



NEW HOPE
GROUP

J.13 Waste Management Plan



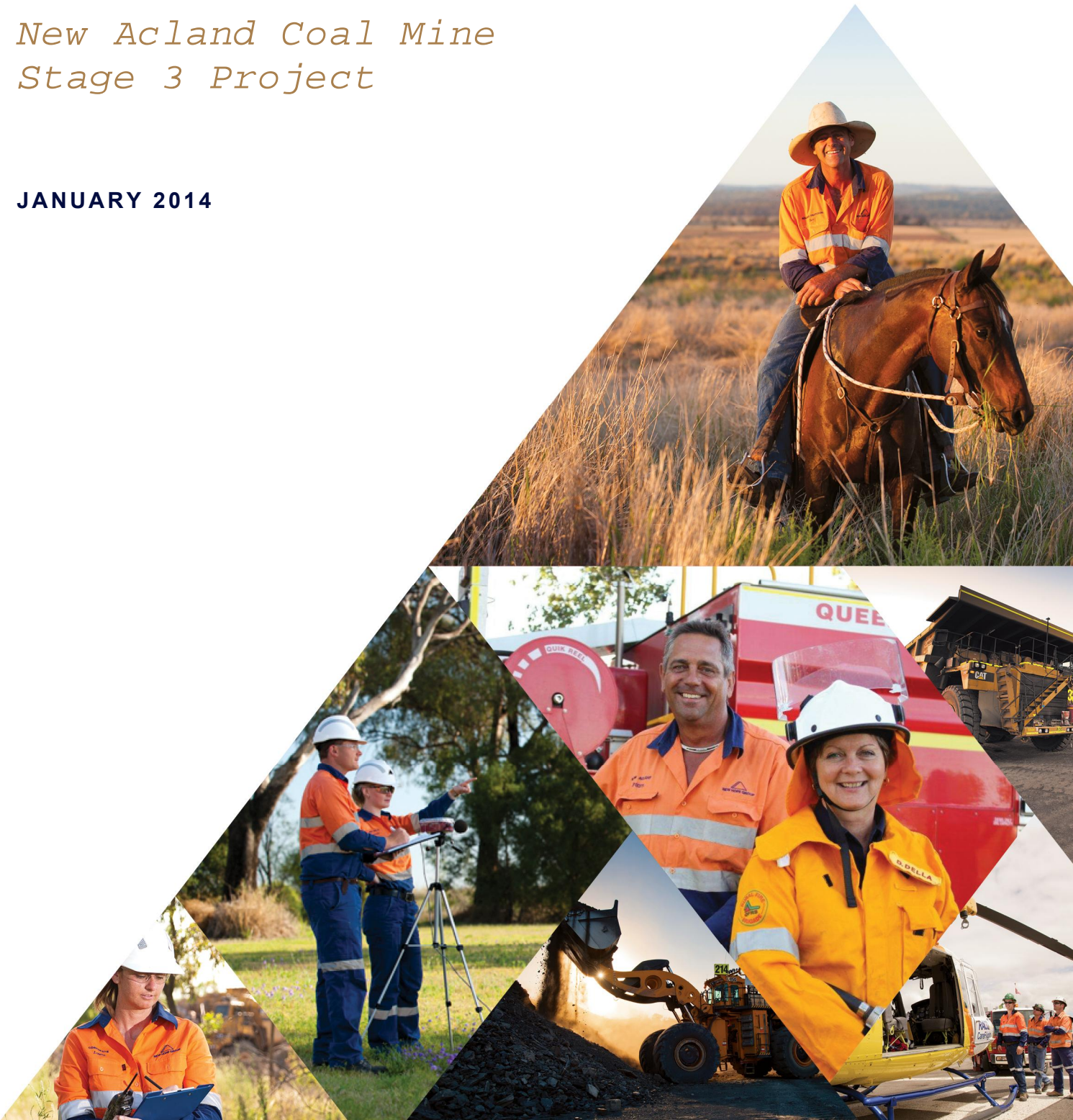


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WASTE MANAGEMENT PLAN

*New Acland Coal Mine
Stage 3 Project*

JANUARY 2014



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1. Introduction

1.1. General

New Acland Coal Pty Ltd (NAC) currently operates the New Acland Coal Mine (the Mine) as a 4.8 million tonne (product coal) per annum (Mtpa) open cut coal mine on Mining Lease (ML) 50170 and ML 50216, adjacent to Mineral Development Licence (MDL) 244, under the approval of Environmental Authority EPML00335713 (EA). The Mine reserve is forecast to be depleted by 2017. The revised Project involves the extension and operation of the Mine, while increasing production from 4.8 Mtpa up to 7.5 Mtpa of thermal product coal.

