



Newcastle Coal
INFRASTRUCTURE GROUP

Operation Spontaneous Combustion

Management Plan



DOCUMENT NO:	HSEC.MPLN.12.05
NEXT REVIEW DATE:	13-03-2028
REVIEW FREQUENCY:	3 years
DOCUMENT OWNER:	Wade Covey
DOCUMENT APPROVER:	Manager Sustainability

KEY ELEMENTS



The Key Elements provide an overview of this Management Plan. If you are required to complete work in relation to this procedure, it is essential that you familiarise yourself with the contents of the whole management plan.

- If stockpiled coal approaches a residency time of 60 days, the identified coal must be prioritised for shipping.
- The level of risk of a spontaneous combustion event will determine the appropriate actions. Section 4.2 (Spontaneous Combustion Remedial Actions) outlines the appropriate remedial actions that can be taken to control the event.
- Where monitoring results indicate values in excess of the relevant coal stockpile criteria (Section 5.1.1), reporting procedures must be followed and data validation will be undertaken to establish if stockpile treatment is required or measures put in place for the prevention of spontaneous combustion.
- An Environmental Risk Event (ERE) Checklist is required to be completed when evidence of spontaneous combustion is observed including smoke, odour or steam and/or if a stockpile residency is greater than 60 days or high temperatures are recorded during monitoring. The ERE Checklist must include actions taken to control or mitigate the situation.

TABLE OF CONTENTS

1.	CONTEXT	4
1.1	Purpose	4
1.2	Scope 4	
1.3	Structure	5
2.	LEADERSHIP AND COMMITMENT	6
2.1	NCIG Sustainable Operations Management Approach	6
2.2	Roles, Responsibilities and Functions.....	6
2.2.1	Chief Executive Officer (CEO)	6
2.2.2	Manager – Sustainability	6
2.2.3	Executive Leadership Team (ELT)	7
2.2.4	HSEC Department	7
2.2.5	Superintendents / Team Leaders	7
2.2.6	All Workers	7
3.	PLANNING AND SYSTEM SUPPORT	7
3.1	Coal Spontaneous Combustion	7
3.2	Coal Handling and Stockpile Operations Coal Accumulation	7
3.3	Impacts of Spontaneous Combustion	8
3.4	Legislation, Approvals and Licensing Requirements	10
3.4.1	Legislation and Policies.....	10
3.4.2	Approvals and Licences	10
4.	OPERATION AND IMPLEMENTATION	11
4.1	Spontaneous Combustion Preventative Measures	11
4.2	Spontaneous Combustion Remedial Actions	11
5.	PERFORMANCE EVALUATION AND IMPROVEMENT	12
5.1	Monitoring	12
5.1.1	Stockpile Monitoring	12
5.1.2	Data Recording and Review.....	13
5.1.3	Environmental Risk Event Checklist.....	13
5.2	Internal Auditing	13
5.3	Incident Review	13
5.4	Corrective Action	13
5.5	Reporting	14
5.6	General Review	14
5.6.1	Management Review.....	14
6.	REFERENCES	14
7.	REVISION HISTORY	15

1. CONTEXT

Newcastle Coal Infrastructure Group (NCIG) is the operator of a Coal Export Terminal (CET) located in the industrial area of Kooragang Island in the Port of Newcastle. NCIG has approval to construct and operate a 79 Million Tonnes per Annum (Mtpa) CET, including associated rail and coal handling infrastructure and wharf/ship loading facilities.

NCIG's activities have the potential to cause spontaneous combustion, including the generation of odour from site. This is exclusively related to coal handling activities.

This management plan outlines the ways in which NCIG plans, implements and monitors its activities to mitigate spontaneous combustion impacts. The plan is specifically developed to meet the needs and expectations of NCIG's stakeholders, as provided for in the overarching NCIG *Operation Environmental Management Plan* (HSEC.MPLN.12.01).

1.1 Purpose

The Operation Spontaneous Combustion Management Plan (OSCMP) has been developed in order to document the way in which NCIG manages activities that have the potential to create spontaneous combustion of coal. It outlines the system that identifies and assesses these risks including statutory and approval requirements, the controls and procedures that manage these risks, and measures to review the system including its effectiveness. Critical to this approach is business leadership and involvement, particularly at the planning and review stage to ensure that clear objectives and targets are established, and adequate resources are provided in order to achieve these.

