



environment & tourism

Department:
Environmental Affairs and Tourism
REPUBLIC OF SOUTH AFRICA

TERMS OF REFERENCE

**FOR A SHORT-TERM CONSULTANT DEPLOYED UNDER THE
DANISH-SOUTH AFRICAN URBAN ENVIRONMENT PROGRAMME
WITHIN THE**

**CHIEF DIRECTORATE: AIR QUALITY MANAGEMENT AND
CLIMATE CHANGE**

**TECHNICAL ADVISOR: INDUSTRIAL
PROCESS ENGINEERING**

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CONSULTANCY INFORMATION SUMMARY

PROJECT / JOB TITLE:	Technical Advisor: Industrial Process Engineering
KEY QUALIFICATION:	Industrial Process Engineer
KEY EXPERIENCE:	The promotion of cleaner production in industries having significant impacts on ambient air quality
DESIRED START DATE:	Immediate
LOCATION:	Department of Environmental Affairs and Tourism, Pretoria
COMPONENT:	Directorate: Atmospheric Policy, Regulation and Planning
REPORTING TO:	Director: Atmospheric Policy, Regulation and Planning
PERIOD IN HOME OFFICE:	10 work days over a period of 6 months
PERIOD IN COMPONENT:	3 visits over a period of 6 months – 1 st visit 4 work days; 2 nd visit 3 work days; 3 rd visit 19 work days.

2 PURPOSE

This document provides the terms of reference for the specialist consultant to be appointed under the Danish – South African Urban Environment Programme who will assist the department by providing technical advice in respect of the departments efforts to improve ambient air quality through, among others, the promotion of cleaner production in industries having significant impacts on ambient air quality.

3 INTRODUCTION AND BACKGROUND

In December 2005 following the entry into effect of the National Environmental Management: Air Quality Act (Act No. 39 of 2004) (hereinafter “the AQA”), 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 consultancy 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 consultancy:

- *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 1: Sub-directorate: Policy, Norms and Standards organogram

