



Department of Environment and Conservation

Implementation Plan for the
Continuous Emission Monitoring System (CEMS) Code
for Stationary Source Air Emissions

DEPARTMENT OF ENVIRONMENT AND CONSERVATION
PERTH, WESTERN AUSTRALIA
OCTOBER 2006

Acknowledgments

For more information contact:

Kristin Priest
Environmental Management Division, Environmental Regulation Branch

Locked Bag 104
Bentley Delivery Centre WA 6983

Telephone (08) 6467 5383
Email kristin.priest@dec.wa.gov.au

Recommended reference

The recommended reference for this publication is: Department of Environment and Conservation, Department of Environment and Conservation Implementation Plan for the Continuous Emission Monitoring System (CEMS) Code for Stationary Source Air Emissions, October 2006.

We welcome your feedback

A publication feedback form can be found at the back of this publication.

ISBN 1 920947 94 9

Printed on recycled stock.

October, 2006

1 Implementation

1.1 General

The Department of Environment and Conservation (DEC) has developed the *Department of Environment and Conservation Continuous Emission Monitoring Systems (CEMS) Code for Stationary Source Air Emissions* (the “CEMS Code”), which provides technical requirements for the design, installation, performance and ongoing compliance of continuous emission monitoring systems (CEMS).

This document, the *Department of Environment and Conservation Implementation Plan for the Continuous Emission Monitoring Systems (CEMS) Code for Stationary Source Air Emissions* (the “CEMS Code Implementation Plan”), provides information and timelines for the implementation of the CEMS Code.

The obligation to comply with the specifications and requirements of the CEMS Code is specified and enforced through works approval and/or licence conditions.

The CEMS Code applies to all CEMS in general, but has specific requirements for systems that monitor sulphur dioxide, oxides of nitrogen, carbon monoxide, total reduced sulphur, hydrogen sulphide, carbon dioxide, oxygen, in-stack opacity, volumetric flow/velocity, and temperature.

This document should be read in association with the *Department of Environment and Conservation Continuous Emission Monitoring Systems (CEMS) Code for Stationary Source Air Emissions*, dated August 2006.

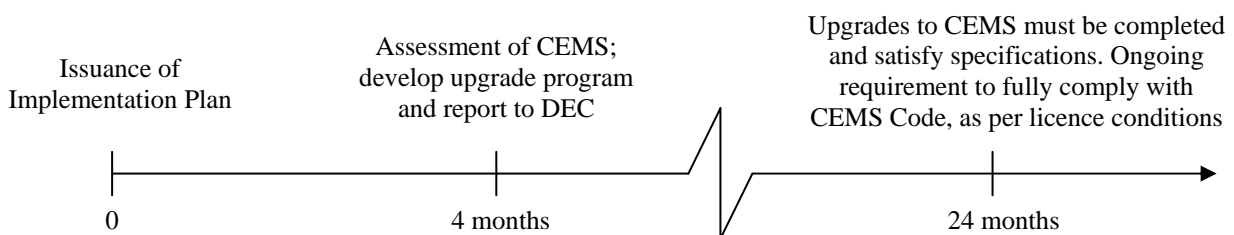
1.2 Timeline for implementation

The timeline for implementation, from the commencement of this CEMS Code Implementation Plan to the final requirement for compliance as per licence conditions, is 24 months. Subject to assessment by the DEC of the necessity to apply the CEMS Code in the licensee’s situation, the commencement of this plan is considered to be the formal advice from the DEC to the licensee that compliance with the CEMS Code will be required in 24 months (from the date of commencement).

The implementation is different depending on whether or not a licensee has a new or existing CEMS and is described in the sections below.

A general timeline of the CEMS Code Implementation Plan is detailed in Figure 1.

Figure 1: Timeline of the CEMS Code Implementation Plan



1.3 Implementation of CEMS Code requirements for new installations

All new continuous emission monitoring systems (CEMS), as required by a works approval or licence condition, and installed after the commencement date of the CEMS Code Implementation Plan, must comply with all applicable requirements of this CEMS Code including the CEMS Code performance specifications and performance testing process requirements.

An overview of the starting points for new and existing CEMS is illustrated in Figure 2.

