

CS ENERGY PROCEDURE

MANAGEMENT OF RESPIRABLE DUST CS-OHS-14

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1 PURPOSE

This procedure specifies the requirements for managing identified respirable dust risks at CS Energy, in compliance with Work Health and Safety (Qld) legislation and the Code of Practice Management of Respirable Dust Hazards in Coal-Fired Power Stations.

2 SCOPE

There are potential health effects from the exposure of dusts (coal & crystalline silica), fibres and other sources as mentioned below. Therefore, this procedure applies to all coal-fired power station workers inclusive of contractors (long & short term).

Health Effects	Dust Particle Content
Pneumoconiosis (e.g. coal workers' pneumoconiosis or 'black lung') and chronic obstructive pulmonary disease (COPD) such as bronchitis and emphysema	Coal dust, coal fly ash
Lung scarring and fibrosis (e.g. silicosis)	Asbestos, quartz (respirable crystalline silica)
Systemic toxic effects caused by absorption into the blood	Lead, manganese, cadmium, zinc
Allergic and hypersensitivity reactions	Certain woods, organic and inorganic chemicals
Cancer	Chromates, asbestos, quartz (respirable crystalline silica)
Irritation of the mucous membranes of the nose and throat	Acid, alkali, other irritating particles

Table 1 Excerpt from "Managing Respirable Dusts Hazards in Coal-Fired Power Stations Code of Practice"

3 RESPONSIBILITIES AND ACCOUNTABILITIES

3.1 General Manager Site

The General Manager of each site is responsible for ensuring:

- Dust monitoring program is administered on site.
- Implementation of the Annual Improvement Plan – Respirable Dust Management

3.2 Health and Safety Business Partner (BP)

Health and Safety Business Partners are responsible for ensuring they:

- Provide the annual health monitoring schedule
- Budget and resources are allocated to manage respirable dust control measures
- Assist with the identification of mechanisms for dust generation and specific tasks for generation of dust on site
- Liaise with the site General Managers regarding dust monitoring results (exceedances)
- Review and report on health monitoring results
- Assist with incident investigation into dust exposure exceedances
- Maintain and calibrate site dust monitoring equipment.
- Assist with administering the dust monitoring program on site
- Provide health statistics and reporting for health and safety committees
- Review the reports of dust monitoring at the power station
- Provide advice on dust reports in relation to health surveillance

- Assist and manage, health assessments onsite - including respiratory questionnaire, work history, spirometry (lung capacity checks) and case management referral for the chest x-ray process
- Liaise with the Chief Medical Officer about individual's health (as required)
- Organise fit testing of respirators for identified workers

3.3 Certified Industrial Hygienist

Industrial Hygienists are responsible for ensuring they:

- Undertake monitoring of dust risks at the Power Station at an agreed schedule.
- Recommend the monitoring plan in conjunction with the baseline data
- Report findings of dust monitoring results to CS Energy
- Provide recommendations on findings from site visits
- Annual analysis of dust monitoring outcomes

4 INTRODUCTION

Workers at coal-fired power stations engage in a range of work tasks or processes which may involve handling or exposure to respirable dust, including coal dust or coal fly ash. The combustion process, in addition to producing steam for power generation, also produces coal fly ash and bottom dust and ash, collectively known as "coal ash", as a waste product. Respirable coal dust and ash (containing variable percentages of respirable crystalline silica) and respirable crystalline silica is primarily the focus of this management plan.

Most dust clouds contain particles of varying sizes and a mixture of components depending on the environment sampled. Hazardous dust (and particles) are not always visible, larger particles are referred to as inhalable and smaller particles as respirable. When it comes to dust, size matters. It's exposure to the ultra-fine dust particles (respirable in size) and invisible to the eye, that can lead to chronic lung diseases.

4.1 Inhalable dust particles

Particles visible to the naked eye can be deposited in the nose, throat and upper respiratory tract. Due to their larger size, hairs and mucous membranes act as a natural protective barrier (collect and trap). Once trapped inhalable dust particles are expelled through coughing, sneezing, and through mucous and sputum production. This larger particle size can cause irritation and inflammation around these areas of the upper airways, such as rhinitis, bronchitis, allergens and asthma.