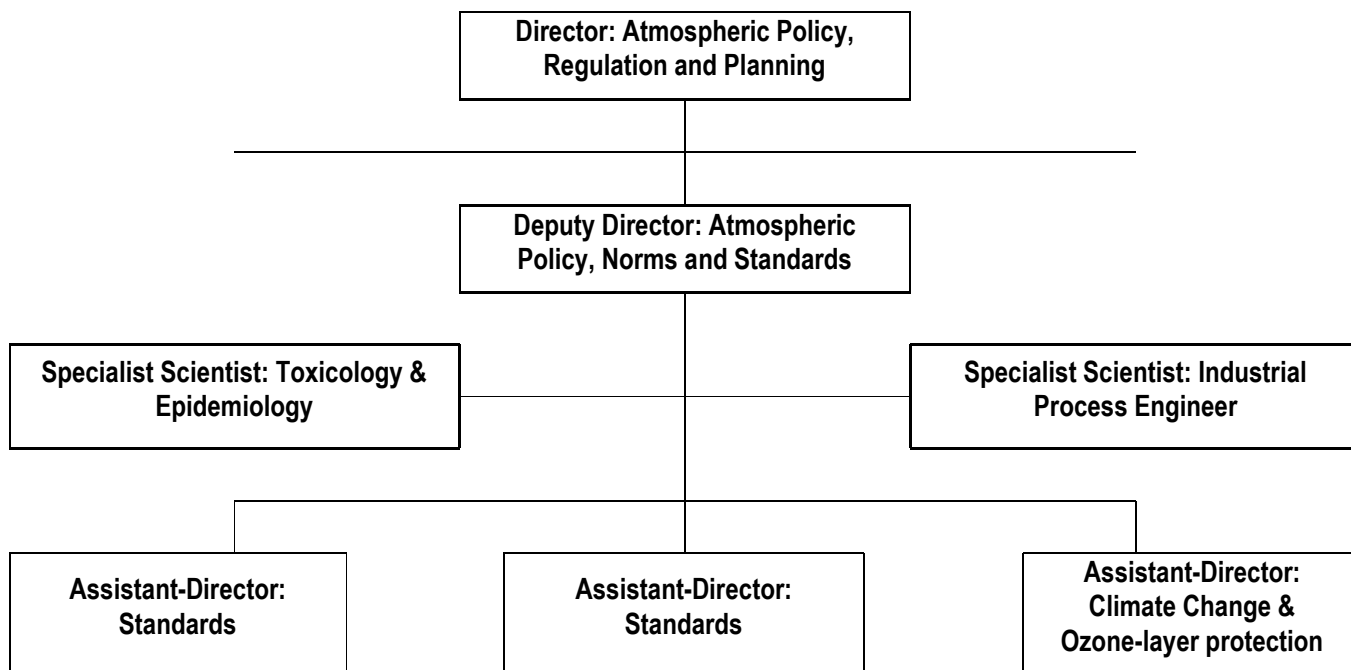


Table 2: Sub-directorate: Policy, Norms and Standards staffing

	Post	Purpose
1.	Deputy-Director: Atmospheric Policy, Norms and Standards	Ensure that the department's atmospheric policy, norms and standards functions are carried out efficiently and effectively.
2.	Specialist Scientist: Industrial Process Engineer	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.	Specialist Scientist: Toxicology & Epidemiology	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.	Assistant-Director: Standards (X 2)	Develop, 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.	Assistant-Director: Climate Change & Ozone-layer protection	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

1 The Specialist Scientist Post

As described in the above, the new establishment for the Sub-directorate: Atmospheric Policy, Norms and Standards includes two new posts that are new to normal government structures, namely, the Specialist Scientist posts. These posts came about after a discussion document entitled "The Development and Retention of Specialist Expertise within the Branch: Environmental Quality and Protection" (16/02/2004) received favourable consideration (the discussion document is attached for reference).

However, despite these specialist scientist posts being approved, the specific nature of these posts and the profile of ideal incumbents have yet to be described. In a classic "Catch 22" situation, there is little "specialist" knowledge within the department to adequately describe the specific nature of these posts and the profile of ideal incumbents. In this regard, the required definitions would include, but are not limited to:

- Detailed job description, job evaluation and work plans;
- Reporting structure and method of work, e.g. the efficient and effective implementation of matrix management;
- Salary scales;
- Incentives;
- Infrastructure and equipment requirements;
- Written operating policy, and a management system providing regular feedback on whether policy is being met;
- Defined procedures and mechanisms;
- Data and information requirements;
- Skills, experience, expertise and knowledge profile;
- Required access through networks and committees to key people at various levels in other internal and external organisations; etc.

5 STRATEGY ANALYSIS

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

1 Learning from international experience

The consultancy that is the subject of these terms of reference is focussed on capacity building through the effective transfer of international skills, experience, knowledge and expertise.

2 Defining the post

The consultancy that is the subject of these terms of reference will use international skills, experience, knowledge and expertise to define the post of Specialist Scientist: Industrial Process Engineer with a view to its effective institutionalisation within the chief directorate structures.

3 Mentorship

The consultant will act as a mentor for the incumbent filling the post of Specialist Scientist: Industrial Process Engineer.

4 In-service training

The consultant will assist the incumbent filling the post of Specialist Scientist: Industrial Process Engineer in providing expert departmental input into the “AQA Implementation: Listed Activities and Minimum Emission Standards Project”.

6 OVERALL CONSULTANCY OBJECTIVE

The overall objective of the consultancy is framed as:

By April 2007, the post of Specialist Scientist: Industrial Process Engineer is fully institutionalised within the chief directorate and the incumbent is able to efficiently and effectively provide the chief directorate with expert advice in respect of the promotion of cleaner production in industries having significant impacts on ambient air quality.

7 IMMEDIATE CONSULTANCY OBJECTIVES

In order to contribute to the overall consultancy objective, the consultancy has the following immediate objectives -

1 Immediate Objective A – The definition and recruitment objective

The post of Specialist Scientist: Industrial Process Engineer is clearly defined and an ideal incumbent profile has been established and the recruitment process initiated.

2 Immediate Objective B – The capacity development objective

All necessary structures, skills, systems, strategies, incentives and interrelationships to ensure that the Specialist Scientist: Industrial Process Engineer delivers the required services to the required levels of quality are identified and developed.

