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## CS ENERGY PROCEDURE

# ENVIRONMENTAL MONITORING AND MEASUREMENT CS-ENV-06

Responsible Officer: Environmental Specialist  
 Responsible Manager: Head of Health, Safety and Environment  
 Responsible Executive: Executive General Manager Plant Operations

### DOCUMENT HISTORY

Key Changes	Prepared By	Checked By	Approved By	Date
Original Issue				27/01/1999
Updated responsibilities.				17/05/2000
Added diagram.				28/08/2000
Added Review and Auditable Outputs.				17/11/2000
Minor editorial changes. Reference EPA methods in Section 3.3. New Section 3.5.				24/11/2000
Removal of reference to EMRO, rewording of Section 3.4 including inclusion of scope of work, minor changes to titles, minor editing.				18/11/2002
Updated procedure to reflect current practice with respect to programs and schedules.				25/11/2003
Document owner; minor editing; updated Reference Documentation including reference to CPM Environmental Management Implementation Plan.				06/06/2005
Clarification and amendment of processes detailed in Sections 3.1 and 5.1; responsibility to review monitoring programs added to Section 4.2; update organisational titles; minor editing.				19/04/2006
EPA replaced with DERM; references to site-specific documentation removed; references to 'licence' or 'authority' changed to 'approval'; update organisational titles; Section 3.5 & 8 deletion of reference to CS-QR-1 Business Records and Section 3.5 new reference to Public Records Act; minor editing.				6/07/2009
Updated to reflect current business processes and address internal EMS audit recommendations.	S Harabasz	R Hartigan	T Wiltshire	22/01/2016
Inclusion of calibration reference under 3.3 for consistency of information.	L Dingley	R Hartigan	B Monckton	23/02/2018
Updated to reflect current business processes and address internal EMS audit recommendations and findings.	S Harabasz	S Verano	B Monckton	15/02/2019
Document reviewed with no changes made.	S Harabasz	T van den Berg	B Monckton	27/08/2021
Reviewed and updated with current position titles. Text restructured and other editorial edits. Updated process flow chart	J Ritchie	R Harvey	B Prain	20/12/2023
Inclusion of cultural heritage requirements and minor wording edits to improve clarity	J Choong	R Harvey	B Prain	18/02/2025



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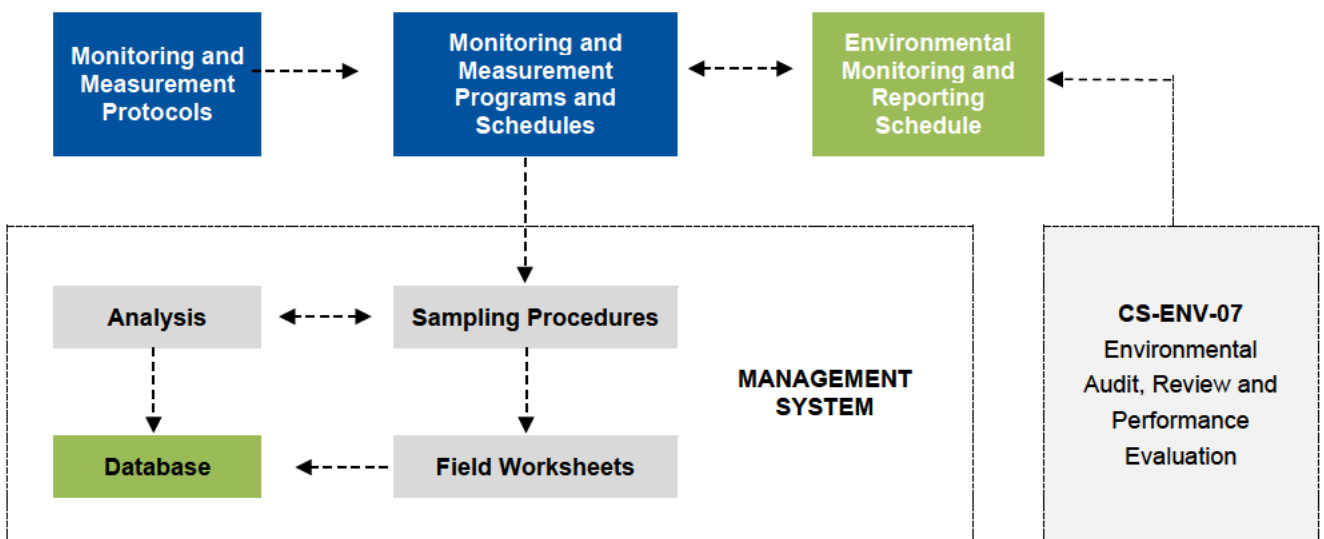
## 1 PURPOSE