4.2 Respirable dust particles

Respirable dust particles are so small they are invisible to the naked eye. These particles are able to reach deep into the lungs as they easily pass through natural defences. Once respirable dust particles enter the lower lungs, it becomes more difficult for the respiratory system to clear that dust. This means exposure to respirable dust and protecting the respiratory health of workers is an important part of the risk management process at CS Energy.

4.3 Other dust hazards

Even if the dust is not at harmful levels or sizes that impact the lung (i.e. inhalable dust), it can increase the risk of physical injury because of the reduced visibility and irritation to the eyes and throat.

Asbestos, although also classified as a respirable dust, does not apply to this control plan as it is dealt with in a separate procedure for Asbestos.

CS Energy also identifies there are other (inhalable) dusts likely to be encountered and for which the risks of health effects for exposure must also be controlled such as:

- Abrasive blasting dusts such as ilmenite and garnet
- Synthetic man-made mineral fibres (e.g. glass wool, rock wool and ceramic fibres)
- Toxic dusts (e.g. Lead)
- Welding fumes

5 IDENTIFICATION OF DUST HAZARDS

A qualitative Hygiene Risk Assessment (HRA) for coal-fired power stations identifies dust risk areas, supplemented by personal monitoring for statistical analysis and ongoing exposure assessment. This approach identifies tasks that generate the highest dust exposure.

Recognising dust hazards is crucial for risk management and effective control measures. Exposure can be assessed through monitoring, observation, and worker feedback, ensuring a comprehensive understanding of workplace risk.

There are several key methods for identifying dust exposure, including:

- Personal Monitoring: Using wearable devices to measure real-time exposure levels for individual workers.
- Visual Inspections: Observing work processes to identify visible dust emissions and potential exposure hotspots.
- Task-Based Analysis: Studying specific activities, such as handling coal or maintenance work, that generate significant dust.
- Worker Feedback: Gathering insights from personnel who regularly operate in dust-prone environments.
- Data Analytics:
 - Reviewing historical monitoring data and trends to predict exposure patterns.
 - Reviewing incident reports

5.1 Mechanisms for generation of dust

The *Managing Respirable Dusts Hazards in Coal-Fired Power Stations Code of Practice* indicates that routine operations generally present low dust exposure risks. However, certain tasks can potentially lead to airborne respirable dust levels exceeding exposure standards, including:

- Coal processing (breaking, crushing, milling)
- Maintenance and cleaning of boilers, economisers, ducts, baghouses, electrostatic precipitators, and ash silos
- Major overhaul work on power plant systems

Additionally, repairing equipment with built-up ash or coal dust without prior cleaning can further increase exposure risks.

5.1.1 Overhaul Activities

Overhaul work involves multiple levels and numerous personnel, requiring careful planning and coordination. Teams manage different aspects simultaneously, making scheduling and communication critical. The environment poses respiratory and fire hazards due to fly ash and coal dust.

Key considerations include.

- Restricted access areas, typically off-limits or accessed under strict controls during normal operations.
- Scheduled overhaul tasks with large teams performing simultaneous activities on multiple levels.
- Cleaning and maintenance targeting areas where fly ash and coal dust accumulate, such as boilers, furnaces, ducts, burner fronts, fabric filters, electrostatic precipitators, and dust hoppers.

5.1.2 Coal Handling Plant

Responsible for managing coal from its arrival to its final use in the boilers, the Coal Handling Plant ensures efficient coal processing, storage, and transportation within the plant.

Key considerations include.

- Mechanical disturbance during delivery and transport (e.g. dumping coal into hoppers).
- Site movement via dozers, load-shifting equipment, or conveyor belts.
- Potential spills from belt faults, including holes or breakages.
- Storage risks, such as wind dispersing coal dust or local traffic disturbing stockpiles.



Important Note – Bag house (fabric filters) are no longer included in the sampling regime, as they consistently record exceedances that skew monitoring data. Robust controls are in place to protect workers performing replacement tasks from respirable dust exposure.

