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Environmental Affairs
REPUBLIC OF SOUTH AFRICA

The South African Air Quality Information System Phase II

Update on the National Emissions Inventory Project Session 3.2

Air Quality Governance Lekgotla
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Orion Safari Lodge: Rustenburg

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Presentation Outline

- Background and Scope
- Project Objectives
- Immediate Objectives
- Overview System Design
- Roles and Responsibilities
- Way Forward



Background and Scope

- Recap on Lekgotla 2011
 - How the sytem should be developed and implemented
- Scope of this presentation
 - Present an overview on the system architecture and functionality description
 - Focusing on how listed activities will be reporting and who the emissions will be reported to



SAAQIS Overview

The SAAQIS provides all stakeholders with **easy access** to all **relevant** information about air quality in South Africa and further provides different stakeholders with different useful **on-line applications** to support **effective** and **efficient** management of the air quality

- SAAQIS Phase I – Ambient monitoring module
- **SAAQIS Phase II – Emissions Inventory module**



SAAQIS II Immediate Objectives

- **Immediate Objective A – The Information Management Objective**
- Immediate Objective B – The Information Monitoring and Reporting Objective - *regulatory support of system*
- Immediate Objective C – Capacity Development



Immediate Objective A – The Information Management Objective

By project completion, the SAAQIS, informed by local requirements and needs and international experience, contains a carefully designed, developed, tested and implemented **web-based atmospheric emissions monitoring and reporting system** that provides accurate, current and complete information on all significant sources of **identified atmospheric emissions, including greenhouse gas emissions.**



Immediate Objective A – Outputs

- Output A.1: International systems review
- Output A.2: Local systems review
- **Output A.3: System architecture and functionality description**
- Output A.4: System development and rollout plan
- Output A.5: Pilot project – system developed and tested with selected significant emitters
- Output A.7: Rollout of the National Emissions Inventory
- Output A.8: Reporting manuals, guidelines and user instructions
- Output A.9: System launch



Output A.3: System architecture and functionality description

- i. **Data sources** from listed activities and sectors including agriculture, waste, transport, energy, mining, biomass burning, natural sources and others
- ii. **What** data is to be collected
- iii. **When** data is to be collected
- iv. **Where** data is to be reported
- v. **How** data is to be reported
- vi. Data **QA** and **QC**



Output A.3: System architecture and functionality description

- vii. How data is **stored, sorted** and **archived**
- viii. How data is **reported**
- ix. Interactive Geographical Information System (**GIS**) interface
- x. How data may be used for informed air quality management decision making
- xi. Data **access** and **confidentiality**
- xii. **IT system specifications** and hardware requirements. The existing SAAQIS modules should be **integrated** into the emissions inventory systems architecture and functionality.



What informed the design, A3?

- Local best practice is built into the design of the National Atmospheric Emissions Inventory
 - National circumstances
- International best practice is built into the design of SAAQIS II
- The lessons learnt from implementing these systems have been investigated to ensure that the national inventory is implemented in the most **efficient and effective** manner



NAEI System Design – A3 Overview



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NAEI System Design

What is done and by who?

1. AQO reminds data providers to update inventory, as regulated.

2. Data provider updates inventory and performs **completeness test**

3. Data provider **confirms** and **submits** inventory into NAEI.

4. After deadline, system generates report of data provider submissions and non-compliance

How is it done in NAEI and why?

1. Email is sent to data provider and requires **confirmation** by data provider.

3. Email is sent to data provider, NAEI **confirming** reporting compliance during the cycle.

4. Reports are distributed to Compliance and Enforcement - DEA, local licensing offices and non-compliance notices to data providers

Reporting cycle is closed.



NAEI System Design

What is done, and by who?

5. NAEI **validates** data based on last reported information

6. For flagged facilities, licensing authority **interrogate** reports in consultation with data providers.

7. After **auditing**, licensing authority **confirms** reported inventory from their jurisdiction.

8. System generate draft inventory based on submissions.

How is it done and why?

5. NAEI **flags facilities** that need to be **audited** based on **set criteria**, e.g., increased production, new/remove stack.

9. Draft inventory is reviewed and reported.



Roles and responsibilities (SOP)

Authority

Responsibilities

National

Prepare, report, confirm, audit and review national emission inventory.

Provincial

Prepare, report, confirm, audit and review provincial emission inventory.
Manage facility reporting.

Municipality

Prepare, report, confirm, audit and review municipality emission inventory.
Manage facility reporting.

Facility/data
provider

Prepare, report and confirm emission inventory



Way forward – 1. System support

- Guidelines and SOPs will be developed to support
 - **Consistent** emission inventory compilation
 - **Effective** and **coordinated** national emission inventory programme even within the AQMP developments
 - Where there are gaps, e.g., in biomass burning, DEA together with provinces and municipalities should consider developing a national programme for EI **completeness**
 - System manuals and reporting guidelines to support all users



Way forward – 2. Stakeholder engagements

- DEA will initiate comprehensive engagements with licensing authorities and other stakeholders
 - System functionality and design
 - Roles and responsibilities
 - Reporting regulations
 - Capacity on system management (wrt licensing authorities) and reporting



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