

Norms and Standards for Emissions Monitoring

National Association for Clean Air (Western Cape Branch)
13 November 2015; Lord Charles Hotel, Somerset West



Climate Change and Air Quality



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Presentation Outline

- Objective
- Mandate for emission monitoring
- Current monitoring requirements
- Emission monitoring system (framework)
- Project status and planning
- Conclusion



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Objective

This presentation provides an overview of the current emission requirements as specified under minimum emission standards, and shares an envisaged framework for the norms and standards for emission compliance monitoring currently being developed.



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Mandate for Emission Monitoring

- Section 21 (3) requires that the emission standards published include:-
 - The permissible amount, volume, emission rate or concentration of the substances that may be emitted; and
 - The manner in which measurements of such emissions must be carried out.
- The Act requires that the National Framework establishes amongst others, the norms and standards for air quality monitoring [Section 7(1)(d)].



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Emission Requirements (S.21 Notice)

- Specifics on procedures for periodic emission testing and for continuous emission monitoring.
 - Number of samples (periodic testing)
 - Calibration/correlation tests (continuous monitoring)
 - Requirement to use SANAS accredited laboratories (laboratory include continuous emission monitoring system)
- Reporting requirements (frequency, formats)
- e-Reporting (envisaged)



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Norms and Standards

- The purpose of emission monitoring is the production of reliable and comparable emission data to be used primarily for demonstration of compliance with the regulatory requirements.
- Clear procedures and protocols for emission measurements are necessary to ensure consistent application of the measurement standards prescribed under emission standards notices.



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Project Objectives

- Development of emission monitoring norms and standards:-
 - Procedures for measurement planning to ensure representative sampling (siting).
 - Prescription of preferred methods (tested for fit-for-purpose) for regulatory compliance monitoring.
 - Guidance on the use of specific equipment for regulatory purposes (e.g. portable instruments).



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Project Objectives

- Development of emission monitoring norms and standards:-
 - Protocols for accreditation (field-specific supplementary requirements to ISO 17025) **and certification.**
 - The use of mass balances, engineering calculations, emission factors and surrogate measures as emission assessment tools).
 - Standardized emission reporting.
 - Guidance on compliance determination (Compliance Inspectors).



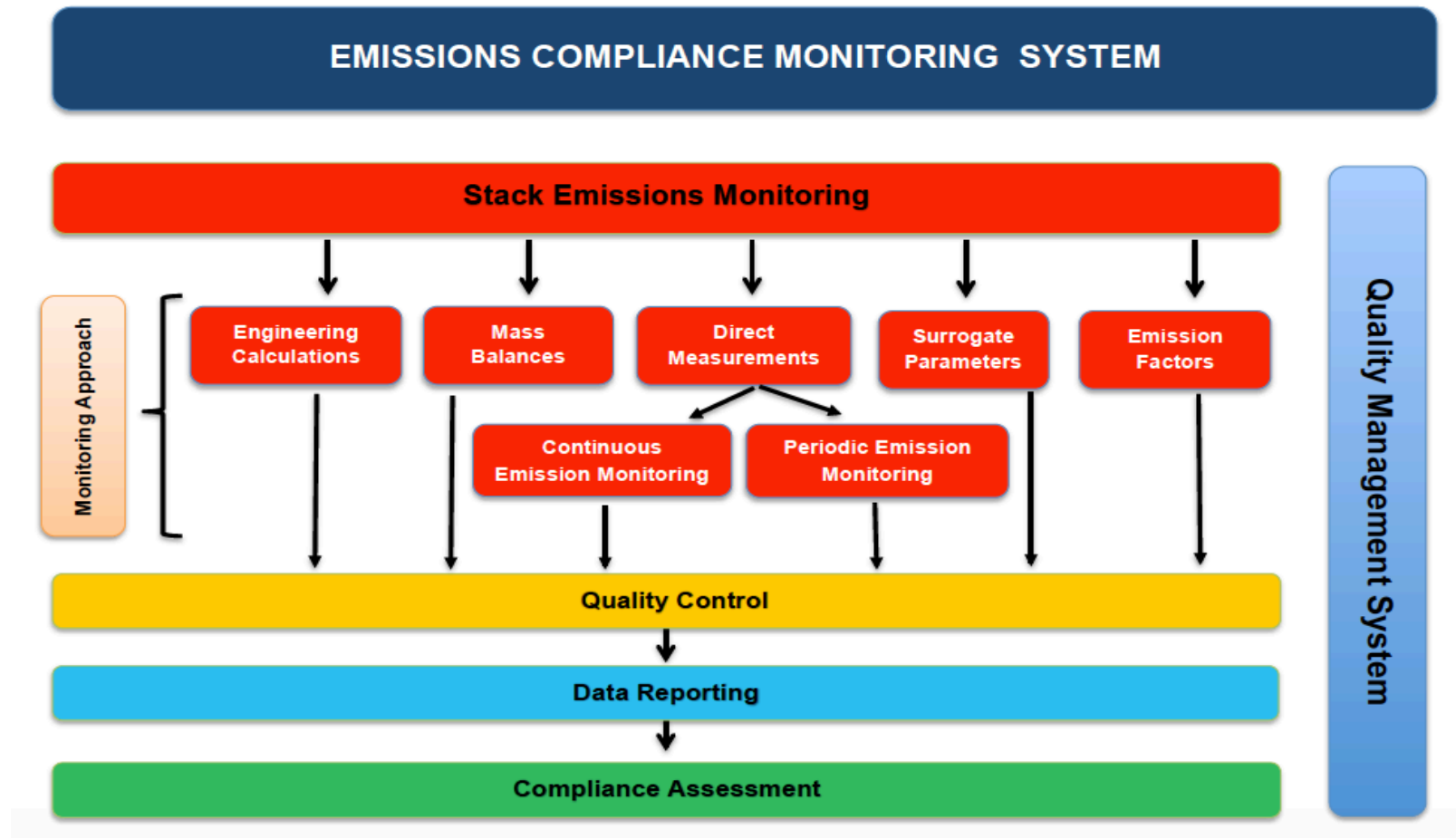
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Approach

