

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

INTEGRATED STATE SIGNIFICANT DEVELOPMENT

**DETERMINATION OF DEVELOPMENT APPLICATION
PURSUANT TO SECTIONS 76(A)9 & 80**

I, the Minister for Urban Affairs and Planning, pursuant to Sections 76(A)9 & 80 of the Environmental Planning and Assessment Act, 1979 ("the Act") determine the development application ("the application") referred to in Schedule 1 by granting consent to the application subject to the conditions set out in Schedule 2.

The reasons for the imposition of the conditions are to:

- (i) minimise the adverse impact the development may cause through water, noise and air pollution, and disturbance to archaeological sites, flora and fauna and the visual environment;
- (ii) provide for environmental monitoring and reporting; and
- (iii) set requirements for project infrastructure provision.

Andrew Refshauge MP
Minister for Urban Affairs and Planning,

SYDNEY,

2001

FILE No.S98/01078

Schedule 1

Red type represents 2005 Modification

Blue type represents 2006 Modification

Application made by: Black Range Minerals Limited. ("the Applicant").

To: The Minister for Urban Affairs and Planning ("the Minister").

In respect of: Land described in Appendix 1.

For the following: Establishment and operation of the:

- Nickel cobalt mine and processing facility;
- Limestone quarry and processing operations;
- Rail loading and unloading facility;
- Natural gas pipeline, two borefields, and two water supply pipelines;
- Associated transport and infrastructure.

BCA Classifications

Class 3	Construction camp
Class 5	Mine, administration, construction, processing, contractor, engineering and control room offices.
Class 7	Carpark(s)
Class 8	Laboratory. Process plant.
Class 9	Mine medical centre.
Class 10	Process plant, workshop(s), store(s), change house(s), water and process storage dam(s), fuel storage(s), pump house(s) and compound(s), store(s), communication tower(s), explosive storage(s).

Note:

- 1) To ascertain the date upon which the consent becomes effective, refer to Section 83 of the Act.
- 2) To ascertain the date upon which the consent is liable to lapse, refer to Section 95 of the Act.
- 3) Section 97 of the Act confers on an Applicant who is dissatisfied with the determination of a consent authority a right of appeal to the Land and Environment Court exercisable within 12 months after receipt of the notice.

APPENDIX 1
LAND SUBJECT TO DEVELOPMENT APPLICATION FOR THE SYERSTON
NICKEL COBALT PROJECT

Site	Land Description
Mine and Processing Facility	Lots 4, 5, 6, 7, 8, 9, 10 DP 754021 Part Lot 13 DP 754021
Fifield Bypass Road	Lots 8 and 28 DP 752111 Crown Road
Limestone Quarry	Lots 11, 12 and 24 DP 752089 Lot 352 DP 629402 Lot 281 DP 610057
Rail Siding	Part Lot 39 DP 752117
Gas Pipeline	Lots 10 and 17 DP 752086 Lots 4, 5, 27 and 28 DP 752087 Lots 1 and 2 DP 580284
Water bores/pipelines	Lot 6 DP 598735 Lots 24 and 103 DP 752106

And all Crown road reserves, crown land, road reserves, main roads, rail corridors, and travelling stock routes within the development application area, as modified.

SCHEDULE 2

Development Consent for the Syerston Nickel Cobalt Mine and Associated Infrastructure

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DEFINITIONS

The Act	Environmental Planning and Assessment Act 1979, as amended.
AEMR	Annual Environmental Management Report
Commencement of construction	Commencement of any site works including clearing, trenching, earthworks, development of borrow pits and tailings dams, road works, and intersections; or location of earthmoving plant, buildings (portable or fixed) on the Project site; or commencement of construction of the limestone processing facility.; the construction of gas and water pipelines from the Moomba to Sydney natural gas pipeline, and borefields respectively.
Commencement of operations	Commencement of the removal of soil, overburden, waste rock for ore/limestone recovery; or operation of the nickel/cobalt processing facility or limestone processing facility respectively , including commissioning; the supply of gas and water from the Moomba to Sydney natural gas pipeline, and borefields, respectively; or transport of material off the Project site.
CCC	Community Consultative Committee
DA	Development Application
The Director-General	Director-General of the Department of Urban Affairs and Planning or delegate.
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EMS	Environmental Management Strategy
EPA Licence	means a licence under the Protection of the Environment Operations Act 1997.
GTA	GTA under the EP& A Act

Mine site haulage route	Part of Fifield to Wilmatha Road (SR34), Fifield Bypass, and Fifield to Trundle Road (SR64) as shown in Figure B1-1 of the EIS.
IESCP	Integrated Erosion and Sediment Control Plan
$L_{A10(15\text{ minute})}$	is the sound pressure level that is exceeded for 10% of the time when measured over a 15 minute period.
LA_{eq}	Equivalent continuous sound pressure level with “A” weighted scale.
Limestone Processing facility	Crushing and screening operations for the preparation of limestone at the limestone quarry prior to use in the nickel/cobalt processing facility, exclusive of all quarrying activities.
Limestone products	Crushed and screened limestone produced at the limestone quarry for use at the nickel/cobalt processing facility.
MPG	Manufacturer’s Performance Guarantee
Nickel/cobalt processing facility	Processes required for and related to the conversion of nickel/cobalt ore to saleable product(s), exclusive of all mining activity.
Premises	The premises includes the area defined by MLA 113, 132, 139 140, and 141, and as shown in Figure ES-3 of the EIS
Processing	the act of physically or chemically altering a material, exclusive of all mining activities.
Project Components	(1) Nickel cobalt mine and processing facility, (2) Limestone quarry and processing operation, (3) Rail loading and unloading facility (4) Natural gas pipeline (5) Borefields and water pipeline (6) Associated transport and infrastructure
Project Site	Land described in Appendix 1 which comprise the project components in the Forbes, Lachlan and Parkes Local Government Areas
Saleable Product(s)	All materials produced at the nickel/cobalt processing facility for sale, including nickel and cobalt metals, nickel and cobalt sulphides and cobalt hydroxide, and limestone for use at the nickel/cobalt processing facility.
TSF	Tailings storage facility
TSP	Total Suspended Particulates.
Works	Any structure, earthwork, plant or equipment authorised under an approval to be granted by the DLWC, as defined in section 5 and 105 of the <i>Water Act 1912</i> .

GOVERNMENT AUTHORITIES

DSC	Dam Safety Committee
DLWC	Department of Land and Water Conservation
DMR	Department of Mineral Resources
The Department	the Department of Urban Affairs and Planning
EPA	Environment Protection Authority

FSC	Forbes Shire Council
LSC	Lachlan Shire Council
Ministry of Energy	The Ministry of Energy and Utilities
PSC	Parkes Shire Council
NPWS	National Parks and Wildlife Service
NSW Agriculture	New South Wales Agriculture
RTA	Roads and Traffic Authority

1. General

There is an obligation on the Applicant to prevent and minimise harm to the environment throughout the life of the project. The Applicant shall take all practicable measures to prevent or minimise harm that may result from the construction, operation and rehabilitation on the subject site.

1.1 Adherence to Terms of DA, EIS, etc.

(a) Development shall be carried out generally in accordance with:

- (i) DA No. 374-11-00; and
- (ii) the Environmental Impact Statement prepared by Resource Strategies Pty Ltd. and dated October 2000;
- (iii) additional noise, air quality and water management information requested by the EPA and supplied by Resource Strategies Pty Ltd with a letter dated 4 December 2000, and additional groundwater management information supplied by Black Range Minerals Limited with a letter on 12 January 2001;
- (iv) **Statement of Environmental Effects in support of a Section 96(2) application for the Syerston Nickel Cobalt Project, dated May 2005, prepared by Resource Strategies Pty Ltd;**

unless otherwise modified by the Conditions in this Consent.

(b) If at any time, the Director-General is made aware of the occurrence of any environmental impacts from the Project Site that pose serious environmental and/or amenity concerns, due to the failure of environmental measures required by the Conditions of Consent to ameliorate the impacts, the Director-General may order the Applicant to cease the activities causing those impacts until those concerns have been addressed to the satisfaction of the Director-General.

(c) If any licence conditions are breached the Applicant shall comply with any modification to the work as specified by the relevant agency.

1.2 Period of Approval/Project Commencement

(a) **This consent shall lapse 21 years after the date of commencement of mining operations.**

(b) At least one month prior to the commencement of construction and operation of project components respectively, or within such period as agreed by the Director-General, the Applicant shall submit for the approval of the Director-General a

Compliance Report detailing compliance with all relevant conditions that apply prior to the commencement of construction and operations respectively.

- (c) The date of commencement of construction and operation of the project components is to be notified in writing to the Director-General and LSC, PSC and FSC at least two weeks prior to commencement of construction and operations of project components, respectively.
- (d) The Applicant shall ensure that all contractors and sub-contractors are aware of, and comply with, the Conditions of this Consent.