The revised Project involves the extension of the Mine's operating life to approximately 2029 with the inclusion and progressive development of two new resource areas within MLA 50232. These resource areas are identified as the Manning Vale and Willeroo resource areas. The revised Project will include mining in three new mine pits, namely Manning Vale West, Manning Vale East and Willeroo mine pits.

This Waste Management Plan (WMP) reflects management of waste generated by the construction, operation and decommissioning of the revised Project.

1.2. Aims

The main aim of the WMP is to address the following matters.

- The types and amounts of waste generated by the facility.
- How the waste will be dealt with, including a description of the types and amounts of waste that will be dealt with under each of the waste management practices mentioned in the waste management hierarchy.
- Procedures for identifying and implementing opportunities to improve the waste management practices employed.
- Procedures for dealing with accident, spill and other incidents that may impact on the waste management.
- Details of any accredited management system employed, or planned to be employed, to deal with the waste.
- How often the performance of the waste management practices will be assessed
- The indicators or other criteria on which the performance of the waste management practices will be assessed.

The WMP aims to comply with the regulatory requirements governing waste management in Queensland, provided within the following:

- Environmental Protection Act 1994 (EP Act);
- Environmental Protection Regulation 2008 (EPR);
- Environmental Protection (Waste Management) Policy 2000 (EPP (Waste));
- Environmental Protection (Waste Management) Regulation 2000 (EPR (Waste Management)); and

- Waste Reduction and Recycling Act 2011 (WRR Act).

1.3. Objectives

The main objectives of the WMP are to:

- understand the types and amounts waste of generated on the revised Project site;
- develop strategies for dealing with and improving waste management;
- ensure resources are used efficiently to minimise wastage;
- determine environmental hazards that could arise from the improper handling, treatment or disposal of wastes;
- comply with relevant legislation to minimise environmental liabilities;
- use methods of waste storage and handling that are approved by regulators;
- ensure disposal and transportation of regulated wastes are carried out by approved contractors under appropriate documentation; and
- ensure that waste minimisation and cleaner production techniques and designs will be implemented to prevent or minimise environmental impacts when selecting processes, equipment and facilities.

1.4. Scope

This WMP relates to all aspects of the revised Project and is designed as a tool to ensure wastes generated are managed in an environmentally responsible manner. The WMP will be an accompanying document to NAC's Plan of Operations.

The WMP incorporates NACs current waste management practices, as well as strategies for improving waste management practices. Waste generated at the construction, operation and decommissioning phases of the revised Project is detailed in Chapter 14. The waste practices described in this plan are appropriate to manage waste throughout all stages of the revised Project.

1.5. Methodology

The methodology used in the development of the WMP included:

- a review of waste management literature and legislative and existing EA requirements;
- collation and summary of waste information (e.g. types, amounts and disposal methods) from the Mine for waste management activities;
- research into strategies for improving waste management practices;
- development of a review and assessment process to ensure continuous improvement;
- update WMP to include management of waste generated by the construction, operation and decommissioning of the revised Project; and
- distribution and implementation of the final WMP at NAC.

1.6. Review Process

The WMP will be reviewed and updated (as new processes, waste streams, waste classifications, or major inconsistencies are identified) on a bi-annual basis to:

- ensure the aims and objectives of the WMP plan remain satisfied;
- assess the performance of waste management at the revised Project; and
- investigate opportunities for improvement of waste management practices.

2. Waste Management Practices

The management methods proposed are based on minimising the potential environmental impacts associated with waste generation from the revised Project.

This section is divided into two parts which address the management of Regulated and Non-regulated Wastes.

2.1. Regulated Wastes

Regulated wastes are non-domestic wastes that are defined by Schedule 7 of the EPR. Regulated wastes are required to be handled by a certified registered waste transporter and must be disposed of at an appropriately licensed facility under documentation.

The transport and removal of all regulated wastes is currently conducted by appropriately qualified and certified contractors. Waste Transportation Certificates are obtained for all regulated wastes removed and retained by NAC.

Regulated wastes currently generated at the Mine are expected to be generated for the revised Project. These regulated wastes are detailed in the following sections.