The system outlined in this document is consistent with the framework established by the business and contained within the NCIG *Sustainable Operations Management Plan* (HSEC.MPLN.01). This framework (Plan-Do-Check-Act) is shown in more detail in the overarching NCIG *Operation Environmental Management Plan* (HSEC.MPLN.12.01).

1.2 Scope

This OSCMP applies to the operation of the NCIG CET up to the maximum 79 Mtpa capacity (in accordance with Condition 1.1 of the CET Project Approval (06_0009)). It applies specifically to coal handling activities undertaken to operate the CET, including general operations and maintenance activities.

The NCIG CET operation is located on the south arm of the Hunter River. The following three major activities are undertaken during operations:

- **Train Unloading** – trains enter the NCIG site from the Kooragang mainline, travel along the rail spur and empty their coal wagons into one of two dump stations. Empty trains travel around the rail loop then rejoin the mainline.
- **Coal Handling and Stockpiling** – coal is transferred from the dump station, via a series of conveyors, to the stockyard for stockpiling. One of four stacker/reclaimers are used to stack coal onto the stockpile and reclaim coal via a bucket-wheel. Coal is reclaimed from the stockpile and sent to the wharf via an outbound series of conveyors.
- **Ship Loading** – Two ship loaders are available to transfer coal onto ships at berth, drawing from the buffer bins. There are three berths at the NCIG wharf, taking three ships at any one time.

The CET Operational site is shown on **Figure 1** based on the maximum allowable coal throughput of 79 Mtpa.

Other key features of the NCIG CET include the water management system (including containment and reuse of water onsite), Administration, Store and Workshop Buildings, access roads and internal roads, utilities including electricity, water and sewer infrastructure, and site security features.

1.3 Structure

This OSCMP is structured as follows:

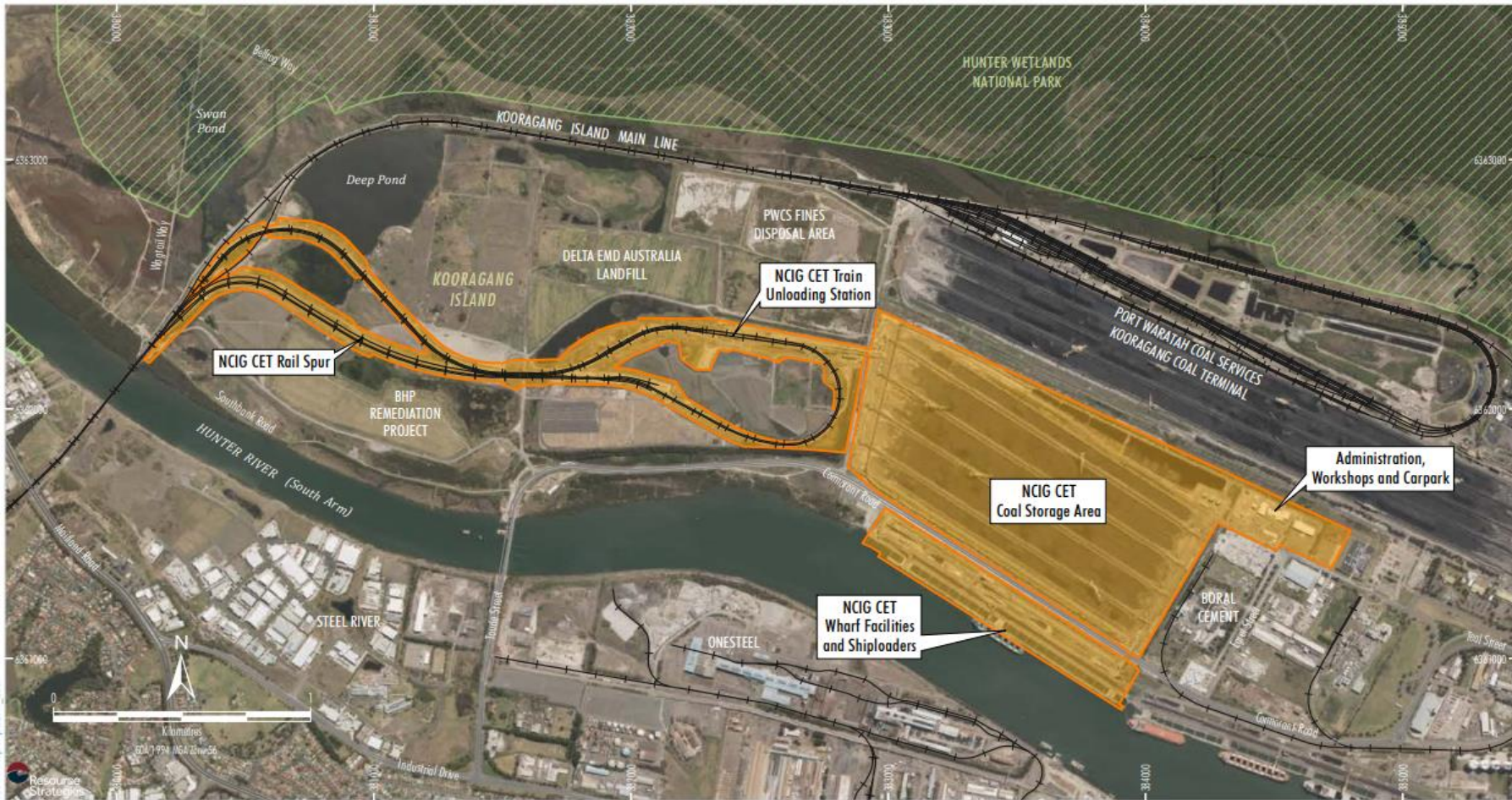
Section 2 – Leadership and Commitment.