1.3 Dispute Resolution

In the event that the Applicant, LSC, PSC or FSC or a Government authority other than the Department, cannot agree on the specification or requirements applicable under this Consent, the matter shall be referred by either party to the Director-General whose determination of the disagreement shall be final and binding on the parties.

1.4 Security Deposits and Bonds

Security deposits and bonds will be paid as required by the DMR under mining lease approval conditions.

2. Mine Management

2.1 Mine Management Plan, Operations and Methods

- (a) No mining/quarrying operations shall occur until the Applicant has submitted and had accepted by the DMR, a Mining Operations Plan (MOP) for the mine and quarry respectively in accordance with current guide lines issued by DMR. The Plan covers mining operations for a period of up to seven years.
- (b) The MOP shall:
 - (i) be prepared in accordance with DMR Guidelines for the Preparation of Mining Operations Plans (Document 08060002.GUI or its most recent equivalent) and in consultation with DMR;
 - (ii) demonstrate consistency with the conditions of this consent and any other statutory approvals;
 - (iii) demonstrate consistency with the Environmental Management Plans for the project site;
 - (iv) provide the basis for implementing operations, environmental management, and ongoing monitoring; and
 - (v) identify a schedule of development for the project for the period covered by the plan and include:
 - the area proposed to be impacted by mining activity and resource recovery mining methods and remediation measures
 - areas of environmental, heritage or archaeological sensitivity and mechanisms for appropriately minimising impact
 - water management, and
 - proposals to appropriately minimise surface impacts.
- (c) In preparing the Mine Operations Plan, the Applicant shall consult with affected service authorities and make arrangements satisfactory to those authorities for the protection or relocation of those services.

- (d) A copy of the MOP, excluding commercial in confidence information, shall be forwarded to LSC, PSC, FSC and the Director-General within 14 days of acceptance by DMR.

2.2 Limits on Production

- (a) The autoclave feed rate of nickel/cobalt ore shall not exceed 2.5 million tonnes of ore per annum unless otherwise agreed by the Director-General.
- (b) Production of limestone from the quarry shall not exceed 790,000 tonnes per annum unless otherwise agreed by the Director-General. The limestone product is only to be quarried for use at the nickel/cobalt processing facility.
- (c) The Nickel / Cobalt Processing Facility shall not process extractive materials, being nickel/ cobalt ore or limestone, from any source other than those the subject of this consent unless otherwise agreed by the Director-General.
- (d) The Nickel/ Cobalt Processing Facility shall not exceed the production levels specified in the Table 1 unless otherwise agreed by the Director-General.

Table 1. Maximum production levels for the Nickel Cobalt processing facility

Product	Annual Production (tonnes per annum)
Total nickel and cobalt sulphides	53,000

3. Land and Site Environmental Management

3.1 Appointment of Environmental Officer

- (a) The Applicant shall engage an Environmental Officer(s) for the life of the Project, whose appointment is to receive prior approval by the Director-General. The Officer(s) will:
 - (i) be responsible for the preparation of the environmental management plans (refer Condition 3.2);
 - (ii) be responsible for considering and advising on matters specified in the conditions of this consent and compliance with such matters;
 - (iii) be responsible for receiving and responding to complaints in accordance with Condition 10.2(a);
 - (iv) facilitate an induction and training program for all persons involved in construction, operations and remedial activities; and
 - (v) have the authority and independence to require reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts and failing the effectiveness of such steps, to stop work immediately if an adverse impact on the environment is likely to occur.
- (b) The Applicant shall notify the Director-General, DMR, NPWS, EPA, DLWC, LSC, PSC, FSC and the CCC of the name and contact details of the Environmental Officer(s) upon engagement and any changes to that appointment.

3.2 Environmental Management Strategies and Plans

- (a) The Applicant shall prepare an Environmental Management Strategy (EMS) providing a strategic context for the environmental management plans for the project components [refer condition 3.2(d)]. The Environmental Management Strategy shall be prepared in consultation with the relevant authorities and the CCC (refer condition 10.1) and to the satisfaction of the Director-General, prior to

commencement of construction of the project components. The Strategy shall be provided to the Director-General no later than the time the first Environmental Plan (EMP) under sub-clause (d) below is submitted.

- (b) The Environmental Management Strategy shall include, but not be limited to:
- i. statutory and other obligations which the Applicant is required to fulfil during construction, commissioning and operation of the project components, including all approvals and consultations and agreements required from authorities and other stakeholders, and key legislation and policies;
 - ii. definition of the role, responsibility, authority, accountability and reporting of personnel relevant to environmental management, including the Environmental Officer(s);
 - iii. during construction, operation and decommissioning of the project components, for each of the key environmental elements for which management plans are required under this consent;
 - iv. overall ecological and community objectives for the project, and a strategy for the restoration and management of the areas affected by operations, including elements such as creek lines and drainage channels, within the context of those objectives;
 - v. identification of cumulative environmental impacts and procedures for dealing with these at each stage of the development;
 - vi. steps to be taken to ensure that all approvals, plans, and procedures are being complied with;
 - vii. processes for conflict resolution in relation to the environmental management of the project; and
 - viii. documentation of the results of consultations undertaken in the development of the Environmental Management Strategy.
- (c) The Applicant shall make copies of the Environmental Management Strategy available to LSC, PSC, FSC, DLWC, NPWS, DMR, EPA and CCC within fourteen days of approval by the Director-General.
- (d) The Applicant shall prepare the following Environmental Management Plans. These plans must be consistent with other plans prepared for other stakeholders.
- i. Archaeology and cultural management plan (refer Condition 3.3(a))
 - ii. Flora and fauna management plan (refer Condition 3.4(a))
 - iii. Integrated erosion and sediment control plan (refer Condition 4.2(b))
 - iv. Soil stripping management plan (refer Condition 3.5(f))
 - v. Landscape and rehabilitation management plan (refer Condition 3.7)
 - vi. Bushfire management plan (refer Condition 3.8)
 - vii. Land management plan (refer Condition 3.9.2(a))
 - viii. Site security and crime management plan (refer condition 3.10)
 - ix. Energy management plan (refer to condition 3.11)
 - x. Water management plan (refer Condition 4.1)
 - xi. Borefields environmental management plan (refer Condition 4.1.1)
 - xii. Bore impact mitigation plan (4.1.1(l))
 - xiii. Waste Management plan (refer conditions 5.4.1).
 - xiv. Dust management plan (refer Condition 6.1.1)
 - xv. Gaseous emissions management plan (refer condition 6.1.4)
 - xvi. Blasting/vibration management plan (refer Condition 6.2.3(a))
 - xvii. Noise management plan (refer Condition 6.3.3)
 - xviii. Construction noise management plan (refer Condition 6.3.3 (b))
 - xix. Traffic noise management plan (refer Condition 6.3.3(c))

- xx. Traffic Code of Conduct (refer Condition 7.1(a))
 - xxi. Stock Crossing Management Plan (refer Condition 7.8)
 - xxii. Rail Siding environmental management plan (refer to Condition 7.10)
- (e) The management plans are to be revised, and updated as necessary, at least every 5 years or otherwise as directed by the Director-General in consultation with the relevant government agencies. They will reflect changing environmental requirements or changes in technology/operational practices. Changes shall be made and approved in the same manner as the initial environmental management plan. The plans shall also be made publicly available at LSC, PSC and FSC within fourteen (14) days of approval of the relevant government authority.
- (f) **Notwithstanding any other condition of this consent, the Applicant shall prepare the applicable management plans, studies and reports in accordance with the timing in Table 24 of the Statement of Environmental Effects dated May 2005.**

3.3 Heritage Assessment, Management and Monitoring

Assessment and Management

The Applicant shall prior to the commencement of construction;

- (a) prepare an Archaeology and Cultural Management Plan for the nickel and cobalt mine and limestone quarry sites to address Aboriginal cultural and European heritage issues. The Plan shall be prepared in consultation with the Condobolin Local Aboriginal Land Council, Wiradjuri Branch of the NSW Aboriginal Land Council, DMR, NPWS and NSW Heritage, and to the satisfaction of the Director-General. The Plan shall include but not be limited to:
- (i) identification and management of all areas of conservation within the mine/quarry areas,
 - (ii) details of protective measures for the following sites as identified in the EIS :
 - Syerston 2 – open scatter and possible knapping floor
 - Syerston 3 – isolated flake of brown/red vitreous volcanic material
 - Scarred tree beside the Fifield to Wilmatha Road;
 - (iii). management procedures for the conservation of pastoral out station on the western boundary of the mine site and illustrated in Figure 5 in Appendix M of the EIS. This site should be retained in the new development if practicable and feasible. If this site cannot be retained in part or in total, those areas and structures impacted by the development should be recorded by plan, text and photographs before disturbance, and this information, lodged in a public repository.
 - (iv) identification of any future salvage, excavation and monitoring of any heritage/archaeological sites within the DA area, prior to and during development;
 - (v). details of consultation undertaken with NPWS, Condobolin Local Aboriginal Land Council and the Wiradjuri Branch of the NSW Aboriginal Land Council in the preparation of this Plan.