Filtration unit controls include:

- Pre-treating the unit with vibration to remove the majority of dust
- Extraction fans for effective dust removal
- Air conditioning to mitigate heat exposure
- Full air-fed respiratory protection
- Coveralls for additional protection

5.1.3 Operations and Maintenance Tasks

- Insufficient equipment inspection and maintenance, leading to dust buildup and delayed system defect repairs.
- Routine and maintenance activities in coal milling and crushing areas.
- Fly ash collection maintenance, including work on fabric filters, electrostatic precipitators, and dust hoppers.

5.1.4 Industrial Cleaning Tasks (Not Overhaul Linked)

- Insufficient cleaning practices, leading to excessive coal buildup on belt systems, conveyors, and surrounding work areas.
- Unaddressed spillages, contributing to dust accumulation and potential hazards.

5.1.5 Ash Dam and Mining

- Loading operations, where fly ash is transported, increasing airborne dust risks.
- Vehicle movement, disturbing accumulated dust on the ground and contributing to airborne exposure.

5.1.6 General Traffic Around Site

- Vehicle and pedestrian activity, lifting accumulated dust from the ground and surrounding surfaces, increasing airborne exposure risks.

5.2 Risk Factors for Respirable Dust Exposure

Various tasks at our power plants may expose workers to respirable dust, necessitating proactive monitoring and risk management.

- Airborne concentration in the worker's breathing zone.
- Particle size, whether inhalable or respirable.
- Exposure duration during work activities.
- Dust type and its biological effects.

Respirable dust monitoring helps estimate workers potential exposure and is conducted to:

- Address uncertainty about exposure levels.
- Assess whether exposure standards are being met or exceeded.
- Evaluate control measures for effectiveness

The following table defines workers at risk of exposure by the tasks they undertake:

Roles	Tasks	Potential Exposure Risk
Operations	Fly and bottom ash transport	Airborne coal dust from movement and spills
Electrical maintenance	Fuel system operations	Potential exposure to dust from coal combustion
Industrial cleaners	Ash dam/mine void cleaning	Dust disturbance during cleaning and disposal
Mechanical maintenance	Coal unloading and material handling (rail conveyor, stockpile management)	Dust exposure from handling and moving coal
On-trades maintenance (e.g. Utility Workers)	Cenosphere harvesting and storage	Exposure to airborne fine particulate matter
Technical staff	Overhaul activities	Dust exposure during major maintenance work
Conveyor belt technicians	Maintenance of coal transport systems	Dust generation from conveyor belt operations

Table 2 Tasks, Roles, Potential Exposure Risk

Whilst the roles above are generic and could be performed by direct workers or contractors (or both) depending on the operation, this list is a guide and all roles with potential exposure should be considered as part of a personal risk assessment.

Workers who may not be undertaking activities which generate dust should consider whether they could be exposed to respirable dust as a result of activities undertaken by other work parties in the area and may require respiratory protection.

5.3 Respirable Dust Monitoring Program

Certified Occupational Hygienists (COH) develop and review the respirable dust program at each site. A dust monitoring program is developed on an annual occurrence, this is based on the findings of the baseline monitoring program and previous monitoring outcomes.

An increase of personal sampling will be administered when major overhauls are being conducted on site, due to an increase in both dust exposure and in numbers of workers. Following the collection of the

minimum number of required samples in the Similar Exposure Group, occupational hygienists use descriptive and inferential statistics to estimate personal exposure.

5.4 Similar Exposure Groups (SEGs)

SEGs have been identified at each power station. SEGs are groups of workers who have the same general exposure to risk, for example:

- The similarity and frequency of the tasks they perform
- The materials and processes with which they work
- The similarity of the way they perform tasks

The results of personal sampling for groups of workers performing similar tasks or working in the same area can be combined and analysed using statistical tools to provide an estimate of exposure for the SEG. Each site maintains its own SEG Register (refer to attachments) in accordance with CS-OHS-75 Health Hazard Exposure Management.

A comprehensive review of existing roles will identify sources of dust exposure and associated risks. This review will occur approximately every five years or sooner if new, significant health risks are identified and is recorded in the Job dictionary.