1.4 Implementation of CEMS Code requirements for existing installations

A number of facilities may have stationary source air emission monitoring CEMS that do not fully comply with the CEMS Code because of:

- the location or positioning (installation) of the equipment; or
- the equipment is not suitably designed to conduct various quality control procedures (for example, calibration gas may not be able to be introduced at the proper location in some of the older designs, etc).

Rather than simply require a complete upgrade of the CEMS, an assessment of the CEMS shall be conducted. Within four months of the commencement of this CEMS Code Implementation Plan each licensee shall assess, on the basis of technical merit, whether the CEMS Code performance specifications and performance testing process requirements can be achieved with the existing configuration. If the CEMS satisfies the performance specifications and performance testing process requirements, then the system will be considered acceptable.

If the requirements cannot be satisfied, then the licensee must establish a program to upgrade the CEMS installation so it meets the performance specifications and performance testing process requirements of the CEMS Code. If the installation of new CEMS, or the relocation of existing CEMS is required, then the applicable design specifications (for new CEMS) and installation specifications (for new and relocated CEMS) of the CEMS Code must also be satisfied. The Performance Specifications and Performance Testing Process must be repeated for the CEMS components that have been upgraded, changed or relocated to ensure they satisfy the CEMS Code requirements.

If the performance specifications and performance testing process requirements were completed satisfactorily and the assessment determines that *only* the existing Data Acquisition System (DAS) requires replacement or upgrading, the Performance Testing Process requirement does not need to be repeated after the new DAS has been installed. However, the Quality Assurance Plan (QAP) for the facility must detail the appropriate quality control procedures to ensure the data quality of the new data acquisition system satisfies the CEMS Code requirements.

Once the assessment is completed, an assessment report must be submitted to the DEC. The report must to be submitted within four months of the commencement of this CEMS Code Implementation Plan (i.e. both the assessment and report must be completed within four months). Because different licensees have different requirements, Figure 2 provides a visual representation of the applicable starting point in the CEMS Code, based on the licensee's situation. If a facility starts at a particular section of the CEMS Code but finds the CEMS cannot satisfy the requirements of the section, then they must go back through the

previous sections of the CEMS Code to determine where the problems exist. For example, for an existing CEMS, if it does not satisfy the requirements of Phase III, Section 5, then the facility would need to review the previous requirements of Phase II, Section 4, to determine if any installation issues existed. If installation were acceptable, but compliance was still not possible, then the requirements of Phase I, Section 3 would be reviewed for design problems.

Within 24 months of the commencement of this CEMS Code Implementation Plan, and as per licence conditions, the licensee must complete the necessary upgrade programs and demonstrate compliance with the necessary Performance Specifications and Performance Testing Process for each CEMS.