- (b). ¹The Condobolin Local Aboriginal Council or the Wiradjuri Branch of the NSW Aboriginal Land Council be invited to collect the artefacts identified as Syerston 1 in the EIS prior to the commencing of construction of the mine/quarry.
- (c). If, during the course of construction of any project components , the Applicant becomes aware of any heritage or archaeological material not previously identified, all work likely to affect the material shall cease immediately and the relevant authorities consulted about an appropriate course of action prior to recommencement of work. The relevant authorities may include NPWS, the NSW Heritage Office, and the relevant the local Aboriginal community. Any necessary permits or consents shall be obtained and complied with prior to recommencement of work in the relevant area.
- (d). The Applicant is to consult regularly with the Wiradjuri Branch of the NSW Aboriginal Land Council using consultation principles and strategies consistent with those outlined in the *“Guidelines for best practice community consultation in the NSW Mining and Extractive Industries”*. The results of these consultations shall be documented in the AEMR.

Notes No Aboriginal archaeological sites that have been identified, shall be destroyed without the approval of the Director-General of NPWS, under section 90 of the *National Parks and Wildlife Act 1974*, prior to any disturbance of the identified sites by mining operations.

Monitoring

- (e). The Applicant shall monitor the effectiveness of the measures outlined in the Archaeology and Cultural Management Plan [Condition 3.3(a)]. A summary of monitoring results shall be included in the AEMR.

3.4 Flora and Fauna Assessment, Management and Monitoring

Assessment and Management

- (a) The Applicant shall prior to construction prepare and implement a Flora and Fauna Management Plan for the management of flora and fauna issues for the nickel and cobalt mine and limestone quarry area. The Plan shall be prepared in consultation with NPWS, DMR and to the satisfaction of the Director-General. The Plan shall be prepared by an appropriately qualified and experienced ecologist to the satisfaction of the Director-General. The ecologist shall be responsible for providing advice to minimise potential impacts upon threatened and protected fauna species that may utilise the sites and to provide expert advice on the regeneration and reconstruction of flora and fauna habitat on mined/quarried areas.

The Plan shall include but not be limited to:

1. Preservation of vegetation
 - i. Details of areas of existing vegetation which will be preserved where possible. Specific attention must be paid to Box woodland remnants on the mine site which do not need to be disturbed for development of the Project. These areas should be managed to maintain and enhance the biodiversity of the mine site area and region.

¹ NPWS GTAs

- ii. Measures for the protection of individual trees or areas so as to ensure areas not to be disturbed are to be preserved and protected where possible to enhance succession to the rehabilitated areas. This could involve reducing the level of grazing, or fencing areas out from grazing, to allow them to regenerate.
- iii. Management procedures to ensure that land clearance and soil/mine waste stripping is progressive and in accordance with the soil stripping plan.
- iv. Development of a protocol for identifying and managing significant impacts on any threatened flora species not identified in the EIS, during development through construction or operation of the mine/quarry.
- v. details of the methods for salvaging and relocating hollow bearing limbs/stags, that have been identified, to areas regenerated with native vegetation or existing areas of native vegetation, to augment and reconstruct faunal habitat. The limbs and trunks are not to be burnt.
- vi. Details of a weed control programme coordinated with surrounding landholder programmes.

2. Protection of Fauna and habitat

- (i) details of pre-clearance inspections, including the identification and inspection of trees containing tree hollows, stags and roosting bats prior to clearing of any vegetation. This shall be undertaken by an appropriately qualified and experienced ecologist for the presence of any threatened fauna utilising those hollows;
- (ii) a description of appropriate methods for the removal / translocation of any threatened species to suitable areas at the discretion of the ecologist, should any threatened fauna be detected during any clearing;
- (iii) provision of a number of artificial roosts (bat houses) at strategic locations in the mine site and surrounds as a strategy to replace any roosts that may be lost.
- (iv) guidelines which in recognition of the habitat value of extant areas of native vegetation, specify that the removal of native vegetation is to be undertaken where possible, in late autumn or winter to minimise disturbance of potential breeding activities.
- (v) Measures to ensure a clean rubbish free environment is maintained to reduce the potential for an increase in the population or concentration of feral animals.
- (vi) provisions to allow for the daily inspection of the tailings storage facility, evaporation ponds and surge dam as a precautionary measure during the course of normal daily maintenance inspections. If the storages become a focus for avifauna, additional hazing techniques should be considered to minimise bird usage of the storages.
- (vii) development of a protocol for identifying and managing significant impacts on any threatened fauna species not identified in the EIS, during development through construction or operation of the mine/quarry; particularly the :
 - Yellow-bellied Sheathtail Bat
 - Little Pied Bat
 - Greater Long eared bat
 - Barking Owl
 - Pied Honey eater
 - Major Mitchell's Cockatoo
 - Superb Parrot

- (viii) stipulation of speed limits to be imposed on vehicles using roads and tracks on the mine/quarry to reduce the potential for vehicle strike
- (ix) details of feral animal control program and site management strategies as coordinated with adjacent land holders.

3. Reconstruction of native bushland – Post mining fauna habitat

- (i) the establishment of long-term post-mining and post-quarrying land use objectives for the site;
 - (ii) details of the principal goal to replace each native community type that currently exists on site that will be removed or reduced in area, with communities of same or similar dominant species composition,
 - (iii) measures to maximise opportunities for the creation of habitat continuous with existing preserved woodland;
 - (iv) scheduling of the rehabilitation of mine site/quarry landforms so that such mitigative measures are progressive and conducted in accordance with approved plans
 - (v) strategies for the preparation of the site for habitat rehabilitation, as part of the revegetation plan, including the exclusion of stock feeding on bushland reconstruction areas;
 - (vi) methods of revegetation; including specifications that the stability of newly prepared landforms prior to the establishment of long term vegetation is to be protected via the construction of moisture-retaining passive drainage systems, water holding structures and where appropriate, the use of authorised hybrid cover crops to provide initial erosion protection.
 - (vii) details of the habitat monitoring program (refer to subclause (f) below).
- (b) The Applicant shall revegetate a minimum of 2 ha for every 1 ha of native vegetation cleared by the mine/quarry and in accordance with clause (ii) providing for the reconstruction of native bushland. The revegetated area shall be protected from grazing by native fauna and domestic stock. The revegetation program shall also aim to extend and re-establish existing native vegetation on and adjacent to the site. Where possible, revegetated landforms are to form an expansion of and be continuous with existing woodland areas.
- (c) All natural drainage patterns shall be re-established as far as practical.
- (d) The Applicant shall implement strategies to manage the impact of surface water management, erosion and sediment control measures, on flora and fauna, including the impact of heavy machinery.
- (e) As well as the requirements under subclause (g), the efforts and progress of the Flora and Fauna Management Plan shall be documented in the Annual Environmental Management Report.

Monitoring

- (f) The regeneration works shall be monitored by an appropriately qualified and experienced ecologist approved by the Director-General. The results of the monitoring and the effectiveness of the reforestation shall be publicly reported annually as part of the Annual Environmental Management Report.
- (g) The Applicant shall prepare a detailed monitoring program of habitat areas on land within the development application area, during the development and for a period after the completion of the development to be determined by the Director-General in consultation with NPWS. The monitoring program shall be included in the Flora

and Fauna Management Plan (Condition 3.4(a)) and a summary of the results shall be provided in the AEMR. The program shall:

- (i) monitor impacts attributable to the development and include monitoring of the success of any restoration or reconstruction works. The Applicant shall carry out any further works required by the Director-General as a result of the monitoring;
- (ii) establish an ongoing monitoring program of the existing and proposed revegetated areas to assess their floristics and structure and to propose contingency measures for improvements to revegetation if required; and
- (iii) establish an ongoing monitoring program of fauna species diversity and abundance and the effectiveness of reconstructed ecosystems in providing fauna habitat and contingency measures should impacts be identified as occurring.

(h) The information obtained from the monitoring shall be used to guide future revegetation efforts on the mine/quarry site.

3.5. Soil Management

- (a) ²All works involving soil or vegetation disturbance are to be undertaken with adequate measures to prevent soil erosion and the entry of sediments into any river, lake, waterbody and wetland or groundwater system.
- (b) The Applicant shall, in consultation with DLWC, ensure that all soil and/or vegetation material to be removed from the area of operation is disposed of on an appropriate site where it will not be swept back into watercourses.
- (c) ³ The Applicant shall ensure that its operations are consistent with the EPA's operating conditions within the environment protection license for the premises to regulate stormwater and sediment. The operating conditions will be consistent with the IESCP required by Condition 4.2 and ensure that all relevant sections of the IESCP are appropriately implemented and that operations comply with any additional requirements stipulated by the EPA in its license.
- (d) The Applicant shall also prepare a Soil Stripping Management Plan to the requirements of DMR and DLWC that shall include, but not be limited to:
 - (i) ⁴Methods for the management and conservation of topsoil, excavated and stockpiled from areas to be disturbed, for later use in progressive rehabilitation. The management of topsoil stockpiles, their erosion protection and long term viability (where immediate use is not possible) is to be carried out to the satisfaction of the DLWC and DMR;
 - (ii) A program for reporting on the effectiveness of the soil stripping methods and performance against objectives contained in the soil stripping management plan, and EIS.