- Regulatory requirements are depended on technical procedures **ALREADY** documented by various standardization bodies (ISO; ASTM; VDI; EN; SANS).
- This document should therefore translate these technical notes to regulatory requirements, largely by:
 - Clarifying which standards are adopted to support implementation of South African legislation (S.21; S.23;etc)
 - Providing guidance on how they should be implemented.
- Provide regulatory clarity to the national technical infrastructure.

Framework of emission monitoring standards

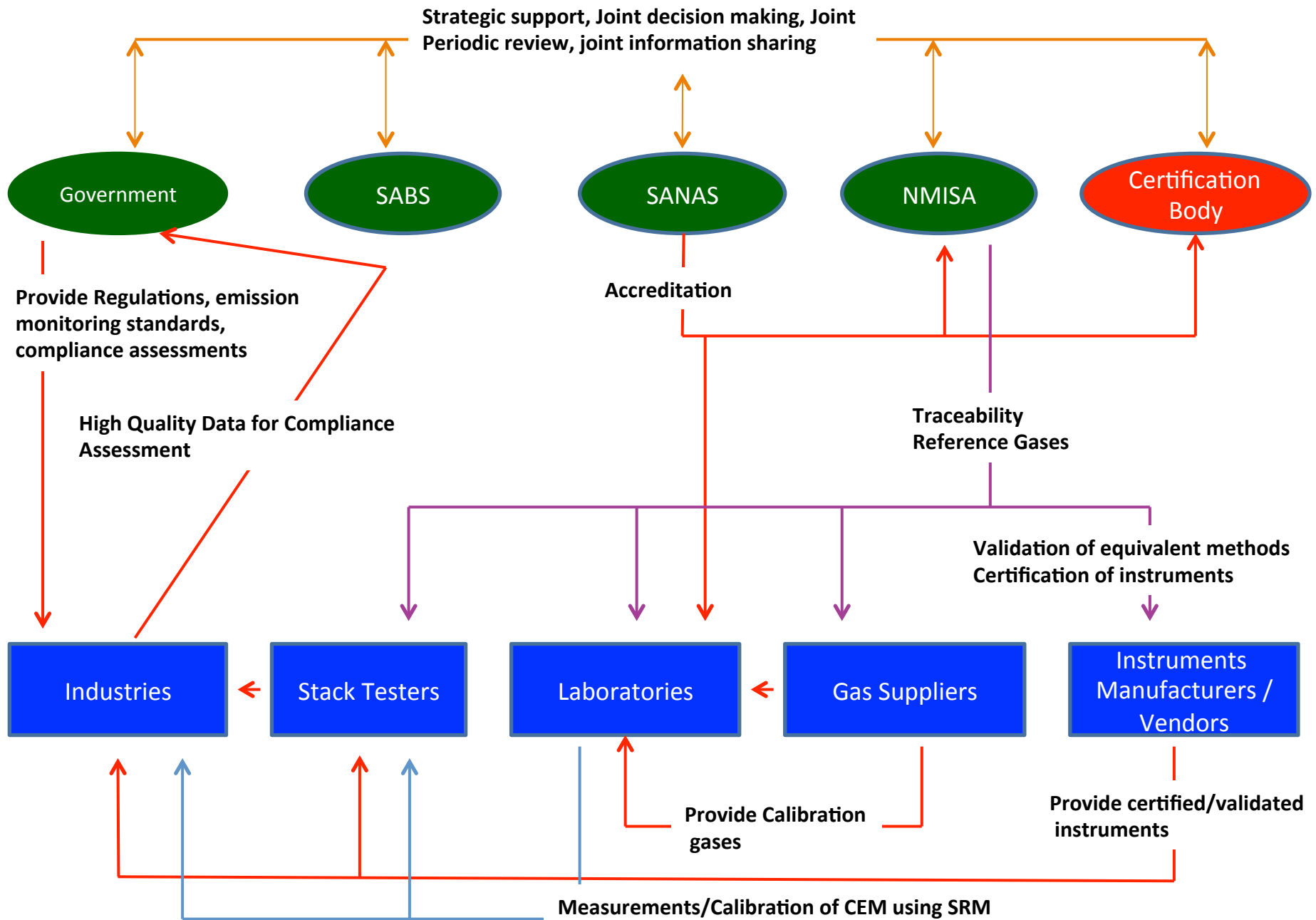


Framework of emission monitoring standards

- Chapter 1: Legislative requirements
- Chapter 2: Emission measurement planning
- Chapter 3: Emission measurement techniques and associated standard reference methods
- Chapter 4: Quality Assurance
- Chapter 5: Emission reporting
- Chapter 6: Compliance assessment procedures.

Framework of emission monitoring standards

CHAPTERS	FOCUS AREAS	REFERENCE TO STANDARDS
Emissions measurement Planning	<ul style="list-style-type: none"> • Measurement site selection • Measurement Objectives • Safety 	EN 15259
Monitoring Approaches	<ul style="list-style-type: none"> • Continuous Emissions Monitoring and Periodic Testing 	Legislation
Quality Control	<ul style="list-style-type: none"> • Use of validated methods (prioritization) • Alternative equivalent methods • QA of Continuous Emission Monitoring Systems • Performance standards for portable instruments 	prEN 14793 EN 14181/ EN 13284-2
Quality Assurance	<ul style="list-style-type: none"> • SANAS Accreditation • Certification of Personnel • Use of certified instruments 	ISO 17025; CEN/TS 15675; ISO 17024