5.4.1 Contractor Management

All contractors outside of the Overhaul and Outage period will follow the CS Energy dust management strategy, aligning with full-time employees.

During Overhaul periods, increased dust exposure and workforce numbers necessitate integrating dust management into the Overhaul Safety Management Plan, with additional dust sampling commissioned by CS Energy.

5.5 Shift Arrangements

Exposure standards have been set for dust and are adjusted accordingly for changes in hours worked in each shift. The following table outlines the adjusted exposure standards for respirable dust and silica for the different shift arrangements.

Shift (hrs)	Respirable Dust (mg/m ³)	Silica (mg/m ³)
7.6 (5 on/2 off)	1.5	0.05
9.5 (4 on/3 off)	1.5	0.05
10 (5 on/2 off)	1.2	0.04
12 (4 on/6 off)	1.5	0.05

Table 3 Shift Arrangements

5.6 Sampling methods

Sampling for inhalable and respirable dusts is undertaken in accordance with AS 3640: Workplace atmospheres—Method for sampling and gravimetric determination of inhalable dust and AS 2985: Workplace atmospheres—Method for sampling and gravimetric determination of respirable dust.

Sampling can be undertaken in three ways:

- Personal sampling – a dust measurements collected from within the breathing zone of the worker for at least 80% of the shift length. Measured against an occupational exposure standard (OES).
- Static sampling – fix monitor for set periods of time, used as an indicator for areas with perceived risk factors. This sampling is not able to be measured against an OES as personal sampling is.

- Real time sampling - a direct-reading device to measure dust concentrations, is not routinely conducted as this cannot be converted to an OES. Laboratories performing analysis of respirable dust samples are certified to ISO/IEC 17025, which is an international standard that sets requirements for the competence, impartiality and consistency of testing and calibration.

Void or invalid samples will be noted but not used for estimating personal exposure. Equipment used to sample respirable dust should be subject to periodic calibration and maintenance, if relevant, as per *Australian Standard 2985 Workplace atmospheres – Method for sampling and gravimetric determination of respirable dust* (AS 2985). Records of calibration must be kept.

6 CONTROLLING RESPIRABLE DUST RISKS

6.1 Dust Control Strategy

A site specific Annual Improvement Plan – Respirable Dust Management is developed to identify sources of dust generation which covers the following matters:

- identify sources of dust generation
- develop and implement dust controls for each activity
- follows the hierarchy of controls to manage the risk of dust exposure - the primary aim should be to limit dust exposure via the control of excessive dust emissions rather than relying on respiratory protective equipment which should be used as a secondary measure
- incorporate dust control measures into shift and daily routines and these are documented and adequately resourced in short-term and long-term planning processes
- review the effectiveness of controls in a systematic way
- inspect, maintain and monitor controls and equipment (by appropriately trained and competent persons).

Effective dust control requires a combination of measures. Whenever possible, wet processes and water suppression systems should be used to minimise dust generation and dispersion. Ventilation and good housekeeping are essential for maintaining a safe environment. Additionally, restricted access to work areas and staff rotation help reduce prolonged exposure risks.

6.2 Elimination / Substitution Controls

6.2.1 New plant

When preparing specifications for installation of new plant, consider the uncontrolled discharge of airborne dust from plant into the work environment, dust suppression systems, maintenance schedules including inspection and repair of all seals where dust may escape.

6.2.2 Existing plant

Maintenance and regular checks of existing equipment to ensure design of plant keeps dust enclosed. If plant is modified, consideration must be given to eliminating dust emissions and a plant modification process will be followed.

6.3 Engineering controls

6.3.1 Mechanical handling

Consider mechanical, automated and remotely controlled methods (minimise exposure to workers or remove workers from potential exposure)

6.3.2 Ventilation

Dilute ventilation, local exhaust ventilation, implement dust suppression measures where dust generation is visible, use dust suppression measures (e.g. water trucks) on unsealed roads and access tracks.

6.3.3 Dust suppression techniques

Use water sprays or alternative dust suppression measures to manage dust generation from stockpiles.