3.6 Site Rehabilitation and Management

² DLWC GTAs

³ EPA GTAs

⁴ DLWC GTAs

- (a) The Applicant shall carry out rehabilitation of all nickel and cobalt mine and limestone quarry areas in accordance with the requirements of any Mining Lease granted by the Minister for Mineral Resources and ensure the progressive rehabilitation of the area is also to the satisfaction of DLWC.
- (b) Immediately upon mining/quarry finishing on any disturbed area, the site must be restored to an environmentally stable, safe and revegetated condition with minimal visual impacts.

3.7 Visual Amenity and Landscaping

The Applicant shall, prior to the commencement of operations on the nickel and cobalt mine and limestone quarry sites, submit for the approval of the Director-General, in consultation with LSC and PSC, a detailed Landscape and Revegetation Management Plan, prepared by a suitably qualified person, detailing measures to minimise the impacts of the development on local visual amenity and to provide details of, and management procedures for, landscaping the development. The plan shall include, but not be limited to:

- i. details of the phasing of construction, design, and rehabilitation materials to be used on the waste emplacement areas, for the purposes of maintaining satisfactory visual amenity, ecological functioning, and habitat provision;
- ii. details of the establishment of vegetation and the progressive rehabilitation of the mine/quarry operations, waste emplacement areas, and associated works including details of all landscaping to be undertaken including flora species, location of grassed areas, garden beds and other vegetated areas, and mature height and width measurements of all flora species;
- iii. use of indigenous species;
- iv. details of the visual appearance of all buildings, structures, facilities or works (including paint colours, architectural features and finishes of all external surfaces). Buildings and structures shall be designed and constructed so as to blend as far as possible with the surrounding landscape;
- v. measures to prevent vehicle encroachment onto landscaped areas
- vi. a review of final land use options including the use of void water on the nickel and cobalt mine and limestone quarry sites;
- vii. details, specifications and staged work programs to be undertaken, including a maintenance program of all landscape works, building materials and cladding; and
- viii. details of annual performance outcomes in relation to the implementation of the plan and a monitoring program to ensure the development is maintained to a standard comparable to the intended and designed appearance of the development. Details shall be provided in the AEMR.

3.8 Bushfire and other Fire Controls

The Applicant shall:

- a) prior to commencement of operations prepare a Bushfire Management Plan for all its holdings contained in the DA area, to the satisfaction of, and as relevant, LSC, PSC and FSC, and

- b) provide adequate fire protection for the project components, including at least one emergency fire fighting unit on the mine site.
- c) provide that all workers at the project site undergo training in bushfire prevention and management.

3.9 Land Management

3.9.1 Land Management Plan

- (a) The Applicant shall, prior to commencement of operation of the project components prepare a Land Management Plan for the project site in consultation with DLWC, LSC, PSC and FSC, DMR and to the satisfaction of the Director-General, to provide for proper land management. The plan shall include, but not be limited to:
 - i. pastures and remnant vegetation management;
 - ii. prevention and rehabilitation of land degradation;
 - iii. eradication of vermin and noxious weeds as required by the Rural Lands Protection Authority, the Prickly Pear Authority and other relevant authorities; and,
 - iv. feral animal control.
- (b) The destruction of trees or native vegetation is to be restricted to the minimum necessary to complete the works. Any clearance must be restricted to the areas occupied by mine /quarry activities, processing plant, waste emplacement, pipelines and those areas necessary for fire control.

3.9.2 Adjoining Properties

The Applicant shall regularly consult with adjoining property owners to ensure property management issues including maintenance of common fences, site weed control measures and bushfire management are coordinated. Details of consultation are to be reported in the AEMR.

3.10 Site Security and Crime Management

Site Security and Crime Management Plan

- (a) Prior to the commencement of construction of project components, the Applicant shall prepare a Site Security and Crime Management Plan detailing measures to prevent unauthorised access to the Project and minimise the potential for crime at, and in the vicinity of the Project. The Plan shall be updated to reflect process and management changes at the Project or as required by the Director-General. The Plan shall address the requirements of LSC, FSC, and PSC. The Plan shall include, but not necessarily be limited to:
 - i) details of fencing and security arrangements for all project components to prevent unauthorised access of humans or livestock to any project components;
 - ii) policies and procedures for addressing security issues;
 - iii) specific design features of project components intended to discourage the incidence of crime at, and along the perimeter of, each project component;

- iv) lighting considerations, including light intensity, direction and hours of operation at, and along the perimeter of, each project component, with the aim of minimising areas that may encourage crime;
- v) policies and procedures for the management and removal of graffiti and amelioration of vandalism, should it occur at, and along the perimeter of, each project component; and
- vi) policies and procedures for the management and removal of illegal or inappropriate bill-posting and illegally dumped materials, should it occur at, and along the perimeter of, each project component.

3.11 Energy Management

- a) The Applicant shall prepare an Energy Management Plan detailing measures to minimise and to efficiently use energy at the Project. The Plan shall be updated to reflect process and management changes at the Project or as required by the Director-General. The Plan shall include, but not necessarily be limited to:
 - i) details of the design features of all buildings aimed at utilising natural ventilation and lighting, hence reducing energy consumption for heating, cooling and lighting;
 - ii) details of procedures and methods for monitoring energy consumption by the development;
 - iii) management procedures and policies for the minimisation of energy consumption in offices and internal working environments;
 - iv) a protocol for monitoring the efficiency of the co-generation plant and heat recovery steam generators, including procedures for maintenance of these systems;
 - v) a protocol for monitoring heat exchanger efficiency and fouling, including procedures for cleaning and maintenance of all heat exchangers;
 - vi) a protocol for monitoring the efficiency of pumps and all other electrically-driven process equipment, including procedures for maintenance of these items;
 - vii) consideration of the insulation requirements of all pipes and vessels containing process fluids other than at ambient temperatures, and procedures for the maintenance of such insulation;
 - viii) consideration of the insulation/ refractory requirements of the sulphuric acid plant furnace, and procedures for the maintenance of such insulation/ refractory material;
 - ix) consideration of electrowinning cell parameters, including solution concentration/ quality, solution temperature and electrode cleanliness, that may affect energy consumption through the cells, and procedures for addressing such issues.

4. WATER MANAGEMENT AND MONITORING

4.1 Surface & Ground Water Management Plans

a. Prior to the commencement of construction, the Applicant shall prepare a Water Management Plan for the nickel and cobalt mine and limestone quarry sites in consultation with DLWC and DMR and to the satisfaction of the Director-General and DLWC, which shall include, but not be limited to, the following matters:

- i. management of the quality and quantity of surface and groundwater within the areas covered by the water management plan, including details of measures to ensure that materials associated with the Nickel/ Cobalt Processing Facility,

- but not including tailings (refer Condition 5.3), do not permeate the soil below the Facility and affect groundwater quality;
- ii. management of stormwater and general surface runoff diversion to ensure separate and effective management of clean and dirty water and measures to segregate and treat, where appropriate, drainage water of varying qualities;
- iii. details and results of consultation with local landholders;
- iv. ⁵measures to ensure that all surface water discharges from the sites to the Lachlan catchment do not limit the ability of receiving waters to meet relevant water quality objectives as described in the *Water Quality and River Flow Interim Environmental Objectives – Guidelines for River, Groundwater and Water Management Committees – Lachlan River Catchment*;
- v. ⁶Managing the diversion channels to ensure that discharges from the mine site do not affect the ability of downstream waters to meet water quality objectives. Consideration should be given to possible inputs to the channels including runoff and dust from haul roads, the reuse of contaminated process water for dust suppression and runoff and/or leaching of contaminated water from stockpiles into the diversion drains. Consideration should also be given to possible dissolved as well as suspended contaminants.
- vi. measures to be implemented to protect or maintain the quality of surface water which existed prior to project operation.
- vii. details of design and maintenance of all storages, diversions, transmission channels and sedimentation basins for the site
- viii. measures for assessing water quality impacts of the operations above and below the mine/quarry area;
- ix. projection of potential groundwater changes during operations (short term) and post-mining/quarrying (long term) with particular attention given to the effect of changes to groundwater quality;
- x. contingency plans for managing adverse impacts of the development on surface and groundwater quality/quantity, and an outline of source of potential alternate water supplies to landowners in the event of adverse impacts.
- xi. a program for reporting on the effectiveness of the water management systems and performance against objectives contained in the approved site water management plan, and EIS,
- xii. procedures and protocols for the beneficial reuse of water from the mine/quarry component of the Project, subject to EPA requirements and/ or approval;
- xiii. water management to and from the tailings dam, evaporation and surge dams

(b). The Applicant must also include details of process water systems as follows :