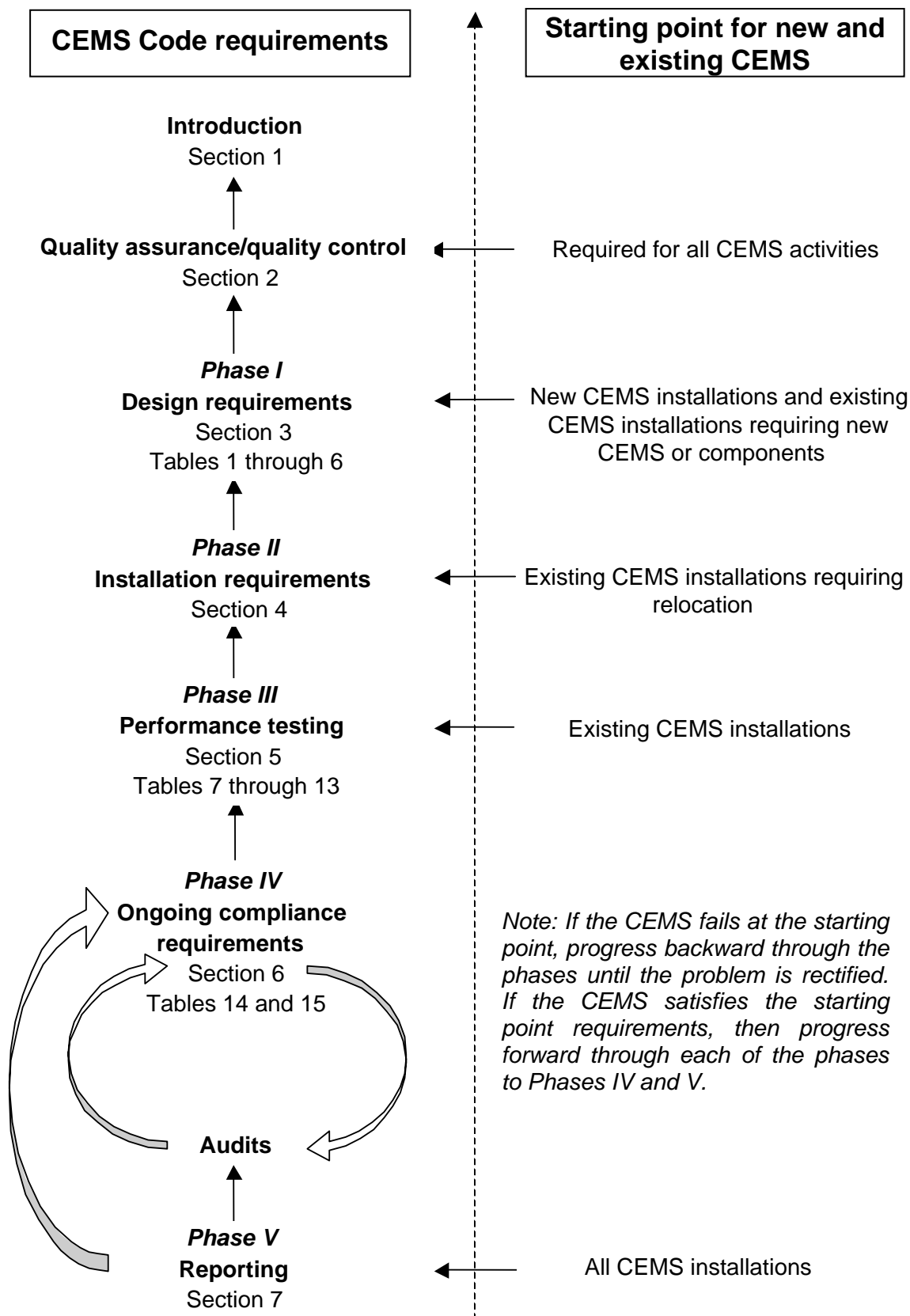
1.5 Assessment report

The licensee must complete an assessment report. The intent of the assessment report is to supply the information listed below.

- a) Provide basic details of the CEMS at the facility, such as:
 - i. brief overview of the CEMS set up (e.g. extractive with conditioning at the probe);
 - ii. type of analyser (e.g. SO₂, NO_x, flow);
 - iii. make and model number of analyser;
 - iv. analyser span (i.e. detection or analytical range of analyser); and
 - v. installation date of analyser (if exact date is unknown, it is acceptable to note this and provide an approximate date or age of the analyser).
- b) Present the outcome of the performance specifications and performance testing process and determine if the requirements have been satisfied.
- c) Provide general details of the upgrade program(s) for any CEMS or DAS which were unable to satisfy the requirements of the CEMS Code.
- d) Explain why any upgrades of the CEMS or DAS would result in compliance with the CEMS Code requirements.

For the performance specifications and performance testing process portion of the assessment report, the report shall include the information required as per Section 7 (including all subsections except for section 7.3.3 "Annual Evaluation") of the *Department of Environment and Conservation Continuous Emissions Monitoring System (CEMS) Code for Stationary Source Air Emissions*.

Figure 2: Starting points for use of the CEMS Code for new and existing CEMS



Publication feedback form

The Department of Environment and Conservation welcomes feedback to help us improve the quality and effectiveness of our publications. Your assistance in completing this form would be greatly appreciated.

Please consider each question carefully and rate them on a 1 to 5 scale, where 1 is poor and 5 is excellent (please circle the appropriate number).

How did you rate the quality of information?

1 2 3 4 5

How did you rate the design and presentation of this publication?

1 2 3 4 5

How can it be improved?

.....

How effective did you find the tables and figures in communicating the data?

1 2 3 4 5

How can they be improved?

.....
.....
.....

If you would like to see this publication in other formats, please specify. (e.g. CD)

.....

Please cut along the dotted line on the left and return your completed response to:

**Publications Coordinator
Department of Environment and Conservation
Level 4, 168 St Georges Terrace
Perth WA 6000
Fax: (08) 6467 5513**