ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) MANUAL

CS-ENV-11

Responsible Officer: Environmental Specialist
Responsible Manager: Head of Environment
Responsible Executive: Executive General Manager Plant Operations

DOCUMENT HISTORY

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FOREWORD

CS Energy operates and maintains an Environmental Management System (EMS) that conforms to the ISO 14001 standard. The Corporate EMS manual has been developed to ensure environmental issues and potential impacts are identified and managed at CS Energy operations. The EMS supports continual improvement within CS Energy's operations, in accordance with the ISO 14001 standard. CS Energy seeks to engage in world class electricity generation performance by:

- Measuring and reporting performance through Environmental Key Performance Indicators (KPIs)
- Complying with our legal, regulatory and other environmental obligations;
- Proactively monitoring and managing our emissions and impacts on the environment;
- Continually improving our environmental performance through innovative and responsible use and reuse of natural resources and waste; and
- Integrating environmental outcomes into our business planning and performance management.

This manual corresponds with the CS Energy site manuals:

- CMP-ENV-001 Callide Environmental Management System Manual C/D/16/3315
- KA-ENV-M-01 Kogan Creek Environmental Management System Manual K/D/10/1945

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1 SCOPE

This EMS has been developed to ensure environmental issues and potential impacts are identified and managed throughout CS Energy and its operations. The EMS will also support continual improvement within CS Energy's operations, in accordance with the EMS.

The scope of this AUS/NZS ISO 14001 Environmental Management System standard EMS covers Corporate Office, and the Callide and Kogan Creek Power Station operational sites. In addition, CS Energy is a party to the Interconnection and Power Pooling Agreement, which entitles the company to trade the output of Gladstone Power Station in excess of the requirements of the Boyne Aluminium Smelter, and this trading function is within the scope of the EMS. The contract mining operation of the Kogan Creek Coal Mine is captured within the scope of the Kogan Creek EMS. The scope of the EMS is available to interested parties through the CS Energy website.

2 NORMATIVE REFERENCES

There are no normative references included in this document.

3 TERMS AND DEFINITIONS

Terms and definitions utilised within this manual align with AS/NZS ISO 14001:2015 'Environmental management systems – Requirements with guidance for use'.

4 ORGANISATIONAL CONTEXT

4.1 Business Outline

CS Energy is a government-owned corporation that owns and operates power stations at three sites in Queensland. CS Energy aims to strengthen its business through innovation and quality of service. CS Energy determines its internal and external issues relevant to the business through the Enterprise Risk and Compliance System. The company was formed on 1 July 1997 following the Queensland Government's reform of the Queensland electricity industry through the disaggregation of AUSTA Electric. On 1 July 2011, the restructure of Queensland's government-owned electricity generating companies came into effect. CS Energy, Tarong Energy Corporation and Stanwell Corporation were restructured and merged into two companies – CS Energy and Stanwell Corporation. CS Energy employs around 490 people.

4.2 Operational Power Station Sites and Brisbane Office

Our generating portfolio comprises the 1,105 megawatt (MW) coal-fired Callide Power Station near Biloela in Central Queensland and the 750 MW Kogan Creek Power Station near Chinchilla in South West Queensland. For the purpose of this EMS, the Brisbane Office in Fortitude Valley is considered a third site. Interested Parties relevant to CS Energy are identified within the Stakeholder Engagement Framework and Community Relations Plans.

Callide Power Station is located in central Queensland, near Biloela. Two 350 MW coal-fired units at the Callide B station have been fully operational since 1989. The original coal-fired Callide A station was previously used for an oxy-fuel firing project, is now permanently decommissioned and has been set aside to be demolished at some time in the future. The Callide Power Plant (Callide C) referred to below comprises two 405 MW advanced-cycle coal-fired units commissioned during 2001.

Kogan Creek Power Station near Chinchilla consists of a single 750 MW coal-fired unit. The station commenced operation in 2007.

Brisbane Office supports the power stations and manages the corporate functions for CS Energy.

4.3 Callide Power Plant

CS Energy has formed a joint-venture with IG Power (Callide) Pty Ltd in the ownership of two new generating units on the existing Callide site - referred to as the Callide Power Plant. CS Energy is the operator-maintainer of these units under a contract with the joint-venture partners.

Under Schedule 8F2 of the “Callide Power Project Operation and Maintenance Agreement” the Operator (CS Energy as the O&M Contractor), in consultation with the Manager (Callide Power Management), is required to establish and thereafter maintain during the Term of the Contract, an Environmental Management Plan (EMP) for the Facility.