6.4 Isolation, Segregation or Enclosure

6.4.1 Isolation

All stockpile heavy mobile machinery must have enclosed cabins with windows up at all times, air filtering systems to the intake and cabin recirculation on, dust seals and effective pressurisation.

6.4.2 Exclusion zones

Exclusion zones may be necessary to protect workers in the vicinity from exposure to respirable dust. Signs should warn that there is a dust hazard present and access must be restricted to authorised persons.

6.5 Administrative Controls

6.5.1 Housekeeping

- Maintain good housekeeping by regularly removing accumulated dust in work areas.
- Conduct routine inspections in high-risk zones where dust emissions are known to occur.
- Schedule inspections and audits, identifying issues and implementing contingency actions as needed.

6.5.2 Servicing and maintenance

Machinery, plant, other production equipment regularly maintained (including spray water equipment). Maintain all dust covers, water sprays, dust extraction systems and other dust suppression systems and measures in good working order.

Take into consideration the wind speed, direction and the strength of temperature inversions in order to minimise the impact of windblown dust.

6.5.3 Information, training, instruction and supervision

Familiarise all personnel associated with dust management activities with the requirements of this procedure. Include information on dust management requirements in site inductions or site communications where relevant. Conduct toolbox talks and develop environmental site notices and environmental awareness posters periodically highlighting dust management requirements.

6.6 Personal Protective Equipment

6.6.1 Respiratory protective equipment (RPE)

RPE should never be used as the primary means for exposure control.

In all uses of RPE, a RPE program should be established in accordance with applicable sections of AS/NZS 1715, *Selection, use and maintenance of respiratory protective equipment*, for particulate filter respirators. RPE should be suitable for the task being performed. If relevant, a Safety Data Sheet (SDS) should be referred to ensuring the correct RPE is chosen.



Important Note – Facial hair, including beards, moustaches, and stubble, can prevent a tight seal when using respiratory protective equipment (RPE). Workers required to wear tight-fitting respirators must ensure a proper fit, as gaps caused by facial hair can compromise protection. Education on selecting the most suitable respirator is essential to maintain safety and effectiveness

6.6.2 Training and Fit Testing

Personnel required to utilise respiratory protective equipment are provided with:

- Training on proper use and maintenance.
- Appropriate piece of equipment to allow a good seal of the respirator to the face
- Biannual testing ensures equipment provides adequate individual protection.
- Real-time visual seal verification via a graph produced by Porta count machine.

Fit testing should be carried out by a competent person:

- each time a new make or model of respirator is issued.
- whenever there is a change in the wearer's facial characteristics or features which may affect the facial seal (e.g. large weight loss or gain).

A fit testing register will be maintained for records of all fitment testing undertaken for employees and contractors. The register will include the following:

- Description of respiratory protective equipment issued
- Training in the selection, application of the device, maintenance schedule requirements
- Face fit results
- Medical screening
- Position title
- Name of individual
- Company
- Date of test
- Method of fit testing

6.6.3 Maintenance of RPE

- Storage: Keep RPE free from dust and moisture to maintain effectiveness.
- Inspection: Users must check equipment before each use to ensure it is free from damage.
- Replacement: Damaged RPE must be replaced immediately to ensure proper protection.
- Positive Air Pressure Respirators must be sent out for servicing by an approved provider every six months, or as per manufacturers requirements

7 REVIEWING CONTROL MEASURES

Reviewing the effectiveness of control measures may be done in a number of ways:

- Additional air monitoring
- Reviewing current control measures are implemented, following an exceedance investigation
- Consult with workers

- Conduct workplace inspections
- Analyse incident reports and statistical data
- Review the site risk register
- Implement specific tasks for generation dust and link with Job dictionary tasks, reviewed every 5 years. Include the Overhaul SEG's.

7.1 Investigating Exposure Exceedances

Where a single air monitoring sample exceeds the exposure standard, or it is likely the worker has been exposed to respirable dust an investigation is required to determine if control measures were effective at the time of sampling or what additional control measures need to be implemented.