2.1.1. Grease

Waste grease will be collected in bulk containers (as currently occurs) and removed by a licenced regulated waste transporter, to a licenced regulated waste receiver, for recycling or treatment and disposal under appropriate documentation. Waste grease will be predominately generated by mobile and fixed plant and will be collected from service trucks, the workshop, and the CHPP. Bulk and supplementary grease containers will be disposed of as necessary based on type.

2.1.2. Tyres

Waste tyres generated by NAC for the revised Project will be stored near the workshop until a volume of tyres is present that necessitates dumping. A suitable area of pit floor as deep as possible but not in the region of an expressing aquifer will be prepared; the tyres will be then dumped, and surveyed as appropriate.

Alternatively, tyres will be stored and transported off-site by a licenced regulated waste transporter to a licensed regulated waste receiver.

2.1.3. Medical Waste

Medical waste generated by NAC includes collection of hygiene products, sharps bins, and drug testing equipment, which will be removed by suitably accredited contractors under appropriate documentation. This waste will be transported to a suitable waste facility for incineration. Removal of the sharps/medical/sanitary bins will occur as per contractual arrangements. Contractors will also be contacted for the removal of any additional build-up of this type of waste (i.e. outside the standard arrangement).

2.1.4. Oil

Waste oil is generally produced by the mobile plant fleet and transferred at the CHPP precinct and workshops. Waste oil will be transferred from the workshop and service vehicles and stored on-site in a bunded facility (compound, temporary or pallet) prior to removal from site for recycling with engine coolant.

2.1.5. Waste Oil Containers

Waste oil containers will be drained on-site and drums will be transported off-site by a waste contractor for off-site reuse, recycling or disposal. Oil will be collected, then transported off-site by a licensed regulated waste transporter to a licensed regulated waste receiver, for recycling.

2.1.6. Oil Filters

Waste oil filters are generated by mobile and fixed plant. Waste oil filters will be temporarily stored at the workshop in skip bins. Bins have been designed specifically for oil filters and incorporate a drainage tray where excess oil can be drained from the filters and pumped from the bin. A licensed contractor will remove and replace the filter bin on an as required basis. Oil will be recovered from the filters at an approved facility, and filters will be recycled.

2.1.7. Oil Absorbent

Waste oil absorbent sources generally occur from accidental spills. Waste oil absorbent will be placed in bags and then in a skip bin (with oily rags), or depending on the nature of the clean-up and content of soil, be placed in the dedicated contaminated land area.

The spill response process in order of priority will be to control, contain, absorb and dispose of the spilled material. Procedures will include the provision of spill containment equipment and materials at workshops, warehouses and fuel/chemical storage areas to reduce the impacts of hydrocarbon/chemical spills that have the potential to enter waterways, undisturbed areas or rehabilitated areas. Training will be provided to personnel and contractors in the management of chemicals, hydrocarbons and wastes.

Any used absorbent materials will be returned to the spill kit and removed by a licensed contractor. Sites that become contaminated will be investigated, managed and remediated in accordance with the requirements of the contaminated land provisions of the EP Act.

2.1.8. Oily Rags

Waste oily rags are predominantly generated by the workshop and washplant. Waste oily rags will be placed into dedicated bins in working areas, and then transferred to a skip bin which will be emptied routinely and as required by an accredited contractor under appropriate documentation.

2.1.9. Oily Water

Waste oily water is predominantly generated by the workshop and washplant. Potentially contaminated runoff water from the workshop and washplant will be transferred to an oil-water separator. Following separation of oil and water, oily water will be transferred to the oil farm and transferred off-site by an accredited contractor.

The resulting oil will be collected and transported off-site by a licensed regulated waste transporter to a licensed regulated waste receiver for recycling. The separated water will be directed to a sediment dam for evaporation or possible reuse on-site.

2.1.10. Paints and Solvents

The revised Project is not expected to generate significant volumes of waste paint/solvent. Paints and Resins used for the construction and operation of the infrastructure area (MHF, TLF workshops and buildings) will be minimised by producing/procuring only the amount necessary.

Waste will be collected on-site, stored in a segregated area, transported off-site by licensed regulated waste transporter under appropriate documentation, and disposed off-site by a regulated waste receiver.

2.1.11. Anti-corrosion Agents (Radiator fluid/Coolant)

Mobile and fixed plant will be the main generators of waste coolant at the revised Project. Waste coolant will be collected by the workshop and service vehicles and will be transferred to the waste oil compound and disposed of as described in Section 2.1.4.