The purpose of this procedure is to document the process for:

- Completing environmental monitoring and measurement activities in a consistent manner and in accordance with relevant standards.
- Collating environmental monitoring requirements into defined monitoring programs.

The overall process for environmental monitoring and measurement is summarised in Figure 1.

Monitoring and measurement requirements also apply to cultural heritage activities, however, the requirements can vary depending on the agreements made with traditional owner groups and the privacy restrictions associated with the information collected.



**Figure 1: Environmental Monitoring and Measurement Process Flow Diagram**

## 2 SCOPE

This procedure applies to any environmental monitoring and measurement activities associated with CS Energy operations and the associated environmental performance reporting.

## 3 ACTIONS

The sections below describe the specific actions to be completed to ensure monitoring and measurement activities are completed consistently, accurately, in accordance with environmental compliance obligations, cultural heritage agreements and timing requirements for performance reporting.

### 3.1 Monitoring and Measurement Programs

Monitoring and measurement programs are formulated from environmental approval requirements, emerging issues, due diligence considerations and issues where monitoring is identified as an operational control through the Enterprise Risk Management System (refer to Procedure - CS-ENV-02 - Developing Environmental Planning). Monitoring and measurement programs are documented in a variety of methods, as follows:

- For discrete monitoring or measurement activities in relation to a specific environmental licence requirement or condition, they will be captured in the Enterprise Risk Management System (CGR Insight) as a recurring action.

- For larger monitoring or measurement programs completed at multiple locations and at regular intervals (e.g. a regional groundwater monitoring program), the program requirements will be contained in a stand-alone document containing the following information:
  - Basis for and scope of monitoring program.
  - Description of impact being monitored.
  - Parameters to be measured based on relevant statutory documentation (i.e. environmental approval(s), policies, National Pollutant Inventory (NPI)).
  - Monitoring site locations and relevant monitoring methodologies.
  - Sampling procedures of defined provider.
  - Analysis procedures of defined provider.
  - Reporting requirements including relevant Environmental Monitoring and Reporting Schedule requirements, timing, recipient (who requires the report), circulation, file for storage, electronic or hard copy monitoring record storage and description of specific environmental approval or other requirements.
  - References.
- For cultural heritage issues, monitoring and measurement requirements can vary significantly and are developed from cultural heritage agreements or management plans established for specific projects or assets.

### 3.2 Develop Monitoring and Measurement Schedule

The monitoring and measurement schedule is managed via actions in CGR Insight. The actions ensure environmental monitoring and performance data collected on a regular and routine basis is reported as required to external and internal stakeholders.

Cultural heritage monitoring and measurement activities are conducted as required based on the relevant cultural heritage management plan or agreement.

### 3.3 Sampling Work Instructions

Sampling work instructions apply to environmental sampling only and are to be prepared if a service provider is not used, or if it is agreed that these are to be supplied to the service provider.

In most cases, sampling would be carried out in accordance with the latest version of the relevant Sampling and Analysis Manuals published by the Queensland Environmental Regulator (i.e. water quality, air quality, noise), particularly where this is an environmental approval requirement.

Work instructions are to contain at least the following information:

- Calibration requirements such as frequency of calibration tests and reference / standards used.
- Parameter(s) being sampled.
- Reference standard or protocol on which it is based.
- Sample preparation and preservation technique.
- Sample storage, handling and labelling requirements.
- Instructions regarding observations, abnormal conditions, etc.