Section 3 – Planning and System Support, including existing environment and environmental assessment, risk management, legislative requirements and compliance obligations.

Section 4 – Operation and Implementation, including key operational controls and impact management.

Section 5 – Performance Evaluation and Improvement, including spontaneous combustion monitoring and reporting.

NCIG was granted Project Approval (06_0009) on 13 April 2007. This OSCMP has been prepared in accordance with all relevant conditions in the Project Approval (06_0009).



LEGEND
 —+— Railway
 National Park/Consevation Area
 Approximate Extent of Approved NCIG CET

Source: NSW Spatial Services (2019)
 Orthophoto: NSW Spatial Services (2019)

MODIFICATION REPORT
 Approved General Arrangement
 of the NCIG CET

Figure 1. NCIG Project General Arrangement

2. LEADERSHIP AND COMMITMENT

2.1 NCIG Sustainable Operations Management Approach

NCIG's leadership commitment is provided in more detail in the NCIG *Operation Environmental Management Plan* (HSEC.MPLN.12.01). Beyond this, NCIG management provides support for the effective management of environmental issues by:

- providing adequate resources for the management of spontaneous combustion aspects;
- ensuring integration of spontaneous combustion management requirements throughout business processes, eg. risk assessment, procurement and acquisition;
- communication of spontaneous combustion performance and conformance with environmental requirements, eg. Quarterly Board Reports, internal communications; and
- ensuring that spontaneous combustion management is reflected across business and departmental objectives, through the development of objectives and targets during the annual business planning process – see Section 3.3.

NCIG strives to achieve best practice for environmental management, including spontaneous combustion management. For this reason, the NCIG SDMP, which includes this OSCMP, aims to comply with the provisions of ISO14001:2015, which is supported and actively assisted by the Executive Leadership Team.

2.2 Roles, Responsibilities and Functions

Management of spontaneous combustion issues is regarded as the responsibility of all NCIG employees and contractors. As well as this, key environmental accountabilities fall with senior and environmental-specific roles within the organisation. Key accountabilities are outlined in the following sections.

2.2.1 Chief Executive Officer (CEO)

- Actively promote and support the effective implementation of this plan
- Ensure adequate resources are provided to manage spontaneous combustion aspects and impacts of the business

2.2.2 Manager – Sustainability

- Ensure the adequacy of this plan to meet relevant approval and licence conditions, legislative requirements and other compliance obligations
- Ensure that the Sustainable Development Management Plan, which includes this management plan, complies with ISO14001.
- Ensure the plan is aligned with relevant NCIG policy and kept up to date with industry best practice
- Ensure spontaneous combustion risks are covered in Broad Brush Risk Assessments (BBRAs)
- Develop the plan in consultation with other NCIG Departments and, where relevant, other stakeholders, eg. government regulators
- Monitor the effective implementation of this plan
- Ensure adequate levels of spontaneous combustion management training for all levels of personnel
- Accountable for the timely and effective response of community enquiries, including complaints related to spontaneous combustion and odour, in accordance with Condition 6.2, Schedule 2 of the Project Approval (06_0009)
- Principal point of contact for environmental regulators
- Ensure environmental performance is reported regularly to the ELT and Board of Directors through appropriate means, eg. Quarterly Board Reports.
- Fulfil the role of Department of Planning and Environment (DoPE)-approved Environmental Representative for the NCIG Project (see Appendix B), including taking reasonable steps to

avoid or minimise unintended or adverse spontaneous combustion impacts, and failing the effectiveness of such steps, to direct that relevant actions be ceased immediately should an adverse impact on local odour be likely to occur.