In Addition:

- A personal letter will be sent to the monitored worker where an exceedance was measured, and further discussion will occur as part of the investigation process.
- It may be necessary to resample a SEG following an exceedance if determined by the investigation.

Any SEG which exceeds 50% of the exposure standard is a trigger to undertake a review of exposure controls and their effectiveness.

8 HEALTH MONITORING

Respiratory health assessments may be necessary if a worker is exposed to a dust concentration greater than the recommended occupational exposure limit. At a minimum the following techniques will be used to check a worker's respiratory health.

- A chest X-ray to be reviewed by two qualified b-readers with additional readers available for adjudication. A b-reader is a radiologist who has undertaken specialised training to detect coal dust lung diseases such as coal workers' pneumoconiosis, silicosis, mixed dust pneumoconiosis and progressive massive fibrosis.
- Spirometry (lung function) testing tool which is used to detect restrictive & obstructive lung conditions such as emphysema, bronchitis, dust induced fibrosis and acute silicosis.

. All workers will have baseline respiratory health assessment completed in the pre-employment medical which includes, chest x-ray, spirometry testing, respiratory and work history questionnaire. If the results of these tests are abnormal then a referral will be made to a respiratory physician for further investigations and diagnosis.

9 REPORTING AND RECORDKEEPING

Personal records of monitoring must be kept confidential for at least 30 years after the record is made (40 years for reports relating to asbestos exposure).

9.1 Informing the worker

Where an exceedance is measured for an individual, the worker will receive a personal letter informing them of the sampling results.. Workers in the SEG will be informed through toolbox meetings of monitoring results,.

9.2 Informing the Health, Safety and Environment Committee

Results of findings from the hygiene monitoring program will be presented at the Callide Health, Safety and Environment Committee. Individual's names will not be discussed but findings from the monitoring program, affected SEGs and corrective measures will be discussed.

9.3 Informing the Regulator

Informing the regulator on the approved form when a Single Sample Exceedance Result occurs. In addition, the Regulator should be informed as soon as reasonably practicable following the investigation and the decision-making process relating to further action.

10 DEFINITIONS

Term	Definition
HRA	Hygiene Risk Assessment is a documented assessment of health hazards and qualitative risk assessments at CS Energy
Occupational Hygiene	Occupational hygiene uses science and engineering to measure the extent of worker exposure, and to design and implement appropriate control strategies to prevent ill health caused by the working environment. It helps employers and employees understand the risks and promotes improved working conditions and working practices.
OES	Occupational Exposure Limit is the maximum permissible concentration of a given gas, vapour, fibre or dust in the air in the workplace
Qualitative Hygiene Risk Assessment	Evaluation of potential personal exposure to workplace chemicals, physical, radiological, and/or biological agents based on personal experience and professional judgment.
Quantitative Hygiene Risk Assessment	Evaluation of actual personal workplace exposure to chemical, physical, radiological, and/or biological agents using accredited numerical and mathematical analysis.
SEG	Similar Exposure Groups are groups of workers who have the same general exposure to health and hygiene risk
Cenospheres	Waste products generated from the production of power from coal combustions.

11 REFERENCES

Reference No	Reference Title	Author
	Work Health and Safety Act	Qld Govt
	Work Health and Safety Regulation	Qld Govt
	Code of Practice - Management of respirable dust hazards in coal-fired power stations	Qld Govt
	Hygiene Risk Assessment (HRA) – Site Specific	GCG
K/D/19/24986	Kogan Annual Improvement Plan – Respirable Dust Management	CS Energy
C/D/19/8935	Callide Annual Improvement Plan – Respirable Dust Management	CS Energy
B/D/11/30966	CS-OHS-43 Asbestos Management Plan	CS Energy
C/D/15/37419	Callide Asbestos Register	CS Energy
B/D/17/17210	CS-OHS-75 Health Hazard Exposure Management	CS Energy
B/D/10/7377	CS-AM-010 Plant Modification Procedure	CS Energy
B/D/12/11085	CS-OHS-36 Barricades and Signage Procedure.	CS Energy
	AS 2985: Workplace atmospheres - Method for sampling and gravimetric determination of respirable dust	
	AS 3640: Workplace atmospheres—Method for sampling and gravimetric determination of inhalable dust	
	ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories	
	AS/NZS 1715: <i>Selection, use and maintenance of respiratory protective equipment,</i>	

12 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.