2.1.12. Sewage Wastes

Sewage will be generated at mobile crib hut locations, and at fixed structure locations. Sewage collected at mobile crib hut locations will be managed by accredited contractors and disposed of off-site. Sewage collected by fixed structure locations will be transferred to the Sewage Treatment Plant (STP), treated and then irrigated or returned to CHPP supply storages.

Sewage from the construction areas and administration offices will be pumped to the STP for treatment and disposal in accordance with the revised Projects EA. Sewage sludge will be treated on-site at the STP. The thickened sludge will be removed from site by a licensed contractor.

STP effluent will be discharged to a sediment dam for possible reuse on-site for dust suppression and/or evaporation, or discharged to the process water system in accordance with the revised Projects EA.

2.1.13. Vehicle Batteries

Waste batteries will be stored near the workshop and will be collected and disposed of/recycled by an accredited contractor when a sufficient quantity is collected.

2.1.14. Wash-down Bay Sludge

An oil-water separator will be used to remove hydrocarbons from the wash-down water. Any sludge removed from the Wash-down Bay will be taken to NAC's current dedicated contaminated land area. All treated water from the Wash-down Bay will be diverted to NAC's Environmental Dam. Contractors will be engaged to remove wash-down bay sludge on an as required basis.

2.1.15. Chemicals

Chemicals will be disposed of as required depending on chemical type, in consultation with an accredited waste removal contractor. Bulk material containers will be used where possible to reduce the volume of waste generated.

2.2. Non-regulated Wastes

Non-regulated wastes are all wastes not included in Schedule 7 of the EPR. Non-regulated wastes form the 'general waste' stream generated by the revised Project. Non-regulated wastes identified for the revised Project are detailed in the following sections.

2.2.1. Air Filters

Serviceable air filters will be collected by a contractor for cleaning, testing, and reuse. Non-serviceable air filters will be disposed of by the contractor engaged to test them. Any air filter

deemed un-serviceable by NAC will be dispensed to the general waste bins, which will be removed by a nominated accredited waste removal contractor.

2.2.2. Aluminium Cans

Aluminium cans including aerosol cans will be collected in co-mingled recycling containers and transferred to a recycling facility by an accredited waste removal contractor for separation and recycling.

2.2.3. Cardboard/Paper

Cardboard and paper will be collected in co-mingled recycling containers and transferred to a recycling facility by an accredited waste removal contractor for separation and recycling.

2.2.4. Printer Cartridges

Used printer cartridges generated by NAC's Administration area will be disposed of in general waste bins and removed by an accredited waste removal contractor. NAC will investigate the option of returning the used printer cartridges to the supplier for refilling and reuse.

2.2.5. Other Office Recyclables

Recyclables generated will include glass jars and bottles, cardboard cartons, and plastic bottles/containers. All nominated recyclables will be collected in receptacles and then transferred to dedicated skip bins where it will be collected by an accredited waste removal contractor for separation and recycling.

2.2.6. Garden Waste/Green Waste

Green waste will generally be re-used, however circumstances will occasionally arise when green waste is required to be buried in-pit, or removed from site for use elsewhere. Burning of green waste may be conducted where necessary, with appropriate permits in place.

2.2.7. Cleared Vegetation

Small amounts of vegetation will be cleared during the construction phase of the revised Project for site infrastructure (e.g. rail spur line and balloon loop, MHF and TLF). Where possible this will be used on re-vegetated areas or reused on-site as fauna habitat or disposed of in the waste dump.

2.2.8. General Waste

General waste will be collected at receptacles across the revised Project site, and transferred to dedicated skip bins where it will be collected by an accredited waste removal contractor for disposal to landfill.

2.2.9. Scrap Metal/Steel

Scrap metal/steel produced during the revised Project's construction and operational phases will be placed in dedicated scrap metal skip bins located at the workshop and at the CHPP Precinct. Dedicated scrap metal bins will be emptied as required by an accredited contractor for recycling. Scrap metal will be minimised by producing/procuring only the amount necessary. During the decommissioning phase of the revised Project, all re-usable steel and functioning equipment will be sold and removed appropriately from site.

2.2.10. *Wooden Pallets/Timber*

All wooden pallets used on-site will be exchanged with pallet providers. As an exception, pallets that are deemed unusable will be disposed of in-pit or in general waste skips that will be removed from site by an accredited waste removal contractor.