2.2.3 Executive Leadership Team (ELT)

- Ensure this management plan is implemented in their area of accountability
- All direct reports adhere to the requirements of this plan
- All direct reports have sufficient resources to adequately comply with and continuously improve this plan

2.2.4 HSEC Department

- Ensure that this plan is developed to meet or exceed the requirements of relevant approval and licence conditions, legislative requirements and other compliance obligations
- Ensure that this plan is developed to address potentially significant impacts resulting from spontaneous combustion events
- Assist other departments in the implementation of controls outlined in this management plan
- Maintain records of complaints incident report relating to spontaneous combustion
- Monitor and review compliance of this plan, including auditing and compliance tracking required in Project Approval (06_0009)
- Any non-conformance of the plan is appropriately addressed through corrective actions, eg. incident or hazard reporting, review of action.

2.2.5 Superintendents / Team Leaders

- Ensure all direct reports are aware of the requirements of this management plan
- All spontaneous combustion matters are brought to the attention of the Manager – Sustainability

2.2.6 All Workers

- Actively apply and participate in the application of this plan.

It is noted that, where relevant, these accountabilities have been formalised by NCIG management in the various Position Descriptions for NCIG personnel.

3. PLANNING AND SYSTEM SUPPORT

3.1 Coal Spontaneous Combustion

Spontaneous combustion is the process of self-heating of coal by oxidation of exposed coal surfaces which occurs at or near ambient temperature producing heat energy. On exposure to air, coal undergoes a continuous oxidizing reaction. A hazard exists when the rate of heat production by this exothermic reaction exceeds the rate of cooling, produced mainly by the convective effects of air. The coal can then increase in temperature until combustion takes place. The actual spontaneous combustion process is complex and subject to a number of influencing factors, including gas content, water content, particle size, secondary mineralisation, oxygen supply and the rate of exposure of the coal to oxygen and convection cooling.

3.2 Coal Handling and Stockpile Operations Coal Accumulation

The major conditions for coal spontaneous combustion at the NCIG site are environments where accumulations of oxidising coal are present in an atmosphere which provides a sufficient supply of oxygen. Project operation activities are:

Train Unloading

Coal trains enter the site from the Kooragang Island main line, and travel along rail spurs and empty their coal wagons into one of two train unloading stations. The train unloading station has the capacity to unload up to approximately 10,000 tonnes of coal per hour. Potential areas of coal accumulation are: at the unloading station; areas around the exit of unloading station; areas around conveyors and transfer points. In addition, incoming coal may be subject to spontaneous combustion from stockpiling at mine operations.

Coal Handling / Stockpiling

Coal is transferred from the train unloading stations to the coal storage area for stockpiling via stacking conveyors. Coal is reclaimed from the coal storage area and conveyed to the wharf facilities and ship loaders as required. Potential areas of coal accumulation are: areas around conveyors and transfer points, however, stockpiling provides the largest area of accumulated coal and is subsequently the major area for potential spontaneous combustion. Remnant coal in the stock pad, unable to be reclaimed by the Stacker Reclaimers, is particularly susceptible to spontaneous combustion. This is due to significant residency periods.

Ship Loading

Ship loaders operate at a 10,500 tonne per hour nominal capacity and peak at up to 12,500 tonnes per hour when drawing coal from the buffer bins. Potential areas of coal accumulation are: at the areas around conveyors, transfer points, buffer bins and ship storage.

3.3 Impacts of Spontaneous Combustion

Ignition of accumulated coal has the potential to occur in and around the rail infrastructure corridor and train unloading station, conveyors and transfer points, stockpile and ship loading facility. NCIG have identified potential impacts and implemented control measures with the aim of minimising the occurrence and effects of spontaneous combustion (Table 1).