- i. details of major process water systems associated with the Nickel/ Cobalt Processing Facility, including water quality, water source and water treatment/ disposal routes;
- ii. measures to be employed at the Nickel/ Cobalt Processing Facility to minimise the consumption of water, and reduce the consumption of water over time, where feasible;
- iii. consideration of opportunities to integrate process water systems in the context of overall water cycle management;
- iv. details of any process water system and discharge monitoring to be undertaken;

⁵ EPA GTAs

⁶ EPA GTAs

⁷ EPA GTAs

- (c). ⁷Prior to construction of the processing facility, the Applicant must undertake such studies and investigations as necessary to determine the potential for tailings decant liquor to be beneficially reused within the premises. A report outlining these findings of the investigations and studies, including any recommendations must be submitted to the EPA prior to the construction of the processing facility.
- (d). ⁸ The Applicant shall ensure that the operation complies with any requirement for waste water management as provided by the EPA. The EPA intends to include conditions within the environmental protection license for the premises to regulate waste water management. The conditions will be consistent with the sewage management proposal required by condition 7.8.1 and will ensure that the sewage management proposal is appropriately implemented.
- (e). **Tailings Water Reuse Program**
 - i. The occupier must reuse recovered tailings water where feasible and environmentally acceptable.
 - ii. The occupier must triennially, from commencement of operation of the processing facility, review the feasibility of increasing the reuse of recovered tailings water at the facility. The results of the review must be included in the Annual Environmental Management Report.
- (f) ⁹Due care is to be exercised by the Applicant to control leakage into any underground aquifer from all works
- (g) In the event that the mine/quarry operationally adversely affects existing or licensed groundwater users, the Applicant shall, to the satisfaction of the DLWC, liaise with the users to provide a replacement water supply of similar quality and quantity to that affected, until such time as the development ceases to impact on the users' water supply.
- (h) The Applicant must consult with the DLWC and DMR in relation to any dam construction proposed at the site.
- (i) ¹⁰ The applicant must, prior to construction, obtain approval from the NSW Dams Safety Committee for the construction of all dams and embankments, which fall within the provisions of the Dams Safety Act.
- (j) ¹¹ All licensed works that are referable under the NSW Dams Safety Act are to be constructed and maintained in accordance with the provisions of that Act.

4.1.1. Borefields Environmental Management Plan

- (a) Prior to commencement of construction , the Applicant shall prepare a Borefields Environmental Management Plan (BEMP) to the satisfaction of the DLWC and Director-General, in consultation with FSC. The BEMP shall include but not be limited to:
 - (i) Erosion control measures during construction including details of temporary sediment and erosion control systems to be used during

⁸ EPA GTAs

⁹ DLWC GTAs

¹⁰ DLWC GTAS

¹¹ DLWC GTAS

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- construction, topsoil management, and measures for the protection of watercourses.(refer Conditions 3.5 and 4.2)
- (ii) Water management proposals during construction including separation of clean and dirty water runoff, and contingency plans for managing adverse impacts on surface and groundwater during construction.
 - (iii) Details of rehabilitation proposals for disturbed areas (refer Condition 3.6).
 - (iv) Proposals for on-going maintenance of fences and pastures and control of weeds, vermin, and feral animals.
 - (v) Measures for the control of dust during construction.
 - (vi) Details of landscaping and measures to blend surface structures with the surrounding landscape.
 - (vii) Preparation of a Flora and Fauna Management Plan for construction consistent with the requirements of Condition (3.4).
 - (viii) Preparation of an Archaeological and Cultural Management Plan for construction consistent with the requirements of Condition (3.3).
 - (ix) Evidence that the Applicant has consulted with affected service authorities and made arrangements satisfactory to those authorities for the protection or relocation of services affected or crossed by the pipelines.
 - (x) Measures for minimising noise during construction including:
 - construction hours,
 - compliance standards;
 - community consultation;
 - complaints handling monitoring/system;
 - site contact person to follow up complaints;
 - mitigation measures;
 - the design/orientation of the proposed mitigation methods demonstrating best practice;
 - contingency measures where noise complaints are received;
 - monitoring methods and program.
- (b) A copy of the BEMP shall be forwarded to FSC, LSC and PSC within 14 days of acceptance by the Director-General and DLWC.
- (c) ¹²The Applicant shall install to the satisfaction of the DLWC, in respect of location, form, type and construction, an appliance to measure the quantity of water extracted from the works. The appliance is to consist of a meter with automatic recording device, or such other means of measurement as may be approved by the DLWC. The appliance is to be maintained in good working order and condition. A record of all water extracted from the works is to be kept and supplied to the DLWC on request. The Applicant, when requested, must supply a test certificate as to the accuracy of the appliance furnished by the manufacturer, or by some person duly qualified to do so.
- (d) ¹³The Applicant shall furnish to the DLWC each July a return showing the meter reading of the hours pumped, the extraction rate and the volume of water pumped for each month during the previous twelve months.

¹² DLWC GTAs

¹³ DLWC GTAs

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- (e) ¹⁴Within two months after the works are completed, the DLWC shall be provided with an accurate plan of the location of the works and notified of the results of any pumping tests, water analysis, and other details as are specified in the approval from the DLWC.
- (f) ¹⁵The works shall be located at least:
- 200 metres from any boundary of the property, except when specifically authorised by DLWC.
 - 400 metres from any irrigation bore on any adjoining property
 - 500 metres from any town water supply bore
 - 400 metres from any DLWC observation bore
 - 40 metres from the nearest bank of any river or creek
- (g) ¹⁶The Applicant shall allow the DLWC or any person authorised by it, full access to the works, either during or after construction, for the purpose of carrying out inspections or tests of the works and its fittings. The Applicant is to carry out work or alterations deemed necessary by the DLWC for the protection or proper maintenance of the works, or the control of water extracted and for the protection of the quality and the prevention from pollution or contamination of sub-surface water.
- (h) ¹⁷All works shall be constructed and maintained to properly control the water extracted to prevent wastage or any reduction in quality of the sub-surface water. The DLWC may direct that any necessary repairs or alterations be undertaken to maintain the works in good working order.
- (i) ¹⁸If a bore ceases to be productively used, the DLWC must be notified and the aquifer must be sealed by a method acceptable to the DLWC.
- (j) ¹⁹Any water extracted by the works must not be discharged into any watercourse or groundwater if there is a likelihood of pollution of that water.
- (k) ²⁰Upon issue of the bore licences the holder will be authorised to extract groundwater under the following provisions:
- The total volume extracted from the borefield must not exceed 6307 megalitres (= 200 litres/second) in any 12 month period commencing 1 July.
 - The rate of extraction will be limited to 100 litres/second until the licence holder provides the DLWC with an approved Bore Impact Mitigation Plan (BIMP) that demonstrates, to the satisfaction of DLWC, how the impact on neighbouring bores will be ameliorated. Upon supply of an approved BIMP, the rate of extraction will be increased to 200 litres/second.
 - The total allocation and rates of extraction will be subject to the applicant proving to the satisfaction of the DLWC that the borefield is capable of sustainably extracting the allocated volume.
- (l) The BIMP is to be prepared by the Applicant in consultation with the DLWC, and to the satisfaction of DLWC and the Director-General, prior to

¹⁴ DLWC GTAs

¹⁵ DLWC GTAs

¹⁶ DLWC GTAs

¹⁷ DLWC GTAs

¹⁸ DLWC GTAs

¹⁹ DLWC GTAs

²⁰ DLWC GTA

commencement of borefield construction. The Plan is to include, but not necessarily be limited to:

- a detailed monitoring programme,
 - trigger levels for commencement of action,
 - remedial action, including, but not limited to, mitigation/compensatory measures generally providing for:
 - an outline of the process and consultations undertaken in preparing the Plan
 - bore/well reconditioning
 - alternative water supplies
 - additional energy costs incurred
 - loss of land due to inability to irrigate from loss of water due to mine water extraction
 - business development education and/or retraining
 - private agreements between Applicant and landholders
 - an independent dispute resolution process for proposed mitigation measures (refer also sub-clause (p) below), and
 - groundwater sustainability.
- (m) Prior to the finalisation of any agreement with respect to any mitigation measure proposed, the DLWC is to be consulted to ensure that its statutory and natural resource management responsibilities have been complied with.
- (n) ²¹If required by the Director-General, the Applicant shall fund an independent review of the draft BIMP to be undertaken by an independent expert appointed by the Director General in consultation with DLWC and Applicant. Any such review shall be considered by the Director General and DLWC prior to any approval of the BIMP.
- (o) The Bore Licence is to be advertised in accordance with *Part 5 of the Water Act, 1912*. As the BIMP is a condition of the Licence, copies are to be made available for comment at DLWC Offices and the Council Offices for the Forbes, Parkes and Lachlan Shires. The applicant is to provide notice of the advertising and a copy of the BIMP to landholders within a 10km radius of the Borefield.
- (p) In any impact mitigation process undertaken under the BIMP, the quantity, quality and security of the water supplied as a result of that process is to be at least of the same standard as the water supplied from the bore before it was affected by the Applicant's borefield, or as otherwise agreed to by the landholder and the Applicant. In the case that agreement on proposed mitigation measures cannot be reached by the relevant parties, the independent dispute resolution process detailed in the BIMP is to be followed. The independent dispute resolution process is to consider and incorporate in the resulting decision any relevant DLWC statutory and natural resource management responsibility where relevant. The decision resulting from the independent dispute resolution process is final.
- (q) In the event that the development adversely affects groundwater users the Applicant shall, to the satisfaction of the DLWC, initiate the provisions of the Borefield Impact Mitigation Plan.