13 ATTACHMENTS

13.1 Attachment 1 - Callide SEG

4.0 Callide PS Similar Exposure Group (SEG)	Organisational Groups	Code
4.1 CAL - Administration	Senior Management, Commercial, Health & Safety, Security, Procurement, Finance, HR	ADMC
4.2 CAL – Shift Production Operators	Shift Production SEG are engaged in the operation of the power station facilities associated with the generation of electricity. Shift is 12.5 hrs 4 on 4 off. A significant component of the work involves the operation of plant through a digital control system in a plant control room. Production operators involved in control room activities spend the majority of a working shift seated at a control panel, viewing a series of large LCD screens displaying the plant controls in real time. Operators (Outside) provide field support to the control room operators and perform manual checks and interventions on plant as required. Shift Operators	POPC
4.3 CAL - Mechanical Maintenance	Incorporating the maintenance employees covering both B and C stations and Common plant mechanical maintenance. Callide B and Callide C Unit Maintenance, Common Plant Maintenance groups including non-trade.	MMAC
4.4 CAL - E&IC Maintenance	The Electrical and Instrument Control (E&IC) Maintenance SEG performs maintenance and inspection functions on the plant control systems. These employees spend the majority of time in the field around plant systems interacting with electrical, instrumentation and IT equipment. Callide B and Callide C E&IC Maintenance technicians	EMAC
4.5 CAL – Ash Processing	SEG is involved in the management of the Waste Containment Facility (Ash Dam), and removal of ash and dust residues from the station to the dam for storage. Most of the work is performed from within earthmoving vehicles such as dump trucks, excavators and water trucks.	APRC
4.6 CAL – Coal Operations	SEG covers mobile equipment services to the coal stockpile. These are primarily contracted positions and involve extended periods operating mobile earthmoving equipment.	COPC
4.7 CAL – Field-based Supervisors	Field-based Supervisors oversee the actions of employees in production and maintenance functions during their work. This involves the scheduling, assigning and review of work performed on the station and may result in the supervisor being on the job site for a period. The remaining time is primarily spent in office or workshop environments. Maintenance Supervisors, Production Supervisors	FSUC
4.8 CAL -Technical Services	Provision of specialist technical supervision and advice to the power station operations and maintenance. A range of mechanical, electrical and civil engineering services are contained in the SEG along with overhaul planning and project management functions. Plant engineers are in the station on a daily basis for a varying period of time and are likely to be exposed to noise and dusts regularly. Specialist engineering functions spend time in the station at a lower frequency. Much of the engineering work is inspection-based with limited opportunity for exposures to chemicals aside from incidental exposure to dusts arising from leaks or fugitive emissions. Plant Engineers, Contracted Services, Overhauls, Technical Project teams, Chemists, Health & Safety are included as site based advisory functions.	TSEC
4.9 CAL - Chemical Operations	Consists of a small number of specialised production operators who oversee the operation of process water treatment plant outside of the main power station building. Also includes Laboratory personnel engaged in periods of time spent in the field and in office settings. Does not include Chemists – included in Technical Services.	CHEC
4.1 CAL – Facilities Maintenance	Encompasses a range of activities conducted by staff and contractors to provide industrial cleaning, domestic cleaning and domestic trades (such as Carpentry, Plumbing, air conditioning maintenance). Also, a small cohort of workers who provide grounds-keeping and vegetation management services.	FMAC
4.11 CAL – Warehouse	Personnel working both within the warehouse building and outside yard storage. Their activities involve the receiving and transferring of goods and equipment to undercover or yard locations. Much of this work is performed with forklift trucks. Warehouse, Tool store Officers	WARC