Table 1. Potential Spontaneous Combustion Sources/Impacts

PROJECT SITE	POTENTIAL IMPACT SCENARIO	POTENTIAL IMPACTS	MITIGATION AND CONTROL MEASURES	PERSONNEL RESPONSIBLE
Rail Infrastructure Corridor (rail spurs, loops and train unloading station)	Accumulation of spilled coal at unloading station. Spontaneous combustion or ignition of coal due to machinery fire or hot work.	Combustion of coal causing fire, heat, smoke, toxic gases, dust and ash.	<p>Appropriate training, regular monitoring, and mitigation controls. Coal spill management. Spontaneous Combustion Response Procedure, Emergency Response Plan.</p> <p>Fire Control Plan.</p> <p>Inbound coal temperature monitoring.</p> <p>Coal spill management. Minimise accumulated coal residence time. Removal of hot coal.</p> <p>Removal of accumulated coal.</p>	Operational Capability Team
	Accumulation of spilled coal at conveyer system. Spontaneous combustion or ignition of coal due to machinery fire or hot work.			
	Accumulation of spilled coal at transfer points. Spontaneous combustion or ignition of coal due to machinery fire or hot work.			
	Coal arriving at site at an elevated temperature may cause spontaneous combustion issues in the train, Dump Station, on the conveyor or in the Stockyard.			
Coal Storage Area	Accumulation of spilled coal at stacker/reclaimer. Spontaneous combustion or ignition of coal due to machinery fire or hot work.	Combustion of coal causing fire, heat, smoke, toxic gases, dust and ash.	<p>Appropriate training, regular monitoring, and mitigation controls.</p> <p>Spontaneous Combustion Response Procedure, Emergency Response Plan.</p> <p>Fire Control Plan.</p> <p>Residency monitoring in LMS</p> <p>Weekly temperature monitoring on higher residency coal stockpiles</p> <p>Routine clearing of remnants from stockyard</p> <p>Coal spill management. Minimise accumulated coal residence time. Removal of hot coal.</p>	Operational Capability Team
	Stockpile coal. Spontaneous combustion or ignition of coal due to machinery fire or hot work.			Customer Assurance Team
	Accumulation of spilled coal at transfer points. Spontaneous combustion or ignition of coal due to machinery fire or hot work.			
	Coal with long residency times (>60 Days) increases the risk of spontaneous combustion in the Stockyard.			
	Remnant coal (due to Stacker Reclaimer reach limits) in the centre of the stockpile pads could cause spontaneous combustion			
Wharf Facilities and Shiploader Area	Accumulation of spilled coal at conveyer system. Spontaneous combustion or ignition of coal due to machinery fire or hot work.	Combustion of coal causing fire, heat, smoke, toxic gases, dust and ash.	<p>Appropriate training, regular monitoring, and mitigation controls.</p> <p>Spontaneous Combustion Response Procedure, Emergency Response Plan.</p> <p>Fire Control Plan.</p> <p>Coal spill management. Minimise accumulated</p>	Operational Capability Team
	Accumulation of spilled coal at transfer points. Spontaneous combustion or ignition of coal due to machinery fire or hot work.			
	Accumulation of coal at buffer bins. Spontaneous combustion or ignition of coal due to machinery fire or hot work.			

	Accumulation of coal in ship storage. Spontaneous combustion or ignition of coal due to machinery fire or hot work.		coal residence time. Removal of hot coal. Removal of accumulated coal.	
--	------------------------------------------------------------------------------------------------------------------------	--	----------------------------------------------------------------------------------	--

3.4 Legislation, Approvals and Licensing Requirements

There are a number of legislative and regulatory documents which apply to the way in which NCIG manages spontaneous combustion and the potential for odour from its terminal facility. These are primarily broken down into legislation and policies, and approvals and licences. The majority of these are administered by state government departments, including the Department of Planning and Environment (DPE) and the NSW Environment Protection Authority (EPA).

3.4.1 Legislation and Policies

Environmental Planning and Assessment Act 1979

The major development approval for the NCIG Coal Export Terminal is the Project Approval provided by DPE (PA 06_0009), including subsequent modifications (MOD1 and MOD2). This approval was provided under the now repealed Part 3A (Major Projects) of the *Environmental Planning and Assessment Act 1979*. The approval contains conditions related to spontaneous combustion management which are explained in more detail in Section 3.4.2.

Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations (POEO) Act 1997* is the primary piece of state legislation regulating pollution, including odour pollution. S129 of the Act specifically regulates odour emitted from licenced premises. The Act also provides for the issuing of Environment Protection Licences (EPLs), which is covered in more detail in Section 3.4.2. The NSW EPA is the applicable regulatory authority, which regulates NCIG under this Act.

MDG 1006 – Spontaneous Combustion Management Guideline (Industry and Investment NSW)

The Spontaneous Combustion Management Guideline is an industry best-practice document to assist the mining industry in development of spontaneous combustion management plans. The guideline focusses on risk identification and management and standard monitoring measures.

3.4.2 Approvals and Licences

Project Approval 06_0009, including subsequent Modifications

There are a number of conditions within the Project Approval pertaining to the management of spontaneous combustion and the associated impacts from the terminal site. Specifically, these are:

- Condition 2.1 – emission of offensive odour.
- Condition 7.6 d) – Preparation and implementation of an Operation Spontaneous Combustion Management Protocol, including measures to minimise and manage the spontaneous combustion of coal stockpiles. The plan is to include:
 - Coal stockpile management measures;
 - Monitoring of potential causes of spontaneous combustion events; and
 - Corrective action in the event of spontaneous combustion.

Environment Protection Licence 12693

An Environment Protection Licence (EPL) 12693 was obtained prior to construction of the project pursuant to the Protection of the Environment Operations Act 1997. Subsequent amendments to this licence have been made to reflect changes in site boundaries and activities. The key spontaneous combustion conditions in the EPL are:

- Condition L4 – Licensee must not cause or permit the emission of any offensive odour from the premises (Section 129, POEO Act).

4. OPERATION AND IMPLEMENTATION

4.1 Spontaneous Combustion Preventative Measures

Minimising the residency time of accumulated coal around coal handling facilities through scheduled housekeeping procedures diminishes the opportunity for accumulated coal to spontaneously combust. Stockpiles provide by far the largest accumulation of coal on the NCIG site and the concept of residency time is also imperative in stockpile management. The first in first out method is used to reduce residency time of stockpiled coal in association with the logistics management system.

Management of stockpiled coal involves monitoring (section 5.1) and recording details in the Logistics Management System. Details recorded are:

- The date of stacking;
- Coal origin;
- Moisture content;
- Type of coal and susceptibility to spontaneous combustion;
- Weather conditions;
- Stockpile temperature readings;
- Further comments and observations, and
- Reclamation date

These records assist in the management of residency time and subsequent control measures for spontaneous combustion of stockpiled coal.

NCIG's Customer Assurance Team monitors stockpile residency weekly and completes an ERE when stockpile residency time exceeds 60 days, which has previously proven to be the time frame when the risk of spontaneous combustion is heightened for Hunter Valley coal types. At this point, the identified coal will be prioritised for movement from the site in consultation with the customer.

A major preventative measure is regular scheduled stockpile observations (stockpile monitoring, Section 5.1.1). These observations assist in the early identification of hot spots of spontaneous combustion. Personnel directly associated with the movement of coal from the train unloading station through stockpile to ship loading have been provided with specific instruction and training on the issues relating to early detection of spontaneous combustion, and procedures for reporting such incidents. Apart from scheduled stockpile inspections, all site personnel are responsible for the detection of potential hazards and incidents, including monitoring the environment for indications of spontaneous combustion and reporting any indicators to their supervisor.

Coal stockpile geometry at NCIG also assists in the prevention of spontaneous combustion. Angle of repose is kept to a minimum, particularly on the prevailing windward side to reduce airflow into and through the stockpile.

Infra-red thermal imaging is also utilised to record stockpile surface temperatures. This method is considered suitable for application of spontaneous combustion monitoring. Images are recorded to identify potential locations requiring management with records entered into the sites Logistics Management System (LMS)

4.2 Spontaneous Combustion Remedial Actions

Handling combusting coal can create airborne dust and ash levels that have the potential to create health, safety and environmental risks. In the event of spontaneous combustion, a decision must be made by the Supervisor on duty and/or Sustainability team Representative (or delegate), on the severity, response and remedial actions required by NCIG. Stages of the severity of spontaneous combustion can be divided into five levels (depending on the magnitude of the incident) shown in Table 2. Equipment which may be required includes as a minimum: PPE, shovels, dozer, operator, water cart, gas monitors, respiration equipment, Thermocouple and or Infrared Sensor.

