 INPUTS AND BUDGET

In order to generate the above outputs, the department will cover the expenses relating to the work of the contracted consultant to a value not exceeding that agreed in the contracted consultants' contract.

## 11 PROJECT MANAGEMENT

### 11.1 Project Director

The Director: Atmospheric Policy, Regulation and Planning will be the Project Director. As such, the contracted consultants will be directed by, and report to, the Director.

## 11.2 The Project Management Team

A Project Management Team made up of the following team members will make the day-to-day decisions on project implementation:

- The Director: Atmospheric Policy, Regulation and Planning;
- Deputy-Director: Atmospheric Policy, Norms and Standards;
- Assistant-Directors: Standards; and
- The leader of the contracted consultants, hereinafter referred to as the Project Manager (see 11.3).

## 11.3 The Project Manager

The bid in respect of these terms of reference (refer to section 14, page 3) will nominate a senior member as the leader of the team of consultants that will be contracted by the department to carry out the work described by these terms of reference. This person, the Project Manager, will be responsible for managing the generation of all the outputs described in this document and the accepted proposal contained in the bid, and for the delivery of the required outputs of an acceptable quality within the required timeframes. The Project Manager will be the contact person for all departmental-consultant interactions and will report, through the Project Management Team, to the Project Director.

## 12 PROJECT INFORMATION MANAGEMENT

### 12.1 Internal Project Communication

All decisions, suggestions, recommendations, reports, etc. concerning the project must be submitted in writing. In the case of emergencies, verbal decisions, suggestions, recommendations, reports, etc. must be confirmed in writing by the contracted consultant within 48 hours of the verbal communication.

All documents shall be prepared in MS Word and bar charts and spreadsheets in either MS Project or in Microsoft Excel. All required reports will be submitted to the project director in 5 hard copies as well as on an appropriate electronic storage medium (disk or CD).

### 12.2 External Project Communication

All communication external to the project (e.g. response to complaints, press/media queries, etc.) will be carried out by the either the Project Director or the department's communication section. As such, all complaints, press/media queries, etc. must be referred to the Project Director together with a written briefing on a possible response.

The department may create a project web page as part of the department's web site. Once approved, various project reports, outputs, etc. may be made available through this web page.

## 13 TIMING AND IMPLEMENTATION

The project will commence following the signing of a contract between the department and the selected consultancy.

The project is expected to have a duration of no longer than 18 months and the following table provides some guidance/expectations in this regard.

**Table 22: Expected delivery dates for project outputs**

Ref.	Output	Expected Delivery Date
8.1.1	Output A.1: Efficient and effective intergovernmental coordination and cooperation	Ongoing from project inception
8.1.2	Output A.2: Efficient and effective public participation	Ongoing from project inception
8.1.3	Output A.3: Project website	Within 1 month of project inception
8.1.4	Output A.4: Public outreach events and workshops	As and when required
8.2.1	Output B.1: International review	Within 2 months of project inception
8.2.2	Output B.2: Transition Project output review	Within 2 months of project inception
8.2.3	Output B.3: Priority industrial sector input review	Within 2 months of project inception

Ref.	Output	Expected Delivery Date
8.2.4	Output B.4: Review Report	Within 3 months of project inception
8.3.1	Output C.1: Implementation Plan	Within 4 months of project inception
8.3.2	Output C.2: Draft S.21 Notice	Within 10 months of project inception
8.3.3	Output C.3: Draft S.21 Final Notice	Within 12 months of project inception
8.3.4	Output C.4: National Framework input	Within 10 months of project inception
8.4.1	Output D.1: Implementation Manual	Within 13 months of project inception
8.4.2	Output D.2: Capacity development plan	Within 14 months of project inception
8.4.3	Output D.3: Operating policy and management system	Within 15 months of project inception
8.4.4	Output D.4: In service capacity support	Ongoing from project inception

## 14 THE BID

All bidders are required to submit a detailed implementation proposal as part of their bid. This proposal must clearly outline how the bidder proposes to carry out the work as described in these terms of reference. Although the bidder may provide the department with any information the bidder considers relevant to the proposal, the proposal should, as a minimum, provide detail on the following:

- **Understanding Of The Brief** – A brief (max 4, A4 page) summary of the bidder's interpretation of the work implied by these terms of reference;
- **Schedule of Activities** – Proposed activities required to generate the required outputs must be scheduled in a form that will allow the department to clearly understand the bidder's logic and the coherence of the proposal;
- **Project Implementation Plan, including output schedule** – The project implementation plan should describe the timing of, and interrelationships between, the proposed activities and clearly provide delivery dates for the project outputs. A Gantt bar chart that graphically illustrates the project implementation plan and critical path should be attached as an annex to the proposal;
- **Consultancy Team** – A detailed description of all members of the proposed consultancy team should be provided. Reference must be made to: (i) the relevant qualifications, knowledge, skills, expertise and experience of the member; (ii) the activities each member is to be involved in; and (iii) the estimated time the member will be involved in the relevant activities. Detailed CVs of all members must be attached as an annex to the proposal.
- **Method Of Work** – A detailed description of how the bidder proposes to manage the project resources (human, financial and technological) for the successful implementation of the project (e.g. use of home office, internal management structures, etc.);
- **Project Quotation** – Over and above the requirements contained in the standard departmental bid documentation, a detailed project budget must be provided in an annex as follows:
  - a. **Detailed Activity Costing** – Each proposed project activity should be analysed in terms of the required inputs and these inputs should be costed as illustrated in the example<sup>1</sup> below:

Activity	Quantity	Unit	Unit Cost	Value
<b>A.2.2. Organise workshop</b>				?
Project Manager	1	hours	?	?
Junior consultant	10	Hours	?	?
Telecommunications and consumables	1	lump sum	?	?

<sup>1</sup> **Important Note:** All examples provided in this document must be regarded as examples only and are only given to provide guidance in the compilation of the bid. As such, these examples should not be used to influence the content of any proposal or prejudice the bidder's considerations in this regard

- b. *Summary Resource Costing* – The activity costing should be summarised into an annexed resource schedules as illustrated in the example below

Description	Quantity	Unit	Unit Cost	Value
<b>Consultancy Team</b>				?
Project Manager	3	months	?	?
Senior consultant	6	months	?	?
Junior consultant	27	Hours	?	?
Secretary	3	months	?	?

In preparing the bid, the bidders must pay special attention to section 14 of the Bid Specification and ensure that their bid clearly provides the information required for bid evaluation purposes.

#### 14.1 Alternative Proposals

Should a bidder believe that the overall objective of this project could be achieved more efficiently and effectively through the implementation of strategies other than those detailed in these terms of reference, the bidder may submit an alternative proposal as an annexure to the conforming bid.

It must be noted that alternative proposals will not be considered unless a proposal conforming to these terms of reference (a conforming bid) is submitted, i.e. a conforming bid must be submitted in order for the department to consider an alternative proposal.

#### 14.2 Prime Cost Items

Prime cost items refer to elements of the project that may not be easily quantified by prospective bidders. As such, these elements are specifically quantified to ensure fair competition in the bidding process. The items identified in the following table are the prime cost items for this project and bidders must ensure that their bids, particular the project quotation, must reflect these items and must include the value of these items in the total bid value.

Prime Cost Item	X-ref.	Quantity	Unit	Comment
Provision for any necessary secretariat and logistical support to the National – Provincial Air Quality Officers Forum throughout the duration of the project, including, but not limited to: compilation and circulation of project-related agenda items; minute-taking; and compilation and circulation of project-related meeting documentation.	8.1.1	20	Senior consultant hours	The value of 20 senior consultant hours must, among others, be reflected in the project quotation in respect of Output A.1: Efficient and effective intergovernmental coordination and cooperation.
		100	Junior consultant hours	The value of 100 junior consultant hours must, among others, be reflected in the project quotation in respect of Output A.1: Efficient and effective intergovernmental coordination and cooperation.
Provision for the necessary secretariat and logistical support to The National Air Quality Management Stakeholder Reference Group (see 3.6.1) and The Affected Industry Reference Group (see 3.6.2) throughout the duration of the project. This will	8.1.2	80	Senior consultant hours	The value of 80 senior consultant hours must, among others, be reflected in the project quotation in respect of Output A.2: Efficient and effective public participation.

Prime Cost Item	X-ref.	Quantity	Unit	Comment
include, but is not limited to: organisation of meeting venues and refreshments, compilation and circulation of meeting agendas; minute-taking; meeting announcements; compilation and circulation of meeting and other documentation; provision of audio-visual equipment for meetings; the maintenance of a membership database; and the maintenance of a stake-holder feedback database.		320	Junior consultant hours	The value of 320 junior consultant hours must, among others, be reflected in the project quotation in respect of Output A.2: Efficient and effective public participation.
Provision for assistance to the sub-directorate in addressing those elements of organisational capacity highlighted in 4.6.	8.4.4	200	Senior consultant hours	The value of 200 senior consultant hours must, among others, be reflected in the project quotation in respect of Output D.4: In service capacity support.
		400	Junior consultant hours	The value of 400 junior consultant hours must, among others, be reflected in the project quotation in respect of Output D.4: In service capacity support.

## 15 REPORTING

The contracted consultant will submit quarterly progress reports in an agreed format to the Project Director within two weeks of the completion of each 3 month period under review.

## 16 CONTACT PERSON

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