²¹ DLWC GTA

²² EPA GTA

4.1.2. Pollution of Waters

²²Except as may be expressly provided by a license under the protection of the Environment Operations Act 1997 in relation to the development, section 120 of the Protection of the Environment Operations Act 1997 must be complied with in and in connection with the carrying out of the development.

4.2. Erosion and Sediment Control

- (a)²³ Prior to construction commencing, on the nickel and cobalt mine and limestone quarry the Applicant shall prepare an Integrated Erosion and Sediment Control Plan (IESCP) for the proposed operations in consultation with the DLWC, DMR and EPA, and to the satisfaction of DLWC, EPA and the Director-General. The Plan shall be prepared, approved, and implemented prior to the commencement of construction.
- (b) The IESCP shall include but not be limited to:
- i. details of temporary and permanent sediment and erosion control systems to be used during construction and operation, including for any earthworks specifically associated with rehabilitation and landscaping;
 - ii. details of the proposed measures to maximise the retrieval of topsoil for subsequent use in the rehabilitation program;
 - iii. consideration and management of erosion and sedimentation of surface watercourses/waterbodies, including all creeklines within the mine/quarry areas,
 - iv. ²⁴measures that will be employed to minimise soil erosion and the discharge of sediment and other pollutants to lands and/or waters during construction activities. The IESCP should be prepared in accordance with the requirements for such plans outlined in *Managing Urban Stormwater: Soils and Construction*, or its later version (available from the Department of Housing);
 - v. ²⁵measures to construct banks, channels and similar works to divert stormwater away from disturbed land surfaces such as mine workings, haul roads, overburden disposal areas, ore handling and waste water treatment facilities.. All diversion banks, channels and points of discharge must be constructed or stabilised so as to minimise erosion and scouring;
 - vi. ²⁶the construction of sedimentation dams to contain or treat surface water runoff from all mining areas and areas disturbed by mining including overburden dumps, topsoil stockpiles, unsealed roads and areas cleared of vegetation. Collection drains, diversion drains and culverts to control runoff from roads – must be directed to sediment control structures.
 - vii. a program for reporting on the effectiveness of the sediment and erosion control systems and performance against objectives contained in the approved IESCP and EIS;

²³ EPA GTA

²⁴ EPA GTA

²⁵ EPA GTA

²⁶ EPA GTA

- viii. consideration of the DLWC “*Draft Guideline for Establishment of Stable Drainage Areas on Rehabilitated Minesites,*” or its latest version.

4.3 Surface And Groundwater Monitoring

4.3.1. Mine/quarry

The Applicant shall:

- (a) construct and/or locate surface and groundwater monitoring positions, as identified in the Water Management Plan (Condition 4.1) in consultation with DLWC and DMR, and to the satisfaction of the Director-General and the EPA, prior to the commencement of operations;
- (b) ²⁷prepare a detailed monitoring program in respect of ground and surface water quality and quantity, including water in and around the nickel and cobalt mine and limestone quarry during the operations in consultation with DLWC, DMR and the EPA, and to the satisfaction of EPA and the Director-General. The monitoring program shall identify frequency of sampling, the parameters to be measured, the need for any contingency plans, the reporting procedure and determination of appropriate cut-off criteria for monitoring purposes determined in consultation with DLWC, DMR and EPA. The monitoring program should include (but not necessarily be limited to) the following:
- i. ²⁸ensuring the monitoring program provides sufficient information to demonstrate that surface water discharges from the site do not limit the ability of receiving waters to meet relevant water quality objectives and revising the current monitoring sites to achieve this;
 - ii. ²⁹incorporates rapid biological monitoring and event monitoring to account for the ephemeral nature of receiving waters;
 - iii. incorporates details of the frequency of sampling for turbidity and/or suspended solids, TDS, major cations, alkalinity, hardness and a suite of metals;
 - iv. incorporating sediment/soil monitoring, as downstream impacts may not be restricted to surface water quality
 - v. increasing the frequency of monitoring referred to in the EIS, particularly in the first 3 to 4 years of operation and for the Northern diversion channel

(c) **Water - Load Based Licensing**

The Applicant shall monitor the concentration of each pollutant listed in Table 2 at the corresponding Point number, as indicated in the adjacent column. This monitoring is to be undertaken by sampling and obtaining results by analysis of the concentration of each pollutant. The monitoring must be conducted using the specified sampling methods and at the frequency as provided in Table 2.

²⁷ EPA GTAs

²⁸ EPA GTAs

²⁹ EPA GTAs

Table 2

Pollutant	Point number	Sampling type	Frequency
Arsenic	13	Grab	Monthly
Cadmium	13	Grab	Monthly
Chromium	13	Grab	Monthly
Copper	13	Grab	Monthly
Lead	13	Grab	Monthly
Mercury	13	Grab	Monthly
Selenium	13	Grab	Monthly
Suspended Solids	12,13	Grab	Monthly
Zinc	13	Grab	Monthly
Salt	12	Grab	Monthly

(d). Testing methods - concentration limits for water pollutants

Monitoring for the concentration of pollutants discharged to waters must be done in accordance with the Approved Methods Publication of the EPA. If there is no methodology required by the Approved Methods Publication; by the General Terms of Approval; or in the licence under the Protection of the Environment Operations Act 1997 describing the relevant load calculation protocol, a method must be approved by the EPA, in writing, before any tests are conducted,

Note : The EPA advises that it proposes to set surface water and ground water monitoring requirements for this project which will be consistent with Condition

4.3.2. Borefields

The Applicant shall:

- (a) construct and/or locate groundwater monitoring positions in consultation with DLWC and EPA, and to the satisfaction of the Director-General, prior to the commencement of construction of the borefields;
- (b) prepare a detailed monitoring program in respect of ground water quality and quantity, including water in and around the borefields during the operations in consultation with DLWC and to the satisfaction of the Director-General. The monitoring program shall include, but not necessarily be limited to:
 - i. a bore census (including collation of all relevant quality, quantity, yield, depth and usage data) of all bores within a 10km radius of the project borefields;
 - ii. daily rainfall at the borefields;
 - iii. continuous ground water level monitoring in production bores and in standby bores;
 - iv. quarterly monitoring of pH, redox potential, CO₂, bicarbonate and temperature at the well head;
 - v. monthly ground water level monitoring and bore usage in observation piezometers including PB-W1, PB-W2 and PB-E1 refer (Figures C3-1 and C3-3 in the EIS) and in selected regional bores within a 10km radius of the borefields;
 - vi. the need for any contingency plans;
 - vii. annual monitoring in 10 bores within a 10km radius of the borefields of water quality from each production bore. Parameters to be monitored may include, but not necessarily be restricted to the following:

- pH, electrical conductivity, redox potential, temperature and dissolved CO₂ at the time of sampling;
 - total dissolved solids, total alkalinity and methyl orange alkalinity;
 - major cations (Ca, Mg, Na, K) and major anions (Cl, SO₄, F, NO₃);
 - metals including Fe²⁺, Fe³⁺, and Mn on filtered and acid preserved samples; and
 - annual groundwater usage and level monitoring in selected regional bores within a 20km radius of the borefields, providing the information is publicly available.
- (c) The monitoring programs shall be prepared prior to commencement of operations of the borefield. The results of the monitoring programs shall be reported to DLWC and be made available to affected landholders determined in consultation with DLWC. The monitoring program for post-decommissioning shall be prepared two years prior to the cessation of operations.
- (d) The results and interpretation of surface and groundwater monitoring are to be reported and interpreted in the AEMR.

5. Hazardous Materials and Waste Management

- (a) ³⁰The Applicant must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by a licence under the Protection of the Environment Operations Act 1997.

This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if it requires an environment protection license under the Protection of the Environment Operations Act 1997

- (b) ³¹Bund(s) must be installed around areas in which fuels, oils and chemicals are stored. Bunds must:
- (i) have walls and floors constructed of impervious materials;
 - (ii) be of sufficient capacity to contain 110% of the volume of any tank (or 110% volume of the largest tank where a group of tanks are installed);
 - (iii) have walls not less than 250 millimetres high;
 - (iv) have floors graded to a collection sump; and
 - (v) not have a drain valve incorporated in the bund structure.
- (c) ³²A waste water treatment facility with oil separator and sediment trap must be installed to treat drainage from any hardstand, vehicle servicing, and general workshop areas,
- (d) ³³Waste water from the mining process must not be discharged onto adjoining roads, crown land or other persons land, or into any river as defined under the Water Act.