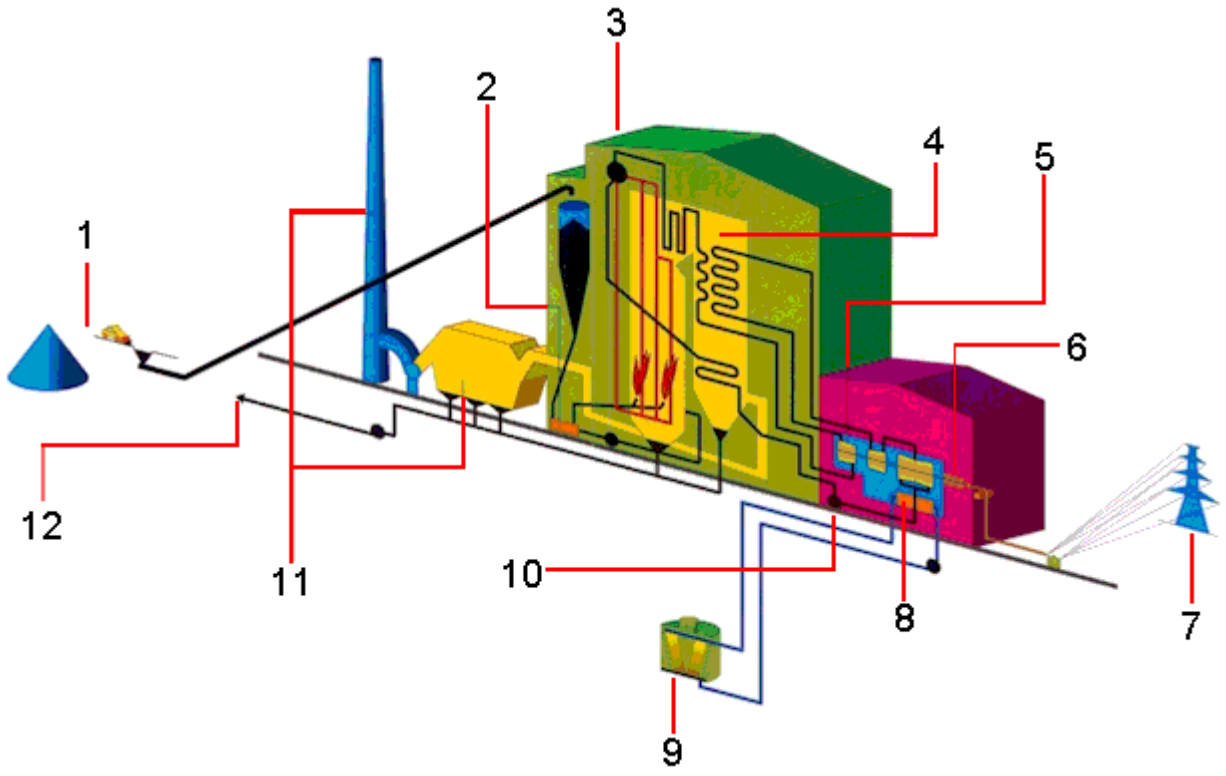
CS Energy has prepared an “Environmental Management Implementation Plan” (EMIP) to address specific environmental management issues related to its obligations for the Callide Power Plant. The EMIP, together with the CS Energy EMS, forms the EMP required contractually for the facility.

4.4 CS Energy and the Environment

As can be seen from the diagrams and descriptions below, a power station has many activities which interact with the environment. Some of these interactions include pumping water to and from dams and selling fly ash for cement manufacture. Each of the inputs and outputs needs to be monitored and managed closely to make CS Energy a "responsible" electricity producer. The development and use of an EMS plays a key role in achieving this aim.

Steam Turbine Power Generation

Steam turbine power generation uses the heat from fuel combustion to heat water to steam. This steam is used to drive a turbine, converting heat energy to mechanical energy (in the form of rotation). The rotational energy of the turbine is then converted to electricity via a generator.



1. Providing Fuel. Coal for Callide and Kogan Creek, coal is delivered by conveyor belt it is then stockpiled or transported by conveyor belt to the boiler.
2. Igniting the Fuel. Coal is ground into a fine powder by pulverisers before being blown into the boilers where it is ignited.
3. Heating Water. The fire in the boiler heats the water producing steam.
4. Super Heating Steam. The steam is superheated to a high temperature before being fed under high pressure conditions, to the turbine.
5. Driving the Turbine. The super-heated steam causes the turbine and generator shaft to turn rapidly.
6. Generating Energy. The rotating generator shaft contains a large electro-magnet which produces electricity as it turns inside the generator.
7. Energising. Electricity is delivered to customers through a network of high voltage transmission lines. This is known as the transmission grid.
8. Condensing the Steam. The steam is condensed into water after the turbine has used all its available energy.
9. Cooling Off. The water used to cool the steam in the condenser is cooled by being pumped through the cooling tower.
10. Repeating the Cycle. Water from the condenser is pumped back to the boiler for reuse.
11. Cleaning Gases. Precipitators and/or fabric filters ensure that ash, dust and grit are removed from the heated boiler flue gas before it is released from the chimney.
12. Releasing and Recycling. The ash, dust, and grit remaining after the coal is ignited are either sold for reuse or stored on site.

4.5 Needs and Expectations of Interested Parties

CS Energy has a Stakeholder Engagement Framework which filters into site Community Relations Plans that identify key stakeholders with an interest in potential impacts or benefits from station operations:

- Kogan Creek Power Station Community Relations Plan - B/D/17/7439
- Callide Power Station Community Relations Plan - B/D/17/6663

The key objectives of CS Energy's stakeholder and community engagement are:

- Provide a coordinated approach to local communications and community relations activities, with clear and realistic expectations about stakeholder involvement, responsibilities and areas of influence.
- Ensure CS Energy's community relations activities align with business priorities and are adequately planned, resourced, leveraged and reviewed. Genuinely deliver on our corporate commitment to the local community, in line with our values and culture.
- Mitigate or minimise potential reputational issues by building stakeholders' primary understanding of our operations (e.g. ash dam management) and future plans (e.g. major overhauls).
- Foster community understanding of CS Energy's role in the energy and resources sector with an education focus to engagement activities and supporting materials.
- Elevate CS Energy's local profile as a safe and trusted operator of reliable generation plant.

The plans are updated annually by Corporate Affairs in consultation with the Station General Managers and the Executive Leadership Team.

CS Energy also develops project-specific community relations plans during site overhauls that identify key stakeholders and consider the relevant aspects and impacts on interested parties related to each site overhaul.

4.6 Scope of the Environmental Management System (EMS)

The Environmental Management System provides for a series of management documents and processes that focus on identifying, managing and reporting of environmental issues related to CS Energy operations. CS Energy Corporate provides overarching documents and systems for operational sites to integrate with. This document provides an overview of the EMS and associated documents.

There are two types of EMS documents, and five key systems that support the EMS:

- EMS Manual - general overview of what the EMS is and how it works.
- EMS Procedures - documents that explain the specific requirements of the EMS such as setting policy, goals and targets or identifying environmental issues. The Procedures are listed in Section 8 of this Manual. These procedures are maintained at a corporate level and provide guidance for the development of site-specific environmental procedures.
- Enterprise Risk Management System in Insight.
- Incident Management System in SAP.
- Compliance Obligations System in Insight.
- Business Audit Register in Insight.
- Electronic Document and Records Management System (TRIM)

There are also a range of other supporting documents which belong to various business management systems across the organisation, accessible through TRIM, under the Business Classification Scheme “Corporate Management and Governance – Policies and Procedures - CS Energy Registered Procedures and Policies”.