3 Immediate Objective C – The expert input objective

The department provides expert input into the AQA Implementation: Listed Activities and Minimum Emission Standards Project.

8 PROJECT OUTPUTS

In order to meet the project objectives, the consultant must generate, but is not limited to the generation of, the following outputs:

1 Outputs in respect of Immediate Objective A – The definition and recruitment objective

Working in close cooperation with the Chief Director: Air Quality Management and Climate Change, the Director: Atmospheric Policy, Regulation and Planning and the Deputy-Director: Atmospheric Policy, Norms and Standards (hereinafter, together known as “the affected departmental staff”), the consultant must generate, but is not limited to the generation of, the following outputs that will ensure that the post of Specialist Scientist: Industrial Process Engineer is clearly defined and an ideal incumbent profile has been established and the recruitment process initiated.

1 Output A.1: Job description

The consultant will carry out all the required meetings, internal surveys, interviews and submissions required to compile a job description for the post of Specialist Scientist: Industrial Process Engineer in the standard departmental format. Once this job description has been approved by the affected departmental staff, the consultant will complete the required job evaluation questionnaire and submit this to the department’s job evaluation section for processing.

Table 3: Output A.1: Job description Success Indicators

Description	Verifiable Indicator	Means of verification
Output A.1: Job description	Approved job description.	Completed job evaluation.

2 *Output A.2: Recruitment process initiated*

The consultant will compile a draft recruitment advert for the post of Specialist Scientist: Industrial Process Engineer in the standard departmental format.

Once the applications in respect of the recruitment advert have been received, the consultant will assist in, among others: (i) the short-listing process; (ii) the compilation of appropriate interview questions and model answers; and (iii) the compilation of appropriate questions and model answers for a written examination.

The consultant will be a member of the departmental interview panel and will provide expert input in this regard.

The consultant will assist the department's human resources management section in compiling an appropriate employment contract for the Specialist Scientist: Industrial Process Engineer candidate.

Table 4: Output A.2: Recruitment process initiated Success Indicators

Description	Verifiable Indicator	Means of verification
Output A.2: Recruitment process initiated	Suitable Specialist Scientist: Industrial Process Engineer candidate identified.	Suitable Specialist Scientist: Industrial Process Engineer employed.

2 **Outputs in respect of Immediate Objective B – The capacity development objective**

Working in close cooperation with the affected departmental staff, the consultant must generate, but is not limited to the generation of, the following outputs that will ensure that all necessary structures, skills, systems, strategies, incentives and interrelationships to ensure that the Specialist Scientist: Industrial Process Engineer delivers the required services to the required levels of quality are identified and developed.

1 *Output B.1: Performance Contract*

Working with the appointed Specialist Scientist: Industrial Process Engineer, the consultant will assist in the compilation of an appropriate performance contract and associated work-plan. The performance contract and work plan must take into account: (i) the approved job description; (ii) the department's 5 year strategic plan; and (iii) the current business plan.

Table 5: Output B.1: Performance Contract Success Indicators

Description	Verifiable Indicator	Means of verification
Output B.1: Performance Contract	Approved performance contract.	Approved performance contract lodged with the human resources management section.

2 *Output B.2: Structure, Systems and Strategies*

Informed by the job description, the consultant will assist the appointed Specialist Scientist: Industrial Process Engineer in identifying capacity requirements for ensuring the optimum performance of the post related to, among others: (i) reporting structure and method of work, e.g. the efficient and effective implementation of matrix management; (ii) infrastructure and equipment requirements; (iii) written operating policy, and management systems that provide regular feedback on whether the policy is being met; (iv) procedures and mechanisms; and (v) data and information requirements.

Once identified, the consultant will assist the appointed Specialist Scientist: Industrial Process Engineer in compiling a capacity development plan aimed at the addressing the identified capacity requirements.

Once approved, the consultant will assist the appointed Specialist Scientist: Industrial Process Engineer in implementing the approved capacity development plan.

Table 6: Output B.2: Structure, Systems and Strategies Success Indicators

Description	Verifiable Indicator	Means of verification
Output B.2: Structure, Systems and Strategies	Approved capacity development plan under implementation.	The implementation of the approved capacity development plan ensures the optimum performance of the post.