2.2.11. *Rubber (such as conveyor belts, linings)*

Rubber waste generated will be collected and segregated on-site and removed from site by accredited waste removal contractor.

2.2.12. *Excavated Waste*

Excavated waste generated during construction of site infrastructure (rail spur line and balloon loop, MHF and TLF) for the revised Project will be used as fill on-site. Waste materials will be reused as much as practicable to construct haul roads and pads. Unsuitable material will be disposed of in waste dumps.

2.2.13. *Concrete*

Wastage of concrete will be generated for the construction and decommissioning of the site Infrastructure area such as the CHPP precinct, workshops and buildings. Pre fabrication will be used if possible, and waste will be minimised by procuring only the amount necessary.

2.2.14. *Electrical Wastes*

Electrical waste will be collected and segregated on-site and transported by a waste contractor for off-site recycling.

Waste from blasting activities

Waste that has the potential to hold residues of explosive material will be buried in pit.

2.2.15. *CHPP Coarse Reject and Fine Tailings*

Mining wastes and their management are discussed in Chapter 3 and in the In-pit Tailings Storage Facility Management Plan provided in Appendix J.1.

CHPP Coarse Rejects

Coarse reject material generated by the CHPP includes material separated from the coal washing process that is approximately >2mm aggregate. Coarse reject will be contained by the CHPP and then either disposed of over the active dump, or used to sheet haul roads within revised Project site.

CHPP Fine Tailings

Fine tailings generated by the CHPP includes materials approximately <2mm that are separated from coal during the coal washing process. Fine tailings will be transferred from the CHPP to in-pit tailings cells for immobilisation. Flocculating agents may be added to the tailings to assist in dewatering, and beaching.

3. Notifiable Activities

Schedule 3 of the EP Act describes 'notifiable activities' that require sites to be listed on the Environmental Management Register (EMR). The following 'notifiable activities' are relevant for the revised Project:

- 7. Chemical storage - (other than petroleum products or oil under item 29)-storing more than 10 t of chemicals (other than compressed or liquefied gases) that are dangerous goods under the dangerous goods code. Examples include storage of chemicals at NAC's blast compound.
- 15. Explosives production or storage- operating an explosives factory under the *Explosives Act 1999*. Examples include storage of explosives at NAC's magazine.
- 24. Mine wastes-
 - (a) storing hazardous mine or exploration wastes, including, for example, tailings dams, overburden or waste rock dumps containing hazardous contaminants; or
 - (b) exploring for, or mining or processing, minerals in a way that exposes faces, or releases groundwater, containing hazardous contaminants. Examples include immobilisation of fine tailings in pit voids at NAC.
- 29. Petroleum product or oil storage-storing petroleum products or oil-
 - (a) in underground tanks with more than 200L capacity; or
 - (b) in above ground tanks with-
 - (i) for petroleum products or oil in class 3 in packaging groups 1 and 2 of the dangerous goods code-more than 2500L capacity; or
 - (ii) for petroleum products or oil in class 3 in packaging groups 3 of the dangerous goods code-more than 5000L capacity; or
 - (iii) for petroleum products that are combustible liquids in class C1 or C2 in Australian Standard AS 1940, 'The storage and handling of flammable and combustible liquids' published by Standards Australia-more than 25 000L capacity. Examples include fuel storage at NAC's fuel farm.
- 37. Waste storage, treatment or disposal—storing, treating, reprocessing or disposing of waste prescribed under a regulation to be regulated waste for this item (other than at the place it is generated), including operating a nightsoil disposal site or sewage treatment plant where the site or plant has a design capacity that is more than the equivalent of 50000 persons having sludge drying beds or on-site disposal facilities.

4. Proposed Improvements

NAC will ensure that all new strategies and actions for waste management consider the ‘waste management hierarchy’ described by Section 10 of the EPP Waste.

The principles for waste minimisation and management for the revised Project are:

- implementation of the waste minimisation hierarchy with these waste management options:
 - waste avoidance;
 - waste re-use; and
 - waste recycling.
- water conservation, treatment and reuse;
- efficient energy usage;
- compliance with national and state waste management policies, the EP Act and associated regulatory instruments as a minimum; and
- effective waste disposal (as a final option).

Where possible and economically viable, waste management at the revised Project will focus on improving the key areas of waste minimisation, re-use and recycling. In light of this, NAC will make the following commitments.

- Contracts with construction companies will be negotiated to place responsibility on all contractors to adopt best practice waste minimisation procedures.
- Training will be provided to personnel and contractors in relation to waste management requirements and practices.