4.7 EMS Interactions with Wider Business Processes

CS Energy maintains integrated business processes between business functions such as Health and Safety, Procurement, Governance, Finance, Records Management and Environment. These business functions are linked through key procedures and processes and are maintained at a corporate-level. The procedures assist in providing a controlled and uniform approach to maintaining assurance programs across the business.

Document Title	TRIM Link
CS Energy Code of Conduct	B/D/11/39710
Enterprise Risk and Compliance Management Framework	B/D/12/63934
Health and Safety Handbook	B/D/17/15310
Commercial and Procurement Processes	B/D/10/17028
Media and Communications	B/D/14/22838

5 LEADERSHIP AND COMMITMENT

5.1 Strategy and Performance

5.1.1 EMS Alignment with Strategic Business Plan

The CS Energy Corporate Plan is prepared for the coming 5 years to fulfil the requirements of the *Government Owned Corporations Act 1993* (Qld) (GOC Act), and guides CS Energy's business direction for the next five years.

Environmental goals and targets are set periodically as part of the business planning cycle, resulting in Key Performance Indicators that are assessed throughout the year. KPI reviews occur in conjunction with other business metrics on a monthly basis.

The corporate Business and Financial Planning Guidelines (B/D/16/10834) provide the framework upon which site business plans are based.

The Environment Strategy (B/D/21/524) sets the strategic direction for the business for the next three years. The Strategy is considered within the business planning process for all CS Energy sites. The strategic goal is to proactively manage CS Energy's environmental responsibilities. There are three key themes that drive actions which support the strategic goal:

- We Care
- We Engage
- We Innovate

The Environment Strategy requires CS Energy to operate and maintain an effective, certified Environmental Management System.

5.1.2 Tracking of EMS Condition and Compliance

A range of metrics are tracked and various methods are used to assess Environmental Management System performance. Business areas utilise many delivery methods to review and discuss performance including team boards, team meetings, toolbox talks and action requests via automated email.

- Compliance Obligations – key environmental activities are scheduled using the Insight-based 'Insight Obligations Module'. A database of key activities sends workflow or work request emails to the process owner. Once the work is completed, the workflow owner must access Insight to 'close-out' the request as completed, adding details and raising any other subsequent work requests.
- Incident Actions – Environmental Incidents are reported and managed through SAP. Actions derived from incidents within SAP also generate workflow requests to complete these actions. Emails from the system cascade to managers of areas for follow-up if actions are classified as overdue in SAP.
- Risk Register - The Enterprise Risk Register schedules periodic risk reviews of items through Insight workflow emails. All high (significant) risk scores are to be reviewed quarterly, significant risks 6 monthly, with low and moderate risks to be reviewed on an annual basis (Quick guide - B/D/20/16902). Actions arising from risk assessments are captured within the system and can be reviewed using the system dashboard.
- Audit Findings and Actions – EMS procedure 'Environmental Audit Review and Performance Evaluation' B/D/11/31095 provides guidance on the type of audits conducted to assess business performance. Once audits are completed, audit findings can be captured within the Business Audit Register. The register is contained in Insight and issues workflow emails to

drive completion of actions based on the schedules entered into the register. Workflow emails cascade upwards within the business if actions are overdue.

- Environmental Key Performance Indicators – Environmental KPIs are developed as part of business planning processes.

5.1.3 Communication of Need for EMS and Environmental Compliance

Communication for environmental matters occurs using multiple communication pathways for both permanent on-site staff and temporary contractors.

- Environmental Policy – The Environmental Policy for CS Energy is displayed at various locations across CS Energy sites, on the CS Energy intranet and internet, and is available electronically at B/D/11/39706. The policy is reviewed periodically to align with business objectives.
- Induction – The online Environmental Induction module covers key environmental compliance requirements for entering and performing work at a CS Energy site. The induction identifies key environmental management areas and is compulsory for all staff and contractors working on a CS Energy site.
- Toolbox talks – Toolbox talks with environmental content are completed at site and tracked as part of Environmental KPIs for the business. Toolbox talks are stored in F/17/3996.
- Environment meetings – Requirements of the EMS, environmental risks and compliance requirements are communicated as part of a number of key environmental meetings, including but not limited to, the Central Health Safety and Environment meetings, and Environment Team meetings.
- Contractor briefings and work planning meetings – Toolbox talks discussing key environmental requirements are completed as part of the preparation for major works contracts on site such as outages. The Contractor Management Process Roadmap B/D/13/34119 outlines the management process for contracts and contractors.

5.1.4 Environmental Performance Goals

Key Performance Indicators (KPIs) are developed for the business as part of the business planning process. Each year, KPIs are reviewed and agreed with site General Managers and the Executive Leadership Team. The KPIs are planned, defined and set considering environmental risks, compliance obligations and the Environment Strategy. The development of an Environmental KPI Action Plan is completed considering:

- Appropriate resourcing is put in place to ensure the KPIs set for each site are achievable.
- Roles and responsibilities are defined to ensure accountabilities related to individual KPIs is clear and achievable.
- How the individual KPIs will be achieved.
- What timeframes and schedules are set and apply to the individual KPIs.

CS Energy evaluates and reports on the KPIs on a monthly basis and communicates performance via an electronic dashboard. Where KPIs are not met, a preferred course of action to rectify the matter is implemented by the relevant site.

Environmental KPIs for the relevant FY for the CS Energy business are electronically filled (Environmental Scorecard (sharepoint.com).

Each month the individual KPIs are allocated a red, amber or green dot to indicate whether the KPI has been satisfactorily achieved for that month. The individual colours in this traffic light system are defined below:

- GREEN – 100% conformance with the KPI.
- AMBER – The KPI is at risk of not being achieved or is partially achieved.
- RED – The KPI has not been achieved.