### 3.4 External Providers - Monitoring and Measurement Requirements

These requirements apply to environmental sampling completed by external providers. External providers completing monitoring and measurement services are to be supplied with the appropriate monitoring program(s) information and additional details to reflect the requirements including:

- Scope of work in terms of sites, parameters and frequency.
- Analysis and sampling methodology (i.e. preferred methods to be suggested). These methods can be from Australian Standards, government authorities or company developed. In most cases, sampling would be carried out in accordance with the latest version of the relevant Sampling and Analysis Manuals (i.e. water quality, air quality, noise), particularly where there was an environmental approval requirement.
- Calibration requirements such as frequency of calibration tests and reference / standards used.
- Third party certification required for analysis.
- Any requirements for prior approval of specific methodologies.
- Specified units for reporting.
- Notification requirements (e.g. reporting exceedances within designated time period and supplying other information such as confidence limits of analysis method used, etc)

### 3.5 Monitoring and Measurement Records

Retention times for monitoring records shall be established to be consistent with the Public Records Act 2002 and the associated retention and disposal schedules. Legal requirements for environmental record storage and retention are also specified in site environmental approval(s).

## 4 RESPONSIBILITIES

### 4.1 General Managers

- Responsible for ensuring that resources are available for carrying out the environmental monitoring and measurement programs.

### 4.2 Head of Health, Safety and Environment and Principal Environmental Specialist

- Responsible for ensuring that resources are available to support cultural heritage monitoring and measurement activities.

### 4.3 Environment and Stakeholder Business Partner

- Responsible for collating monitoring and measurement information (i.e. standards and protocols) and the organisation of monitoring and measurement programs.
- Review of site monitoring and measurement programs to ensure adherence to this procedure.

## 5 REVIEW

### 5.1 Monitoring and Measurement Program

The Environmental Management System (EMS) Audit Program encompasses the checking of this document to ensure it is appropriate and being followed correctly. Monitoring and Measurement programs will be reviewed periodically, but generally at least once per year by the Environment and Stakeholder Business Partner as to their suitability to CS Energy operations. Amended environmental

approval(s) and cultural heritage agreements and plans will also initiate the review of monitoring and measurement programs. The review will assess:

- Quality of data and suitability of programs at sites.
- Legal requirements, policy requirements and ability to determine environmental and cultural heritage performance.

Recommendations from reviews must be documented. These review actions align with Procedure - CS-ENV-07 - Environmental Audit, Review and Performance Evaluation.

## 6 AUDITABLE OUTPUTS

- Environmental obligation action register in CGR Insight.
- Environmental monitoring programs and schedules.
- Environmental monitoring records.

## 7 DEFINITIONS

Term	Definition
EMS	Environmental Management System
NPI	National Pollutant Inventory

## 8 REFERENCES

Reference No	Reference Title	Author
<a href="#">B/D/11/31090</a>	Procedure - CS-ENV-02 - Developing Environmental Planning	CS Energy
<a href="#">B/D/11/31095</a>	Procedure - CS-ENV-07 - Environmental Audit Review and Performance Evaluation	CS Energy

## 9 RECORDS MANAGEMENT

In order to maintain continual improvement, suitability, safety and effectiveness of the organisation, registered documents will be reviewed on a two-yearly basis or at intervals specified by legislative or regulatory requirements. Review of controlled documents should occur where it has been identified that there are changes in technology, legislation, standards, regulation or where experience identifies the need for alteration to the content. Registered documents should also be reviewed following an incident, change management process, modification or where directed as part of a risk assessment process. A 'review' can simply mean that it has been identified, confirmed and appropriately recorded that no changes are required and that the existing process remains the same.

Government Owned Corporations must ensure that records are retained according to accountability, legal, administrative, financial, commercial and operational requirements and expectations. In compliance with records retention and disposal, all documentation created in relation to business must be retained in line with minimum retention periods as detailed in legal retention and disposal schedules.