13.1.1 Attachment 1.1 - Overhaul SEG

5.0 Overhaul Similar Exposure Group (SEG)	Organisational Groups	
5.1 Overhaul Industrial Cleaners	Groups – usually contractor employees – who typically work for finite durations on power station sites performing specific activities on overhaul.	OHIC
5.2 Overhaul Air Heater Repairs		OHAC
5.3 Overhaul Baghouse		OHBH
5.4 Overhaul Ducts & Burners		OHDB
5.5 Overhaul Ladders		OHLA
5.6 Overhaul Scaffolders		OHSC

13.2 Attachment 2 - Kogan Creek SEG

3.0 Kogan Creek PS Similar Exposure Group (SEG)		Organisational Groups	
3.1	KOG - Administration	Senior Management, Commercial, Procurement, Finance, HR, other administrative functional areas	ADMK
3.2	KOG – Shift Production Operators/ Plant Control Operators	Plant Control Operators/Shift Production SEG are engaged in the operation of the power station facilities associated with the generation of electricity. Shift is 12.5 hrs 4 on 4 off. A significant component of the work involves the operation of plant through a digital control system in a plant control room. Production operators involved in control room activities spend most of a working shift seated at a control panel, viewing a series of large LCD screens displaying the plant controls in real time. Operators (Outside) provide field support to the control room operators and perform manual checks and interventions on plant as required.	POPK
3.3	KOG - Mechanical Maintenance	Mechanical maintenance employees covering both station and unit plant, these personnel perform mechanical preventative maintenance, in-service running checks and breakdown maintenance. Kogan Creek Unit Maintenance, Kogan Creek Station Maintenance	MMAK
3.4	KOG - E&IC Maintenance	Combines plant electrical maintenance as well as electrical and instrument control (E&IC) personnel. Members of this SEG perform planned maintenance and inspection functions on the plant electrical distribution system as well as instrumentation control systems Electrical and Electrical/Instrumentation Maintenance technicians.	EMAK
3.5	KOG – Ash & Coal Processing	Management of the ash and dust disposal facility. Ash Disposal Operators and Operators involved in the coal stockpile management, bunkering and delivery of coal fuel to the station	ACPK
3.7	KOG – Field-based Supervisors	Field-based Supervisors oversee the actions of employees in production and maintenance functions during their work. This involves the scheduling, assigning and review of work performed on the station and may result in the supervisor being on the job site for a period. The remaining time is primarily spent in office or workshop environments. Maintenance Supervisors, Production Supervisors	FSUK
3.8	KOG – Technical Services	Provision of specialist technical supervision and advice to the power station operations and maintenance. A range of mechanical, electrical and civil engineering services are contained in the SEG along with overhaul planning and project management functions. Plant engineers are in the station on a daily basis for a varying period of time and are likely to be exposed to noise and dusts regularly. Specialist engineering functions spend time in the station at a lower frequency. Much of the engineering work is inspection-based with limited opportunity for exposures to chemicals aside from incidental exposure to dusts arising from leaks or fugitive emissions. Plant Engineers, Contracted Services, Overhauls, Technical Project teams, Chemists, Health & Safety are included as site based advisory functions.	TSEK
3.1	KOG – Facilities Maintenance	Encompasses a range of activities conducted by staff and contractors to provide industrial cleaning, domestic cleaning and domestic trades (such as Carpentry, Plumbing). Also a small cohort of workers who provide grounds-keeping and vegetation management services.	FMAK
3.11	KOG - Warehouse	Personnel working both within the warehouse building and outside yard storage. Their activities involve the receiving and transferring of goods and equipment to undercover or yard locations. Much of this work is performed with forklift trucks. Warehouse, Tool store Officers	WARK

13.2.1 Attachment 2.1 - Overhaul SEG

5.0 Overhaul Similar Exposure Group (SEG)		Organisational Groups	
5.1	Overhaul Industrial Cleaners	Groups – usually contractor employees – who typically work for finite durations on power station sites performing specific activities on overhaul.	OHIC
5.2	Overhaul Air Heater Repairs		OHAC
5.3	Overhaul Baghouse		OHBH
5.4	Overhaul Ducts & Burners		OHDB
5.5	Overhaul Ladders		OHLA
5.6	Overhaul Scaffolders		OHSC