Table 2. Stages of severity and risk of spontaneous combustion.

RISK LEVEL	STAGE OF SEVERITY	CONDITION
Low	Stage 1	Coal gives off steam
	Stage 2	Coal gives off localized white smoke
High	Stage 3	Coal gives off plumes of white smoke
	Stage 4	Coal burns with yellow sulphur smoke
	Stage 5	Coal burns with flames

The level of risk will determine the action needed to treat the spontaneous combustion. Based on the severity of the incident, the Process Leader will formulate and implement an action plan to control the spontaneous combustion event. This is to be done in conjunction with the process outlined in the Spontaneous Combustion Response Procedure.

Remedial actions that may be implemented in the event of spontaneous combustion include:

- Where possible, isolate the zone of spontaneous combustion and not allowing the stacking of new product over the affected area;
- If practical and safe to do so, dig out the affected area and move to a safe site where the coal can be spread to progressively cool and saturated with water or compacted and covered with an inert material;
- Watering of spontaneous combustion in stockpiles should be conducted with a high degree of caution as water ingress increases segregation and heating, aids oxygen penetration and consequently increase the magnitude of the problem. As a general rule, water should only be used on flames and only in small amounts. When applying water, it should be sprinkled or sprayed rather than jetted on the material;
- All incidents of spontaneous combustion must be reported as early as safely possible; and
- If the incident is deemed to be of a serious nature, implementation of the Emergency Response Plan should be initiated.

5. PERFORMANCE EVALUATION AND IMPROVEMENT

5.1 Monitoring

Stockpiles are monitored for signs or triggers which may indicate the potential for spontaneous combustion. If spontaneous combustion is detected, monitoring frequencies are increased to suit the conditions of any occurrence (Table 3).

5.1.1 Stockpile Monitoring

Formal monitoring involves scheduled visual inspections and coal residency inspections, including recording of coal stockpiles with specific attention to the presence of heat haze, smoke emissions or spontaneous combustion odour. Inspections also occur as part of day-to-day stockpile management practices. Regular infrared-imaging of stockpiles with a long residency period is undertaken weekly to provide an early warning for potential need for action. The temperatures measured using infrared are compared to temperature ranges shown in Table 3.

Table 3. Stockpile Temperature Monitoring Triggers

TEMPERATURE TRIGGER °C	ACTION
<50 °C	Continue scheduled observations (weekly)
50 °C -70 °C	Continue daily observations and measure temperature daily
>70 °C	Implement remedial action. Continue daily observations and daily temperature measurements if safe to do so.

5.1.2 Data Recording and Review

Where monitoring results indicate values in excess of the relevant coal stockpile criteria (Section 5.1.1) this data is recorded in the site LMS system and an Environmental Risk Event (ERE) Checklist is entered to notify the relevant internal stakeholders. Reporting procedures will be followed and data validation will be undertaken to establish if stockpile treatment is required or measures put in place for the prevention of spontaneous combustion.

Data producing values outside the acceptable levels that are deemed noncompliant will generate an internal nonconformance report for further action.

5.1.3 Environmental Risk Event Checklist

An Environmental Risk Event (ERE) Checklist is required to be completed when evidence of spontaneous combustion is observed including excessive temperature, smoke, odour or steam and if a stockpile residency is greater than 60 days. An ERE should also be completed if heating of a stockpile is identified as outlined in section 5.1.2. The ERE Checklist must include actions taken to control or mitigate the situation.

5.2 Internal Auditing

The Sustainability Department will undertake auditing of spontaneous combustion management practices within the SDMP, including this Operation Spontaneous Combustion Management Plan. This auditing is conducted in accordance with the NCIG *Audit and Inspection Procedure* (HSEC.PRO.15.01) and the annual HSEC Audit and Inspection Schedule. Non-conformances will be recorded and appropriate actions taken to remedy.

5.3 Incident Review

Environmental incidents relating to spontaneous combustion management of the NCIG site are to be managed in accordance with NCIG *Hazard and Incident Management Procedure* (HSEC.PRO.13.01), including the Trigger Action Response Procedure. This includes recording the incident on the NCIG HSEC System, which is then forwarded to the sustainability team for action.