3 Outputs in respect of Immediate Objective C – The expert input objective

Working as a team, the consultant and the appointed Specialist Scientist: Industrial Process Engineer must generate, but are not limited to the generation of, expert input into the AQA Implementation: Listed Activities and Minimum Emission Standards Project.

9 ACTIVITIES

Specific activities to be carried out by the consultant in generating the above outputs must be detailed in a proposed work-plan to be approved by the Consultancy Director during an inception meeting with the consultant at the start of the first visit (see 11.2).

10 INPUTS AND BUDGET

In order to generate the above outputs, the department will cover the expenses relating to the provision of office space for the consultant. Consultancy fees, travel and other reimbursable costs to a value not exceeding that agreed in the contracted consultant's contract will be covered by the Danish – South African Urban Environmental Management Programme.

11 METHOD OF WORK

36 work days have been provided for work, and this total can not be extended.

The consultant will carry out the required work at the consultant's home office and within the department as follows:

1 Home Office

5 work days over a period of 6 months have been provided for work at the consultant's home office. The work to be carried out at the home office should be limited to work that does not need continuous interaction with the affected departmental staff.

2 Department

The work days are expected to take place in 3 visits over a period of 6 months as follows:

- The 1st visit, entailing 5 work days will concentrate on the inception meeting (see 12.1) and work in respect of Output A.1: Job description (see 8.1.1) and Output A.2: Recruitment process initiated (see 8.1.2)
- The 2nd visit, entailing 5 work days will concentrate on Output A.2: Recruitment process initiated (see 8.1.2)
- The 3rd visit, entailing 15 work days will concentrate on the remaining outputs.
- For travel (3 times to SA and back) 6 work days.

12 CONSULTANCY MANAGEMENT

1 Consultancy Director

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

13 CONSULTANCY INFORMATION MANAGEMENT

1 Internal Consultancy Communication

All decisions, suggestions, recommendations, reports, etc. concerning the consultancy 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 consultancy director in 5 hard copies as well as on an appropriate electronic storage medium (disk or CD).

2 External Consultancy Communication

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

14 TIMING AND IMPLEMENTATION

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

The consultancy will have a duration of no longer than 36 working days over a period of 6 months.

15 INHERENT REQUIREMENTS OF THE JOB – COMPETENCY PROFILE

1. Knowledge	<p>In order to carry out the fill the post efficiently and effectively, the incumbent must have specialist knowledge of:</p> <ul style="list-style-type: none"> • Industrial processes, especially those relating to industries having significant impacts on ambient air quality • International best practice in industries having significant impacts on ambient air quality; and • The promotion of cleaner production in industries having significant impacts on ambient air quality. <p>In order to fill the post efficiently and effectively, the incumbent must have general knowledge of:</p> <ul style="list-style-type: none"> • Environmental issues, especially those relating to the air and the atmosphere. • Governmental environmental quality and protection related policies, priorities and strategies. • Governmental standard administrative procedures. • General management practise. 		
2. Skills	<p>leadership Innovative thinking</p>	<p>Analytical thinking (advanced) Communication (spoken & written)</p>	<p>Strategic thinking (advanced) Mentoring (advanced)</p>
3. Learning field	Engineering, especially industrial process engineering		
4. Learning indicator	Masters degree in industrial process engineering; and/or 10 or more years of experience in the area of cleaner production in industries having significant impacts on ambient air quality.		
5. Personal attributes	<p>Ability to work in a multi-skilled team Ability to gather and analyse information</p> <p>Ability to work under pressure Ability to take expert advice Self motivating Objective Integrity</p>	<p>Just Ability to develop and apply policies, standard procedures, etc. Ability to meet tight deadlines Ability to motivate staff Self starter (initiative) Service orientated Ethical</p>	

Terms of Reference		
Rev: 0.5 ble	TECHNICAL ADVISOR: INDUSTRIAL PROCESS ENGINEERING	Nov 2006
	Ability to translate complex technical information into a form that is accessible to various stakeholders	Balanced

16 REPORTING

The contracted consultant will compile and submit progress reports after each visit (see 11.2) in an agreed format to the Consultancy Director within two weeks of each visit as well as a final completion report within two weeks of the completion of the consultancy.

17 CONTACT PERSON

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