Legal obligations associated with environmental performance are entered into Insight as described in the Risk and Compliance Management Framework. Workflow emails are sent to obligation owners to complete activities to meet legal obligations and sign-off within Insight once complete.

5.1.5 Environmental Incidents, Investigations and Close-out

Enterprise business systems are provided through SAP for reporting incidents, and managing corrective actions arising from incidents. The document CS-IM-01 'Learning from Incidents' "B/D/11/45318" outlines how incidents are to be managed within the business. Environmental Incident management is described within CS-ENV-04 'Environmental Incident Management' "B/D/11/31092".

5.2 Environmental Policy

ISO 14001 requires CS Energy to have an Environmental Policy. This policy must be established, implemented and maintained by top management, within the defined scope of the CS Energy EMS and must:

- Be appropriate to the purpose and context of CS Energy, including the nature, scale and environmental impacts of CS Energy and its activities, products and services;
- Be fully supported by senior management;
- Outline the environmental intentions and principles of the company;
- Provide a framework for setting and reviewing environmental objectives and targets;
- Be communicated to all persons working for and on behalf of CS Energy and be available to interested parties;
- Commit the corporation to comply with legal compliance and other environmental requirements that may affect the organisation; and
- Commit the corporation to pollution prevention and other specific commitments relevant to CS Energy, protection of the environment and continual improvement.

The policy should contain statements that relate to the size and impact of the activities undertaken by the organisation.

The CS Energy Environmental Policy is available at B/D/11/39706 and is reviewed periodically. The Policy is available on the company intranet, and internet for company employees, contractors and interested parties.

5.3 Organisational Roles and Responsibilities

The responsibilities of various CS Energy officers pertaining to environmental management are detailed in Business Management System procedures and in individual role purpose statements. An outline of responsibilities is provided within CS-ENV-07 'Environmental Audit Review and Performance Evaluation' B/D/11/31095. In addition, the responsibilities regarding EMS procedures are listed below.

5.3.1 CS-ENV-01 - Environmental Issue Identification B/D/11/31089

Risk and Compliance Facilitators and Technical Risk Owners

- Review identified issues/risks in accordance with the Corporate Enterprise Risk Management System.
- Develop and review risk management plans within the Risk Management System.

Site Environmental and Stakeholder Business Partners

- Provide technical advice relating to the identification and risk assessment of environmental issues.

Employees and Contractors

- Identifying environmental issues within their plant area and implementing control actions.

5.3.2 CS-ENV-02 - Developing Environmental Planning B/D/11/31090

CS Energy Board

- Review and authorise CS Energy Environment Policy.

Chief Executive

- Recommend Policy to Board.

General Managers

- Development of policy, goals and targets
- Initiate Policy review
- Allocating resources for implementation of action/management plans
- Approval of Issue Management Plans converted to Risk Management Plans

Risk and Compliance Facilitators and Technical Risk Owners

- Preparation and review of Risk Management Plans

Head of Environment

- Facilitate development of policy, goals and targets consistent with the environmental Corporate strategy and planning processes.
- Initiating review of this procedure and ensuring outputs are updated.

Site Environmental and Stakeholder Business Partners

- Provide technical advice relating to environmental issues.
- Formulate and/or oversee the formulation of Environmental
- Management Plans (EMPs).
- Provide support in the dissemination of environmental policy and goals.
- Development of site goals and targets.

5.3.3 CS-ENV-03 - Environmental Communication and Training Process B/D/11/31091

General Managers

- Develop external environmental communications plan establishing communication lines with the public on environmental issues and the release of environmental information to the public.

Head of Environment

- Conduct a training needs analysis for site environment staff.
- Development of Corporate environmental reports.
- Initiating review of this procedure and ensuring outputs are updated.

Site Environmental and Stakeholder Business Partners

- Implement the community (external) environmental complaints process.
- Develop suitable training plan and schedule for environmental staff.

Employees and Contractors

- Be active in communicating incidents, environmental issues and supplying feedback on the general environmental management philosophy of CS Energy operations.

5.3.4 CS-ENV-04 - Environmental Incident Management B/D/11/31092

General Managers

- Approval and allocation of resources for incident management and close-out.

Line Managers

- Manage activities under their control to comply with policies, procedures and environmental approval limits.

Head of Environment

- Updating of procedure in accordance with changes in policy.
- Implementing requirements of this procedure.
- Providing technical advice / liaison with environmental regulators.

Site Environmental and Stakeholder Business Partners

- Ensure that all incidents are entered into the Incident Management Database.
- Providing technical advice / liaison with environmental regulators.
- Review of site incident management procedures as required and after incidents.

Power Station Operators

- Operate plant within environmental approval limits.

Employees and Contractors

- Following site procedures including environmental procedures.
- General requirement to prevent environmental harm.
- Control and report incidents.

5.3.5 CS-ENV-05 - Environmental Legal Compliance B/D/11/31093

Head of Environment

- Manage the updating of the Environmental Legal Compliance Manual.
- Supply of additional reference material to site Environmental Coordinators.

Corporate Legal Counsel

- Notify Head of Environment of any significant changes in environmental legislation with potential to influence operations.
- Offer legal advice upon request for specific legal environmental issues.

5.3.6 CS-ENV-06 - Environmental Monitoring and Measurement B/D/11/31094

General Managers and Site Managers

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

Site Environmental and Stakeholder Business Partners

- Responsible for collating information and the preparation of protocols, measurement programs.
- Review of site monitoring and measurement programs.

5.3.7 CS-ENV-07 - Environmental Audit, Review and Performance Evaluation B/D/11/31095

Line Managers

- Implementation of the EMS in their areas of responsibility.

Head of Environment

- Initiate appropriate review processes.
- Coordinate the production of any environmental information and associated data.
- Development, implementation and maintenance of Corporate EMS.
- Development and maintenance of EMS across all sites.
- Review of Corporate EMS Manual and Procedures.