³⁰ EPA GTAs

³¹ EPA GTAs

³² EPA GTAs

³³ DLWC GTAs

- (e) The applicant is required to store all oils and grease from equipment maintenance in leak proof containers within a bunded area until collected by a licensed recycling contractor.
- (f) All activities must be undertaken in a manner which ensures efficient use of water and which maximises reuse of water.
- (g) No waste from site facilities shall be disposed of in the waste emplacement areas;
- (h) Explosives (including detonators, ANFO and initiating products) shall be stored in dedicated magazines in accordance with AS 2187 "*Explosives – Storage, Transport and Use*" (or its most recent version).

5.1. Hazards and risk management

- (a) Class 1 dangerous goods (explosives) shall not be transported to any part of the Project other than the Limestone quarry. The transport of such materials shall be undertaken strictly in accordance with Australian Standards and any relevant legislative requirements.
- (b) Notwithstanding condition a) above, the Applicant may seek the approval of the Director-General to employ explosives during the construction of natural gas and/ or water pipelines and/or the Nickel Cobalt processing facility. In seeking the Director-General's approval for such blasting, the Applicant shall supply the following information:
 - i) an assessment of the risk impacts of the transport and use of explosive materials, prepared in accordance with the Department's publication *Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis*;
 - ii) details of the impacts of blasting with respect to noise and dust emissions, and mitigation measures proposed to address these impacts;
 - iii) the specific requirements of LSC, PSC, FSC and the EPA in relation to the proposed blasting and how these requirements will be met.
- (c) The Director-General may require the Applicant to undertake any measure to minimise the impacts of blasting as part of any approval granted under this condition.
- (d) Bulk storage of hydrogen sulphide (H₂S) and sulphur dioxide (SO₂) at the Nickel/ Cobalt Processing Facility shall not be permitted, other than to ensure process continuity in the event of a process upset, start-up or shut-down.
- (e) **Emergency Services Cooperation Agreement**
Prior to the commencement of operation of the Nickel/ Cobalt Processing Facility, the Applicant shall develop an Emergency Services Cooperation Agreement in consultation with State Emergency Services at Trundle and Condobolin and bushfire fighting services in the Fifield/Trundle areas. The Agreement shall provide, but not necessarily be limited to:

- i) policies and procedures for the ongoing supply of hazards information related to the Project to the State Emergency Services and bushfire fighting services (including quantities and locations of dangerous goods inventories and possible hazardous events at associated with the development);
- ii) policies and procedures for communication with the State Emergency Services and bushfire fighting services and notification in the event of an emergency;
- iii) details of any agreement for the provision of firefighting/emergency response equipment from the project in the event of a bushfire or emergency;
- iv) details of any agreement for access to water stores at the development in the event of a bushfire; and
- v) details of any agreement for the provision of suitably qualified employees from the project in the event of a bushfire or emergency.

The Applicant shall supply a copy of the Emergency Services Cooperation Agreement to the Director-General within 14 days of the Agreement being reached.

5.2. Hazards studies

Note : The development consent conditions under 5.2 are related to offsite risk to people and the biophysical environment. The safety of all persons and operations on site is the responsibility of DMR under the Mines Inspection Act and Dangerous Goods Act. The consent conditions under 5.2 are exclusive in scope of any mining activity which is the statutory responsibility of DMR under the Mining Act, 1992. Consideration of such mining activities may be included in the required reports for completeness, although these activities shall not be the subject of approval by the Director-General.

a. Pre-Construction Hazards Studies

At least one month prior to the commencement of construction of the relevant component(s) of the Project, or within such further period as the Director-General may agree, the Applicant shall prepare and submit for the approval of the Director-General the studies set out under (i) to (iv) below. Construction of the relevant component shall not commence until approval has been given by the Director-General and, with respect to the Fire Safety Study, approval has also been given by the Commissioner of the NSW Fire Brigades. In the event that a study applies to more than one component of the Project, the Applicant may seek the Director-General's approval to stage the submission of that study.

i). Fire Safety Study

The Fire Safety Study shall cover all aspects detailed in the Department's publication *Hazardous Industry Planning Advisory paper No. 2 - Fire Safety Study* and the New South Wales Government's *Best Practice Guidelines for Contaminated Water Retention and Treatment Systems*. The Study shall also be submitted for approval to the NSW Fire Brigades. The Study shall consider all components of the Project, exclusive of those components that are underground.

ii). Hazard and Operability Study

The Hazard and Operability Study shall be chaired by an independent, qualified person approved by the Director-General prior to the commencement of the Study. The Study shall be carried out in accordance with the Department's publication *Hazardous Industry Planning Advisory Paper No. 8 - HAZOP Guidelines*. The Study shall consider the Nickel/ Cobalt Processing Facility and Limestone Processing Facility.

iii). Final Hazard Analysis

The Final Hazard Analysis shall be prepared in accordance with the Department's publication *Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis*. The Analysis shall consider all components of the Project.

iv). Construction Safety Study

The Construction Safety Study shall be prepared in accordance with *Hazardous Industry Planning Advisory Paper No. 7 - Construction Safety Study Guidelines*. In the event that the construction period exceeds six months, the commissioning portion of the Construction Safety Study may be submitted two months prior to the commencement of commissioning of the Nickel Cobalt processing facility. The Study shall consider all components of the Project.

b. Pre-Commissioning Hazards Studies

No later than two months prior to the commencement of operation of the relevant component(s) of the Project, or within such further period as the Director-General may agree, the Applicant shall prepare and submit for the approval of the Director-General the studies set out under i) to iii) below. Operation of the relevant components shall not commence until approval has been given by the Director-General. In the event that a study applies to more than one component of the Project, the Applicant may seek the Director-General's Approval to stage the submission of that study.

i) Transport of Hazardous Materials Study

Arrangements covering the transport of hazardous materials including details of routes to be used for the movement of vehicles carrying hazardous materials to or from the Project. The Study shall be carried out in accordance with the Department's draft *Route Selection* guidelines. Suitable routes identified in the Study shall be used except where departures are necessary for local deliveries or emergencies.

ii) Emergency Plan

A comprehensive Emergency Plan and detailed emergency procedures shall be prepared in accordance with the Department's publication *Hazardous Industry Planning Advisory Paper No. 1 - Industry Emergency Planning Guidelines*. The Plan shall include detailed procedures for the safety of all people outside the Project who may be at risk from the development. The Plan shall consider all components of the Project.

iii) Safety Management System

A Safety Management System shall be prepared in accordance with the Department's publication *Hazardous Industry Planning Advisory Paper No. 9 - Safety Management*. The System shall cover all operations on-site and associated transport activities involving hazardous materials. All safety-related procedures, responsibilities and policies, along with details of mechanisms for ensuring adherence to procedures, shall be clearly specified in the System. Records shall be kept on-site and shall be available for inspection by the Director-General upon request. The System shall consider all components of the Project.

5.3 Tailings Emplacement and management

The Applicant shall:

-
- (a) construct the tailings dams to the requirements of DMR, EPA and DSC and in consultation with DLWC;
- (b) ³⁴The Tailings Storage Facility, Evaporation Basin and Surge Dam must be designed and operated to ensure that:
- any seepage of tailings water from the Tailings Storage Facility, Evaporation Basin and Surge Dam to the groundwater is contained within the boundary of the premises.
 - The seepage of tailings water through the side walls and of The Tailings Storage Facility, Evaporation Basin and Surge Dam is minimised
- (c). ³⁵The Tailings Storage Facility, Evaporation Basin and Surge Dam must be designed and operated to minimise seepage of tailings water through the base and side walls. This design must incorporate:
- a base liner of either 900 mm of clay or modified soil with a permeability of no more than 1×10^{-9} m/s (or equivalent) or a synthetic (plastic) liner of 1.5 mm minimum thickness with a permeability of no more than 1×10^{-14} m/s (or equivalent) across the whole area of the Tailings Storage Facility, Evaporation Basin and Surge Dam.
 - a decant system to recover water from the Tailings Storage Facility.
- (d). ³⁶The liner and tailings water recovery system must be designed and installed with appropriate quality control measures to ensure that seepage and discharge of tailings water is minimised consistently over the period in which the Tailings Storage Facility, Evaporation Basin and Surge Dam will be operational.
- (e). ³⁷The Tailings Storage Facility, Evaporation Basin and Surge Dam must not be commissioned until a report has been first obtained from an independent, suitably qualified and competent person, approved by the EPA, DMR and DSC, certifying that:
- A low permeability liner has been installed in accordance with condition 5.3 (c);
 - The low permeability liner installed for the Tailings Storage Facility, Evaporation Basin and Surge Dam has a permeability which meets the permeability design criteria at any point in the liner agreed in consultation with the EPA and DMR when tested with liquor similar of characteristics as the proposed tailings decant liquor; and
 - The structures are constructed in such a manner so as to remain structurally sound throughout their design life.