4.1. Cleaner Production

Cleaner production can be achieved through any or all of the following techniques:

- Input substitution - this is not readily applicable to this revised Project. The main input into the production process is raw coal and there are no other viable substitutions;
- Product reformulation - this is not readily applicable to this revised Project. The output is product coal and this is directly from washing Run-Of-Mine coal;
- Production process modification - selection of the best available practicable technologies, for example, the revised Projects MHF;
- Improved operation and maintenance - this refers to the selection and use of the most appropriate processes and equipment, for example, the revised Projects TLF;
- Reuse of resources that are otherwise wastes; and
- Closed-loop recycling – where a product is recycled and used again in the same form.

Aspects of the revised Project that contribute to cleaner production outcomes include:

- Selection of the best available practicable technology for coal extraction for upgrades or equipment replacement to ensure appropriate energy intensity and production efficiency of product coal;
- Location of the mining and associated infrastructure areas to minimise the clearing of vegetation where practical;
- Use of best practice procurement and construction methods for the CHPP Precinct, ensuring minimum wastes are produced (i.e. off-site pre-fabrication);
- Selection of the best available practicable technology for the CHPP Precinct for new or replacement equipment to ensure optimum water use and energy efficiency, minimum dust emissions and waste minimisation;
- Use of the most appropriate processes and equipment for operation and maintenance, such as the reuse of wastewater within the mine water management system and CHPP system; and
- Recycling of glass, aluminium, steel and cardboards.

Contracts with construction service suppliers will be negotiated to encourage all contractors to adopt waste minimisation procedures consistent with NAC's WMP. This approach will include the purchase of materials cut to standard sizes, bulk purchasing of materials, reduction of packaging, reuse of concrete formwork where practicable, and source separation and segregation of all recoverable materials. Separate skips will be provided to maintain segregation and maximise economic reuse and recycling, in preference to disposal to landfill.

4.2. Waste Tracking

The movement of regulated waste in Queensland is subject to a waste tracking system.

In particular, the waste tracking system for the revised Project will include details on the following:

- name, address, local government area and contact details of the generator;
- name, address, contact details and EA number of the receiver;
- name, address, contact details and EA number of the transporter;
- time and date the transporter receives the waste;
- load number;
- waste origin code for the activity that generated the waste; and
- details of the waste, including: type, quantity, physical nature (solid, liquid or gas) and code.

The waste contractor will provide a monthly report which tracks waste generation at each location and includes data on general and recyclable waste generated and the level of contamination in waste receptacles. All forms of regulated waste will be tracked in accordance with a waste tracking certificate and detailed in a monthly report by the contractor. The Department of Environment and Heritage Protection (EHP) Waste

Transport Certificates will be forwarded to NAC, with copies being retained by the waste contractor and by the EHP. The certificates will outline the type and amount of regulated waste, the name of the waste producer and the nominated disposal/treatment/storage facility.

4.3. Corrective Action and Adaptive Management

NAC will implement a program to address any outstanding non-conformances as a result of the monitoring and auditing program. Corrective actions will be recorded and responsibility will be assigned to the appropriate person for action and close out.

The planned review process for the WMP, outlined in Section 1.6, will also generate the opportunity to examine possible areas for continuous improvement in waste management on a bi-annual basis.

5. Waste Description and Management Overview for the Revised Project

Waste Stream	Classification	Main generating area	Approximate quantity	Waste management practices
Grease	Regulated	Workshop, CHPP	< 3 t (grease trap wastes) (construction) 3 t per Mt of ROM coal (oily sludge, absorbent, greases) (operation) 2 t (Oily sludge, absorbent, degreaser, grease, oily rags, oil filters) (decommissioning)	Will be collected in a bulk container and removed by an accredited waste removal contractor.
Heavy vehicle tyres	Regulated	Workshop	All tyres 750 t per annum (operation)	Will be disposed as deep as possible, but not on pit floor, not in aquifers.
Light vehicle tyres	Regulated	Workshop	All tyres 750 t per annum (operation)	Will be disposed as deep as possible, but not on pit floor, not in aquifers.
Medical waste	Regulated	General	Medical waste and hygiene bins collected monthly	Will be removed from site by an accredited waste removal contractor.
Oil	Regulated	Workshop, CHPP	45 t (waste oil and containers) (construction) 15 t per MT of ROM coal (waste oil, oily waste and waste oil from separator) (operation)	Waste oil will be stored on-site in a bunded facility (compound, temporary or pallet). Waste oil drums will be transported off-site by waste contractor for off-site reuse, recycling or disposal. Waste oil will be transported off-site by a licenced regulated waste transporter to a licensed regulated waste receiver for recycling
Waste oil containers	Regulated	CHPP precinct, Workshops	Approximately 150 units per year (operation)	Drained on site. Drums will be transported off-site by waste contractor for off-site reuse, recycling or disposal.