Site Environmental and Stakeholder Business Partners

- Collection of specific performance data.
- Review of site environmental issues.
- Site development, implementation and maintenance of the EMS.
- Review of site environmental procedures.

Employees and Contractors

- Following site procedures including Environmental procedures in accordance with the site EMS.

Internal Auditors

- Conduct Internal Audits as per audit schedule.
- Raise Audit Actions and Recommendations.

5.3.8 CS-ENV-08 - Guidelines for Contractor Environmental Management Plans B/D/11/31096

Principal's Representative

- Assess the hazards / risks associated with the work at the planning and scoping stage of the work / contract, in conjunction with the Contractor and Site Environmental and Stakeholder Business Partner.
- Ensure the Environmental Management Plan is approved prior to work commencing on site.
- Audit EMP compliance and identify opportunities for improvement.

Contractor

- Provide the Environmental Management Plan as requested by the Principal's Representative prior to work commencing on site.
- Continually identify opportunities for improvement.

Overall organisational risk management responsibilities are documented within CS-RISK-01 'Enterprise Risk and Compliance Management Framework' B/D/12/63934.

6 PLANNING

6.1 Actions to Address Risks and Opportunities

6.1.1 General

CS Energy's policy statement and approach to management of business risk is outlined within Governance Risk and Compliance Policy B/D/11/39708.

The purpose of risk and compliance management is to support CS Energy's strategy through understanding and controlling uncertainties, and ensuring compliance with legal, regulatory and other obligations.

To support effective risk and compliance, CS-RISK-01 'Enterprise Risk and Compliance Management Framework' B/D/12/63934 outlines the core elements required to deliver robust risk data and risk management outcomes. The framework provides a corporation-wide view of risk management processes and responsibilities at all levels of the organisation.

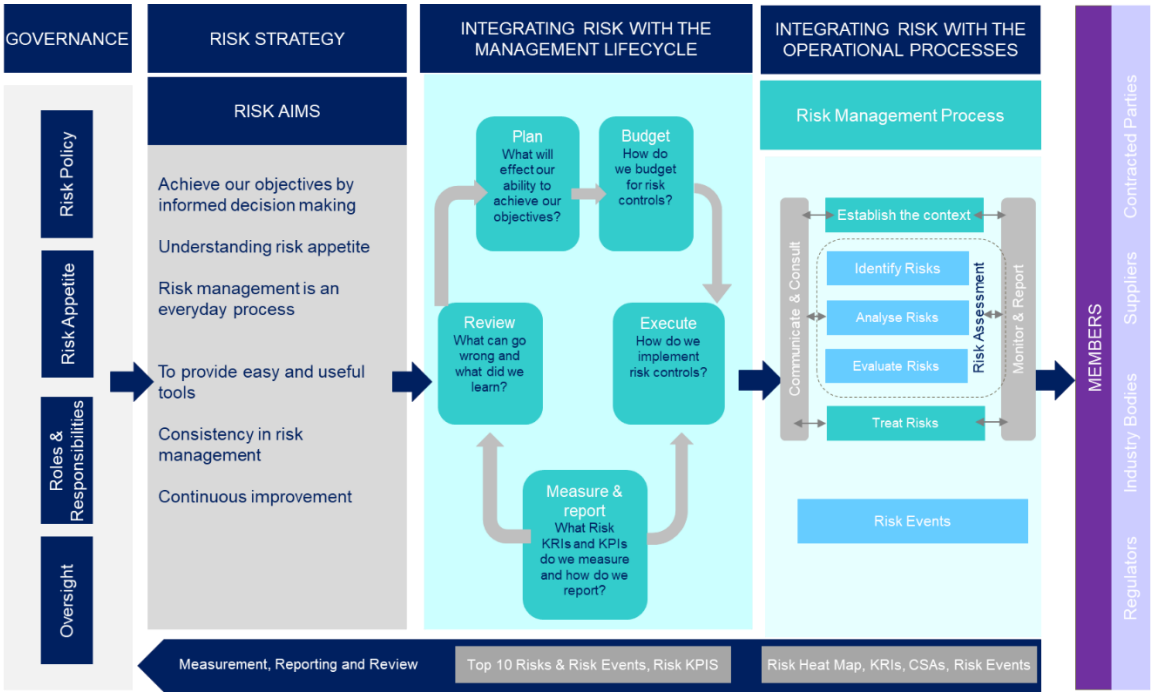
This Enterprise Risk Management Procedure CS-RISK-03 outlines how risk will be identified, assessed, evaluated, updated, treated, recorded and reported in order to enhance CS Energy's ability to meet its strategic objectives by maximising opportunities and minimising threats to shareholder value. It demonstrates the Board and Management's commitment to effective risk management as a key element of business success.

The Procedure 'Environmental Issue Identification' B/D/11/31089 provides an outline to identify risks and interact with key risk system processes.

Environmental risks are reviewed and updated periodically as required in accordance with the CS-RISK-01 'Enterprise Risk and Compliance Management Framework' B/D/12/63934. Triggers which may lead to the review and update of an environmental risk include but are not limited to:

- Changes to plant
- Environmental incidents
- Changes to operations
- Legislative changes

The risk and compliance framework structure for CS Energy is outlined below and is described in more detail within CS-RISK-01 'Enterprise Risk and Compliance Management Framework'.



An enterprise-wide risk register exists within Insight for recording and ranking risks across all aspects of the business. Risks are reviewed periodically based on the level of risk. Reviews are scheduled by workflow emails sent by Insight to Risk Owners and Technical Owners.

6.1.2 Environmental Aspects

The identification and management of environmental aspects (risks) associated with the operation of the CS Energy power stations is a fundamental element of the EMS. CS Energy has an Environmental Issue Identification Procedure (CS-ENV-01). Key plant/technical personnel identify environmental issues and impacts associated with their particular areas of plant for entry into the risk register in Insight.