The Operational Capability and Sustainability Teams will work together to coordinate corrective actions to control or remedy the spontaneous combustion. If a spontaneous combustion incident poses a risk to the environment, health and safety of people, or product quality, the ELT are to be notified.

5.4 Corrective Action

If corrective actions are identified as a result of spontaneous combustion monitoring, OSCMP audit and inspection results, compliance tracking or community complaints regarding odour (see Operation Environmental Management Plan), the Sustainability Department or Manager – Sustainability will determine appropriate management strategies and implementation of contingency measures in consultation with other departments. This same process is applied as an outcome of management review of environmental management measures, as discussed in Section 5.6. These will be in addition to those implemented as part of normal operational activities.

Corrective actions are also identified for environmental incidents. This process will be implemented in accordance with the NCIG *Hazard and Incident Management Procedure* (HSEC.PRO.13.01) including the Trigger Action Response Procedure.

5.5 Reporting

As detailed in Section 5.1.3, the management actions of spontaneous combustion events are required to be recorded in an NCIG Environmental Risk Event Checklist. This assists NCIG Operators in understanding all necessary considerations during a spontaneous combustion event, while also providing a detailed record of the event.

Spontaneous combustion reporting commitments are consistent with those identified in Section 5.9 of the NCIG *Operation Environmental Management Plan* (HSEC.MPLN.12.01).

5.6 General Review

Ongoing review and attainment of feedback in regard to environmental measures is undertaken to ensure that the SDMP is meeting its targets and objectives. Any improvements deemed necessary will be identified and SDMP documentation will be updated to reflect this.

5.6.1 Management Review

The ELT reviews progress and health of environmental management measures on a quarterly basis in line with the Quarterly Reports prepared for the NCIG Board. In addition, Key Result Areas (KRAs) and objectives are set during the business planning process (see Section 3.3), to ensure that statements within the Sustainable Development Policy are being achieved. Information used to develop KRAs and objectives include:

- Legislative requirements;
- Performance against environmental objectives and targets in the HSEC Plan;
- Compliance assessment;
- Environmental monitoring results;
- Results of environmental auditing and trends of non-conformance;
- Monitoring of environmental statistics;
- Environmental incidents
- Corrective actions;
- Community complaints;
- Other current environmental issues and concerns;

The above is consistent with the NCIG *Management Planning, Monitoring and Review Procedure* (HSEC.15.02). As with general review of environmental management measures, improvements deemed necessary by management will be identified and SDMP documentation will updated to reflect this.

6. REFERENCES

- Mine Safety Operations (2011), Spontaneous Combustion Management Guideline MDG1006, NSW Department of Primary Industries.
- Department of Infrastructure, Planning and Natural Resources (2004) Guidelines for the Preparation of Environmental Management Plans.
- Newcastle Coal Infrastructure Group (NCIG) (2006) Newcastle Coal Infrastructure Group Coal Export Terminal Environmental Assessment.
- New South Wales Government (2007), Project Approval 06_0009.

7. REVISION HISTORY

DATE	REVISION NO	GENERAL DESCRIPTION OF CHANGE	PERSONS INVOLVED
1/04/10	Draft	Review of draft Document	Brendan Logan Nathan Juchau
1/06/10	1	Final document for approval	Brendan Logan
1/05/12	2	General revision	Phil Reid
1/05/13	3	General revision	Phil Reid
17/6/16	4	Update OSCMP to be consistent with revised SDMP framework, including environmental management component.	Phil Reid
15/12/17	5	No changes	Phil Reid
03/12/18	6	Update to include Top 5 Spontaneous Combustion Management Rules and updated to include the use of the ERE Checklist.	Hayley Ardagh Phil Reid
24/02/20	7	Update to include actions from recent audit including the addition of thresholds at which ELT is to be notified of a spontaneous combustion related issues, outline coordination between the Operations and Environment Department, update to include recording high temperatures identified during routine monitoring and reflect remnant coal and coal unloaded as a potential source of spontaneous combustion.	Hayley Ardagh Phil Reid
18/02/22	8	General revision. Update of NCIG department names.	Wade Covey
15/04/2025	9	Updated references for ERE checklist to be triggered at 60 days (previously 90 days). Updated roles and responsibilities and remedial actions following completion of routine audit of the SCMP in January 2025. Updated to reflect organisational restructure to refer to sustainability department (previously HSEC) and updated document references.	Wade Covey