Waste Stream	Classification	Main generating area	Approximate quantity	Waste management practices
			50 drums (decommissioning)	Oil will be collected, then transported off- site by a licensed regulated waste transporter to a licensed regulated waste receiver, for recycling.
Oil filters	Regulated	Workshop, CHPP precinct	0.75 t per Mt coal (operation) 2 t (Oily sludge, absorbent, degreaser, grease, oily rags, oil filters) (decommissioning)	Will be removed from site by an accredited waste removal contractor. Contractor recovers and recycles oil from filters, and recycles steel from filters.
Oil absorbent	Regulated	Workshop, CHPP	3 t per Mt of ROM coal (oily sludge, absorbent, greases) (operation) 2 t (Oily sludge, absorbent, degreaser, grease, oily rags, oil filters) (decommissioning)	Removal from site by an accredited waste removal contractor.
Oily rags/ waste	Regulated	Workshop, CHPP	25 000 L/a (rags) (operation) 2 t (Oily sludge, absorbent, degreaser, grease, oily rags, oil filters) (decommissioning)	Collected on-site. Then transported off- site by a licensed regulated waste transporter, to a licensed regulated waste receiver, for recycling or treatment and disposal.
Oily water	Regulated	Workshop, CHPP	4 t (construction)	Oil will be separated from water. The resulting oil will be collected and transported off-site by a licensed regulated waste transporter to a licensed regulated waste receiver for recycling. The separated water will be directed to a sediment dam for evaporation or possible reuse on-site for dust suppression activities.

Waste Stream	Classification	Main generating area	Approximate quantity	Waste management practices
Paints and Solvents	Regulated	Site Infrastructure area (MHF, TLF workshops and buildings) during construction of revised Project Workshop, CHPP (operation)	Minor amounts during construction phase of revised Project (All available parts should be painted off-site before Installation on-site)	NAC will use an accredited waste removal contractor to remove and dispose of paints and solvents when necessary.
Anti-corrosion Agents (Radiator fluid /Coolant)	Regulated	Workshop (Vehicle Maintenance)	<50 t per annum	Collection and segregation on-site. Transportation by a waste contractor for off-site processing.
Sewage wastes	Regulated	General	25 ML annum (based on 450 EP). Max construction volume assumed (construction) <1 t per annum (operation) <20 t (decommissioning)	Sewage sludge will be treated on-site at the STP. The thickened sludge will be removed from site by a licensed contractor during the decommissioning phase.
Sewage wastewater discharged from the STP	Regulated	STP	18 ML per annum (based on 200 EP) Volume will vary depending on the number of personnel on site (operation)	STP effluent will be discharged to a sediment dam for possible reuse on-site for dust suppression and/or evaporation, or discharged to the process water system in accordance with the revised Projects EA.
Vehicle batteries	Regulated	Workshop	120 t per annum (operation)	NAC will use an appropriate contractor to dispose of vehicle batteries when necessary.
Anti-corrosion Agents		Workshops	<50 t per annum (operation)	Collection and segregation on-site. Transportation by a waste contractor for off-site processing.

Waste Stream	Classification	Main generating area	Approximate quantity	Waste management practices
Wash-down bay sludge	Regulated	Workshops	Variable	NAC will engage a suitable contractor to maintain the wash down bay and transfer sludge to NAC's contaminated land area.
Chemicals	Regulated	Workshop, CHPP	N/A	Dispose of as required depending on chemical type in consultation with accredited waste removal contractor.
Chemical Containers	Regulated	Workshop, CHPP	Variable	Dispose of as required depending on residue concentration and type in consultation with accredited waste removal contractor or dispose of in general waste.
Radioactive sources (density gauges)	Regulated	CHPP precinct	3 sources (decommissioning)	Removed and transported off-site by a licensed contractor.
Air Filters	Non-regulated	Workshop	~125 per month	Air filters will be assessed for possibility of servicing, or disposed of in general waste. If serviceable, air filters will be sent for cleaning and repair, and reused.
Aluminium cans	Non-regulated	Office areas, crib areas	All recyclables – including paper, cardboard, plastics, glass, aluminium cans: < 10 t (construction) 150 t per annum (operation) <10 t (decommissioning)	Collected in co-mingled recycling bins and managed by accredited waste removal contractor.