The procedure Developing Environmental Planning CS-ENV-02 outlines the process by which Environmental Plans are developed for inclusion within business and operational goals. The procedure also describes the key roles and responsibilities within the organisation for goal setting and approval.

CS Energy holds a number of Environmental Authorities (EnvAs) that contain prescribed licensing conditions. The EnvAs can be accessed through the CS Energy intranet page and are referenced below. The process for meeting environmental legal compliance is defined within CS-ENV-05 'Environmental Legal Compliance'. In addition to this, legal compliance obligations are detailed extensively within a formal legal review process and report.

Document Title	TRIM Link
CS-ENV-01 Environmental Issue Identification	B/D/11/31089
CS-ENV-02 Developing Environmental Planning	B/D/11/31090
CS-ENV-05 Environmental Legal Compliance	B/D/11/31093
CS-RISK-01 Enterprise Risk and Compliance Management Framework	B/D/12/63934
Enterprise Risk Management Framework – Risk Matrix	B/D/13/17881
Enterprise Risk Register System	Link

Document Title	TRIM Link
Callide A and B EnvA - EPPR00536313	B/D/12/62393
Callide C EnvA - EPPR00707213	B/D/16/12853
Callide Power Station Damage Mitigation Permit – WA0039456	C/D/22/129
Kogan Creek Power Station EnvA - EPPR00918113	K/D/17/6508
Kogan Creek Ash Disposal EnvA - BRID0033	K/D/17/6509
Kogan Mine EnvA - EPML00417213	K/D/17/6510
Kogan Creek Mine Plan of Operations	K/D/16/17287
Kogan Creek Water Licence 100812 (Lagoon Gully No. 1 Bore)	B/D/17/13733
Kogan Creek Water Licence 100811 (Lagoon Gully No. 2 Bore)	B/D/17/13732
Kogan Creek Water Licence 87436R (Kogan Bore)	B/D/15/25944
Kogan Creek Power Station Damage Mitigation Permit – WA0024985	B/D/15/25950
Environmental Legal Compliance Manual (ELCM) Volume 1	B/D/16/2453
Environmental Legal Compliance Manual (ELCM) Volume 2	B/D/16/2454

7 RESOURCES AND SUPPORT

7.1 Resources

Environmental staff resources are shown in the CS Energy organisational chart. The chart is available online:
https://performancemanager10.successfactors.com/sf/orgchart?type=position&bplte_company=csenergylt&_s.crb=nJWuLP%252faGCXZObXxUC4iSfSPfTbfUtUkEv%252bnLgv%252fglo%253d

CS Energy has a dedicated environmental team structure.

The Head of Environment is the most senior environmental role and assumes responsibility for providing assistance to the business to maintain compliance and improve environmental management processes.

In addition to site CS Energy employees, CS Energy has many support contracts in place to complete works associated with environmental aspects of the business.

7.2 Competence

Training and communication for CS Energy is outlined within CS-ENV-03 ‘Environmental Communication and Training’. Wider training requirements within the business are addressed through a structured program. The Training Project is a company-wide project that aims to reinvigorate training at CS Energy, with a particular focus on technical training for operators and people in maintenance roles, and safety compliance training.

Inductions inclusive of environmental content are mandatory to obtain access to site. Records for training completion and inductions are maintained, and access to site is prohibited if induction competencies lapse.

Document Title	TRIM Link
CS-ENV-03 Environmental Communication and Training Process	B/D/11/31091
CS-ENV-07 Environmental Audit Review and Performance Evaluation	B/D/11/31095

7.3 Awareness

Awareness of environmental matters occurs using multiple communication pathways for both permanent on-site staff and temporary contractors.

- Environmental Policy – The Environmental Policy for CS Energy is displayed at various locations across the sites, on the CS Energy intranet and internet and is discussed within the online Environmental Induction.
- Induction – The online Environmental Awareness module located on through the Learning Management System covers key environmental compliance requirements for entering and performing work at CS Energy.
- Toolbox talks – Toolbox talks with environmental content are completed at site and tracked as part of Environmental KPIs for the business.
- Employees are assigned targets within Individual Achievement Plans (IAPs) inclusive of environmental business criteria.
- Contractor briefings and work planning meetings – Toolbox talks discussing key environmental requirements are completed as part of the preparation for major works contracts on site such as outages. The Contractor Management Process Roadmap B/D/13/34119 outlines the management process for contracts and contractors.

7.4 Communication

Communication processes across CS Energy are defined within CS-COMMS-00 'Media and Communications Guidelines' B/D/14/22838.

Internal communication or communication within the company is important for employees to know about the current issues and the company's position with respect to their management. This helps employees to be knowledgeable about CS Energy's environmental performance while at work and in the community. CS Energy has a Stakeholder Engagement Framework which filters into site Community Relations Plans that identify key stakeholders with an interest in potential impacts or benefits from station operations. Communication strategies for the power station are summarised within:

- Kogan Creek Power Station Community Relations Plan - B/D/17/7439
- Callide Power Station Community Relations Plan - B/D/17/6663

All employees have an environmental contribution to make whether they have an operational, maintenance, planning or support function. Internal communications include - inductions, training, newsletters, notice boards, staff briefings, Intranet news items and toolbox talks.

CS Energy maintains external communication to the public. External parties may include Shareholding Ministers, regulators, local government, adjacent community, environmental groups, customers, community groups and the media.

CS Energy does not externally communicate information in relation to all identified significant environmental issues. It does, however, release specific information to the public predominantly in the Annual Report and community consultation forums, and to a lesser extent through the CS Energy website, National Pollutant Inventory website, factsheets and media releases.

CS Energy pursues community involvement in many areas of its operations and sponsors local community events and programs. At some sites, community reference groups allow local community issues and concerns to be addressed.

In the event of an incident or emergency situation, an officer is nominated as authorised media spokesperson in accordance with CS Energy Procedure CS-IM-02 – 'Crisis Management'.