Compliance Assessment Procedures	<ul style="list-style-type: none"> • Measurements interpretation • Data correction • Templates for reporting 	Legislation



Urgent things to consider

- Accreditation depended on clear technical and legal requirements.
- Recommendation to delay accreditation to allow for stack testers conformance, and to enable listed activities to submit the emission reports.
- Decision on quality requirements for stack testing activities not directly linked to SANAS accredited laboratories – Certification to be urgently explored.

Project Status

- Draft FRAMEWORK circulated to the stack testers to confirm the table of contents mainly, inputs on the content also welcome. Deadline November 30th.
- Final draft to be made available to all stakeholders in December, once the inputs from stack testers are incorporated.



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Project Planning

- May 2015 – Finalize the template for emission reporting
- August 2015 – Workshop the draft framework for the norms and standards document.
- August 2015 (Post Workshop) – Circulate the draft document for inputs.
- October 2015 – Revision of the draft document.
- December 2015 – Final round of commenting.



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Conclusion

- The department notes the urgency required to clarify emission monitoring and reporting requirements.
- Effective emission monitoring system is depended in multiple role-players, especially the national technical infrastructure, hence the cooperation amongst various statutory bodies should be enhanced and prioritized.
- Stack testers and industry experiences critical to make this document fit-for-purpose.



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