Waste Stream	Classification	Main generating area	Approximate quantity	Waste management practices
Cardboard	Non-regulated	Administration, Store	All recyclables – including paper, cardboard, plastics, glass, aluminium cans: < 10 t (construction) 150 t per annum (operation) <10 t (decommissioning)	Collected in co-mingled recycling bins and managed by accredited waste removal contractor.
Paper	Non-regulated	Administration, Store	All recyclables – including paper, cardboard, plastics, glass, aluminium cans: < 10 t (construction) 150 t per annum (operation) <10 t (decommissioning)	Collected in co-mingled recycling bins and managed by accredited waste removal contractor.
Other office recyclables	Non-regulated	Administration/Stores/Technical Services	All recyclables – including paper, cardboard, plastics, glass, aluminium cans: < 10 t (construction) 150 t per annum (operation) <10 t (decommissioning)	Collected in co-mingled recycling bins and managed by accredited waste removal contractor.
Cartridges and toners (Printer)	Non-regulated	Administration	Up to 78 per year	Collected in general waste rubbish bins and removed from site by accredited waste removal contractor.
Garden waste/Green waste	Non-regulated	Grounds maintenance, clearing activities	Variable	Reuse on site or remove by contractor. Burning of green waste may be conducted where necessary, with appropriate permits in place.

Waste Stream	Classification	Main generating area	Approximate quantity	Waste management practices
Cleared vegetation	Non-regulated	Site Infrastructure (rail spur line and balloon loop, MHF and TLF) during construction phase of revised Project	Small amounts of vegetation	Where possible use on re-vegetated areas. Reuse on-site as fauna habitat or dispose of in the waste dump. Burning of green waste may be conducted where necessary, with appropriate permits in place.
General wastes including putrescible and organic (food waste), some plastics and paper not suitable for recycling	Non-regulated	General, Construction offices, workshops	<500 t (construction) 190 t per annum (operation) <500 t (decommissioning)	Collected in general waste rubbish bins and removed from site by accredited waste removal contractor.
Scrap metal/ steel	Non-regulated	Site Infrastructure area (MHF, TLF workshops and buildings) during construction of revised Project Workshop, CHPP (operation and operation)	< 20 t (construction) 30-50 t (inclusive of mine plant equipment) (operation) 2,000 t (decommissioning)	Removed and recycled by an accredited waste removal contractor. All re-usable steel and functioning equipment will be sold and removed from site.
Wooden pallets / timber	Non-regulated	Site Infrastructure area (MHF, TLF workshops and buildings) during construction of revised Project Workshop, CHPP, Store (operation)	<2 t (construction) <2 t (operation)	Pallets will be issued on an exchange basis. Good pallets will be returned. Damaged pallets will be disposed of in the waste dump, chipped and/or reused on site as mulch for landscaping and erosion control.

Waste Stream	Classification	Main generating area	Approximate quantity	Waste management practices
Rubber (such as conveyor belts, linings)	Non-regulated	Workshop, CHPP precinct	<5 km of belt (decommissioning)	Collection and segregation on-site and removed from site by accredited waste removal contractor.
Excavated Waste	Non-regulated	Site Infrastructure (rail spur line and balloon loop, MHF and TLF) during construction of the revised Project	All used as fill on-site	Refill any excavations and spread any excess over the nearby area and allow re-vegetating with appropriate sediment control if likely to be exposed to surface water. Waste materials will be reused as much as practicable to construct haul roads and pads.
Concrete	Non-regulated	Site Infrastructure area (MHF, TLF workshops and buildings) during construction of the revised Project Site Infrastructure area (CHPP precinct, Workshops and buildings) (decommissioning)	<10 t (construction) < 5, 000 t (decommissioning)	Minimise waste by producing/procuring only the amount necessary. Disposal in the waste rock dump. Pre fabrication if possible.
Electrical Wastes	Non-regulated	Contractor crib rooms, Administration, CHPP precinct and infrastructure facilities, Workshops	< 10 t (construction) 600 t (decommissioning)	Collection and segregation on-site. Transportation by a waste contractor for off-site recycling. Waste that has the potential to hold residues of explosive material will be buried in pit.