Contact with the Department of Environment and Science (DES) is authorised by Management and coordinated through the Head of Environment and site Environmental Business Partners. The Head of Environment is authorised to contact DES in consultation with Management.

In the case of joint-ventures, agreement is reached between the joint-venture parties as to how external communications are organised. For issues related to joint-venture power plant, this is usually through the joint-venture management company.

Should complaints be received, they are managed through Procedure CS-ENV-03 'Environmental Communication and Training Process', which details the mechanism for responding to external complaints or comments.

Training is an essential element in ensuring safe and environmentally acceptable operations, compliance with company and legal requirements, and the correct response to emergencies. Training covers the areas of environmental awareness, compliance issues and environmental issue management. The online Environmental Induction module covers key environmental compliance requirements for entering and performing work at a CS Energy site. The induction identifies key environmental management areas and is compulsory for all staff and contractors working on a CS Energy site. Health Safety and Environment Plans, briefings and information booklets are prepared for major overhauls.

EMS Document	TRIM Link
CS-ENV-03 Environmental Communication and Training Process	B/D/11/31091
CS-COMMS-00 - Media and Communications Guidelines	B/D/14/22838
Callide Power Station Community Relations Plan	B/D/17/6663
Kogan Creek Power Station Community Relations Plan	B/D/17/7439

7.5 Control of Documented Information

CS Energy is a government-owned corporation and must comply with a range of document control requirements tabled below. A document management system is used to control the creation, storage, review and disposal of documents related to CS Energy operations. Most common document management functions are described within B/D/09/15135.

CS Energy 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 CS Energy business must be retained in line with minimum retention periods as detailed in legal retention and disposal schedules.

EMS Document	TRIM Link
Public Records Act 2002 Guide	B/D/13/34548
Records Governance Policy (Replaces IS40 and IS31)	Link
IS34 - Metadata	B/D/11/47579
IS18 - Information Security	B/D/11/47581

8 OPERATION

8.1 Operational Planning and Control

A wide range of operational controls are utilised at CS Energy's power stations to plan and control environmental performance including formal monitoring plans, permits to authorise activities, data reviews, inspections and scheduled tasks.

A list of Corporate EMS environmental procedures is provided within Section 8 of this Manual. Site specific environmental procedures, programs, permits and plans are detailed within Section 8 of the

individual site EMS manuals. Site specific maintenance tasks for equipment with environmental aspects are also discussed within Section 8 of the individual site EMS manuals.

- CMP-ENV-001 Callide Environmental Management System Manual C/D/16/3315
- KA-ENV-M-01 Kogan Creek Environmental Management System Manual K/D/10/1945

Document Title	TRIM Link
CS-ENV-01 - Environmental Issue Identification	B/D/11/31089
CS-ENV-02 - Developing Environmental Planning	B/D/11/31090
CS-ENV-03 - Environmental Communication and Training Process	B/D/11/31091
CS-ENV-04 - Environmental Incident Management	B/D/11/31092
CS-ENV-05 - Environmental Legal Compliance	B/D/11/31093
CS-ENV-06 - Environmental Monitoring and Measurement	B/D/11/31094
CS-ENV-07 - Environmental Audit, Review and Performance Evaluation	B/D/11/31095
CS-ENV-08 - Guidelines for Contractor Environment Management Plans	B/D/11/31096
CS-ENV-10 – Environmental Management System (ISO 14001:2015) – Internal Audit Guidance Manual	B/D/12/15420

8.1.1 Maintenance Strategies for Equipment with Environmental Aspects

Equipment Strategies are key maintenance documents within CS Energy. Assets within the power stations are divided into systems under ‘Asset Strategies’, with ‘Equipment Strategies’ detailing maintenance routines for the assets. Assets with potential environmental impacts have scheduled maintenance activities within SAP, and these preventative maintenance routines are summarised at the rear of each Equipment Strategy document.

8.2 Emergency Preparedness and Response

Emergency Response for CS Energy is covered in procedures CS-IM-01 – ‘Learning from Incidents’ and CS-IM-02 – ‘Crisis Management’. Procedure CS-IM-05 – ‘Emergency Contact Information’ lists CS Energy key staff with contact information to be used in conjunction with procedures CS -IM-01 and CS-IM-02.

Incidents which cause or have the potential to cause harm to the environment may be reportable to DES. Incidents are followed up with investigations and actions to prevent recurrence of a similar situation.

Response to emergency incidents is the role of the site rescue or response personnel. These teams consult with environmental staff if any emergency has the potential to impact the environment.

Potential incidents and their likely required response are identified through significant environmental issue identification and control plans formulated in accordance with CS-ENV-01 – ‘Environmental Issue Identification’ and CS-ENV-02 - 'Developing Environmental Planning’.

EMS Document	TRIM Link
CS-IM-01 Learning from Incidents	B/D/11/45318
CS-IM-02 Crisis Management Plan	B/D/11/43851
CS-IM-03 Emergency Response Plan	B/D/12/14048
CS-IM-05 Emergency Contacts	B/D/12/13849

9 PERFORMANCE EVALUATION

9.1 Monitoring, Measurement, Analysis and Evaluation

Reviewing environmental management at CS Energy is achieved through a number of processes. The processes used by the EMS include:

- Environmental risk reviews
- Business planning process
- Environmental KPIs
- Risk management process
- Internal audits
- External audits

The purpose and required outcomes of these processes are detailed in Procedure CS-ENV-07 'Environmental Audit, Review and Performance Evaluation'.

The overall focus of these processes is to demonstrate how CS Energy's EMS assesses environmental performance. Where possible, the information is gathered and handled in accordance with the Australian/NZ Standard ISO 14031: '"Environmental Management - Environmental Performance Evaluation – Guidelines'.

CS Energy's EMS builds on the ISO14001 requirement to assess the effectiveness and suitability of policy, objectives and targets set by the organisation. It aims to measure overall environmental performance. CS Energy measures a number of parameters against KPIs to enable it to monitor:

- Management system performance
- Plant (operational) performance
- Condition of the ambient environment

Procedure CS-ENV-07 details how CS Energy assesses its environmental performance.

Monitoring and measurement programs are set up in accordance with Procedure CS-ENV-06 'Environmental Monitoring and Measurement'. Monitoring programs cover areas such as:

- Compliance with environmental approval requirements e.g. particulate emissions, discharge water quality
- Compliance with internal policy e.g. coal stockpile dust suppression
- Performance of CS Energy's EMS
- Receiving environment monitoring
- National Pollutant Inventory emission estimation.

These monitoring programs assist CS Energy in determining the overall environmental performance of its operations.

Information gathered from the monitoring process is required for a number of internal and external reporting requirements such as:

- Environmental reports - Site and Corporate
- Environmental approval compliance reporting
- Monthly power station reports

- Monthly reports to the Executive Management Team
- Monthly and quarterly reports against Corporate goals, targets and KPIs
- Monthly Performance Reports to the Board
- EMS reviews
- External agreement progress and review reports

CS Energy publishes information on its environmental performance in its Annual Report. In addition, internal reports are prepared to support the information in the Annual Report.

9.2 Internal Audit Program

Changing regulatory requirements, market competition and community expectations dictate that environmental performance/compliance be assessed and reported. CS Energy uses environmental audits to assess the impacts and management of its operations to identify system and process improvements, including continual improvement and evaluation of compliance with legal requirements.

Audit findings are reported to management or appropriate staff through the review processes discussed in Procedure CS-ENV-07 'Environmental Audit, Review and Performance Evaluation'. The Business Improvement Register captures actions and workflows audit findings to completion.

Several types of audits may be undertaken by CS Energy (either by internal staff or by contracting external audit services). Auditors are independent of the unit being audited to ensure that results are impartial and objective.

Audits undertaken may include:

- Legal compliance
- Technical /process e.g. hazardous substance storage and management
- Energy use
- Environmental impacts
- Due diligence
- Waste management
- Environmental Management Systems

Audits are scoped according to their main objective. For example an EMS audit has the primary objective of assessing the performance of the management system, not the plant. Therefore its scope focuses primarily on compliance with procedures and management of information. In contrast, a technical audit focuses on the impacts associated with design and operation of plant or equipment.

The audit objectives will determine the protocol to be used by the auditors and the qualifications required of the auditor or audit team.

An EMS Audit Guide (CS ENV-10) has been prepared to provide consistency in internal EMS auditing.

CS Energy undertakes various audits in order to identify and manage risk and evaluate performance. The internal environmental audit schedule for CS Energy can be found in TRIM at B/D/17/17691.

EMS Document	TRIM Link
CS-ENV-07 Environmental Audit Review and Performance Evaluation	B/D/11/31095

9.3 Management Review

Management Review of the EMS is incorporated into three processes performed by the organisation (Procedure CS-ENV-07 'Environmental Audit, Review and Performance Evaluation'):

- Business Management System - Corporate Business Plan Review

Policy, goals and targets are reviewed as a part of the annual business planning process. The Head of Environment, in consultation with the Executive General Managers, reviews the current and future direction of corporate environmental strategies which includes policy, goals and targets. Site specific goals and targets are also identified in site business plans.

- Environmental Management System - Audit Review

EMS processes and procedures are audited in accordance with the annual audit schedule to seek continual improvement.

- Environmental Management System - Management Review

Management Reviews will be completed at a frequency determined appropriate at the site level as set out in the site EMS Manuals. A summary of the site-based management reviews will be presented at the Central Health Safety and Environment meeting/s as required to seek conformance with the ISO standard and continual improvement. The Management Reviews will consider all the requirements of 9.3 Management Review of the standard. A Management Review gap analysis template is available for use.

Results of the EMS Audits and Audit Actions are reviewed by the site Environmental Business Partners and corporately by the Head of Environment. EMS review is a routine agenda item for site management review meetings, and the Central HSE meeting. The site Environmental Business Partners are responsible for review of the site EMS manual and procedures.

In addition to this, the Environment Team usually have a monthly video/phone meeting. The monthly environment report and the broader site reports of which environment has a section is a means to communicate environmental compliance status, environmental management and improvements.

Business-wide and site specific KPIs are reported and discussed monthly, inclusive of environmental performance metrics as indicated in Section 5.1.4 of this Manual.

10 IMPROVEMENT

10.1 EMS Review

The Environmental Team plays a key role in monitoring and reporting on environmental compliance in relation to the various legal obligations listed in the site Environmental Authorities and other legal requirements. To assist in managing and reporting on the environmental compliance status, all environmental legal requirements are listed in Insight as 'Obligations'. Frequencies are specified in Insight and routine notifications are sent to Environmental Business Partners or the responsible person to complete and close-out obligations.

In order to maintain continual improvement, suitability, safety and effectiveness of the organisation, CS Energy's 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.

10.2 Non-conformance Procedures

All environmental complaints and incidents are documented in the SAP Incident Management Database. Depending on the nature of the incident, additional folders may be created in TRIM for reports / correspondence.

EMS Document	TRIM Link
CS-ENV-03 Environmental Communication and Training Process	B/D/11/31091
CS-ENV-06 Environmental Monitoring and Measurement	B/D/11/31094
CS-ENV-07 Environmental Audit Review and Performance Evaluation	B/D/11/31095

10.3 Non-conformance Register and Improvement Plans

There are 3 primary locations for collation of non-conformance issues and corrective actions.

- Non-conformances arising from incidents are entered into SAP with corrective actions as allocated. The process is described in CS-IM-01 Learning from Incidents B/D/11/45318 .
- Risk items with low, moderate and high risk of non-conformance are assessed with control plans entered into the Enterprise Risk Register Actions Tracker in Insight.
- The Risk Register is located within Insight and captures and prioritises business improvement actions arising from sources such as internal and external audits.

11 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 registered 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.