If necessary following receipt of the Report, the applicant must:

- Conduct or cause to be conducted, such works as are necessary to ensure all matters specified above have been satisfied; and
- Supply or caused to be supplied to the EPA, particulars certified by the approval holder that each of the matters specified above have been satisfied.

³⁴ EPA GTA

³⁵ EPA GTAs

³⁶ EPA GTAs

³⁷ EPA GTAs

- (f) install a series of monitoring bores around the TSF. These bores will be used to monitor the chemical quality of the groundwater and to confirm that actual TSF seepage complies with the seepage model predictions on licence criteria. If the predicted behaviour of TSF seepage front becomes unacceptable, that is too close to the surface or a risk to beneficial users is identified, then seepage interception measures will be implemented.
- (g) ³⁸Monitoring of groundwater at the boundary of the premises and between the Tailings Storage Facility and Evaporation Basin and the boundary of the facility
- (h) ³⁹The placement of groundwater monitoring points to ensure the presence of tailings water of any contamination of groundwater from tailings water will be detected, particularly at any preferential flow paths such as paleochannels, recharge areas or fracture zones.
- (i) ⁴⁰Prior to raising the perimeter embankment around the Tailings Storage Facility, the Applicant must provide the EPA with an independent certification which demonstrates that the in situ tailings have suitable engineering properties to allow them to be used as construction material in perimeter embankment.

5.4 Waste Management

(a) Waste Management Plan

Prior to the commencement of construction of any component of the Project, the Applicant shall prepare a Waste Management Plan detailing measures to minimise the production of waste and to effectively reuse, recycle, treat and dispose of wastes produced at the Project. The Plan shall be updated to reflect process and management changes at the Project or as required by the Director-General. The Plan shall address the requirements of LSC, FSC and PSC. The Plan shall include, but not necessarily be limited to:

- i) identification of all types and quantities of waste materials produced at the Project during construction and operation;
- ii) programs aimed at minimising the production of waste at the Project through the implementation of operational and management measures;
- iii) details of potential reuse and recycling avenues for waste materials produced at the Project, including collection and handling procedures;
- iv) details of appropriate disposal routes in the event that reuse and recycling avenues are not available or are not practicable;
- v) programs for involving and encouraging employees and contractors to minimise waste production at the Project and reuse/ recycle where appropriate.

(b). General non-mining waste

⁴¹Any non-mining waste from facility construction, operation or closure must be handled in accordance with the waste hierarchy of; avoid, reuse, recycling and disposal. Any waste remaining for disposal must be disposed of at a facility appropriately licensed by the EPA or than can otherwise lawfully receive the waste.

³⁸ EPA GTAs

³⁹ EPA GTA

⁴⁰ EPA GTA

⁴¹ EPA GTA

(c). Laboratory waste

⁴²All wastes generated by the laboratory must be assessed and classified in accordance with the “*Environmental Guidelines: Assessment, Classification and Management of Liquid and Non Liquid Wastes*” and must be disposed of at a facility appropriately licensed by the EPA or that can otherwise lawfully receive the wastes.

(d). Hazardous and industrial waste

Hazardous or industrial waste must be stored and disposed of in a manner to minimise its impact on the environment including appropriate segregation for storage and separate disposal by a waste transporter licensed by the EPA.

6. AIR QUALITY, BLAST, NOISE AND LIGHT MANAGEMENT AND MONITORING

6.1 Air Quality Management and Monitoring

6.1.1 Dust Management Plan

The Applicant shall, prior to the commencement of the mine/quarry operations, prepare a Dust Management Plan detailing air quality safeguards and procedures for dealing with dust emissions to the satisfaction of the Director-General. The Plan shall be updated as required by the Director-General. The Plan shall include, but not be limited to, details of:

- (i) an identification of all potential sources of particulate matter (PM₁₀, TSP and deposited matter);
- (ii) the identification of dust affected properties and the relevant dust limits consistent with EPA criteria;
- (iii) specifications for the procedures for the dust monitoring program for the purpose of undertaking independent dust investigations;
- (iv.) outline the procedure to notify property owners and occupiers likely to be affected by dust from the operations;
- (v.) the establishment of a protocol for handling dust complaints that include recording, reporting and acting on complaints;
- (vi.) appropriate mechanisms for community consultation;
- (vii) outlining mitigation measures to be employed to minimise dust emissions from all sources (including drilling, blasting, disturbed areas, haul roads, etc);
- (viii) equipment to be available and used to control dust generation;
- (ix) methods to determine when and how the operations are to be modified to minimise the potential for dust emissions, particularly from blasting and surface activities if the relevant criteria are exceeded;
- (x). identification of longer term strategies directed towards mitigating dust levels that exceed the relevant EPA dust amenity criteria;
- (xi). details of locations for dust monitoring and deposition gauges at the nearest residences and frequency of monitoring, as agreed with the EPA (refer also to Condition 6.1.2.
- (xii). a program to continue baseline monitoring undertaken prior to development consent.

⁴² EPA GTA

⁴⁴ EPA GTA

6.1.2 Dust Monitoring

(a) The Applicant shall:

- i. undertake monitoring at locations described in the Dust Management Plan (Condition 6.1.1));
- ii. establish dust deposition, Total Suspended Particulate (TSP) and PM₁₀ monitoring locations for the mine/quarry operations and locations as may be determined to be necessary by the Director-General and in accordance with the Dust Management Plan referred to in Condition 6.1.1;
- iii. detail monitoring methodologies and standards to be adhered to;
- iv. provide a detailed monitoring cycle and duration of the monitoring cycle; and
- v. provide all results and analysis of air quality monitoring in the AEMR including a determination of the dust deposition rate in g/m²/month for deposited dust and µg/m³ for TSP and PM₁₀ which shall be plotted in the AEMR.

(b) ⁴⁴The applicant shall undertake sampling and analysis of ambient air pollutants strictly in accordance with the methods and the frequencies detailed in Table 3. As a minimum requirement, monitoring of ambient air pollutants must be undertaken at the locations identified in the table. Ambient air pollutant sampling equipment must be sited in accordance with the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.

Table 3.

Pollutant	¹ Location	Method ¹	Frequency
Particulate matter (PM ₁₀)	Nearest affected residence (nickel mine and limestone quarry) and background	AM-1,AM-18	As per AM-18
Particulate matter (TSP)	Nearest affected residence (nickel mine and limestone quarry) and background	AM-1,AM-15	As per AM-15
Particulates (Deposited Matter)	As identified in EIS	AM-1,AM-19	As per AM-19

Note : 1. ⁴⁵All methods are specified in the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales* and all monitoring must be conducted strictly in accordance with the requirements outlined in this document.

2. ⁴⁶The EPA considers that suspended and deposited particulate are critical parameters in determining amenity air impacts. However Particulate Matter (PM₁₀) monitoring will not be required as a condition of licence if the applicant is able to demonstrate through the extrapolation of Total Suspended Particulate monitoring collected during the operation of the mine and processing facility that PM₁₀ is not causing an unacceptable impact at any potentially effected receiver.

3. ⁴⁷ Should access to the nearest affected residence not be possible, the EPA will consider varying the monitoring location.

(c) Sampling and analysis of ambient air pollutants shall commence a minimum of 12 months prior to commissioning of the processing plant and nickel mine to establish

⁴⁵ EPA GTA

⁴⁶ EPA GTA

⁴⁷ EPA GTA

background levels of air pollutants.

- (d) ⁴⁸All monitoring must be conducted strictly in accordance with the requirements of the methods which are specified in the most current version of the EPA's *Approved Methods for the Sampling and Analysis of Air Pollutants in New South*.
- (e) Monitoring of dust deposition and the concentration of total suspended particulate matter in ambient air must be carried out at locations agreed to in consultation with the EPA.
- (f) In the event that a landowner or occupier considers that dust from the project at their dwelling, or over more than 25% of their vacant land is in excess of the relevant EPA dust amenity criteria, and the Director-General is satisfied that an investigation is required, the Applicant shall upon the receipt of a written request:
- i. consult with the landowner or occupants affected to determine their concerns;
 - ii. make arrangements for appropriate independent dust investigations in accordance with the Dust Management Plan, and to the satisfaction of the Director-General, to quantify the impact and determine the source of the effect;
 - iii. modify the activities in accordance with the Dust Management Plan if exceedences are demonstrated to result from the site activities. This shall include:
 - introduction of additional controls, either of dust generation from individual sources on the mine/quarry site or on site operations or modify operations, to ensure that the dust criteria are achieved; and/or,
 - enter into an agreement with the landowner or provide such forms of benefit or amelioration as may be agreed between the parties as providing acceptable amelioration or benefit for the dust levels experienced.
 - iv. conduct follow up investigations to the satisfaction of the Director-General, where necessary.

Note: Vacant land in this condition means the whole of the lot in a current plan registered at the Land Titles Office as at the date of this consent that does not have a dwelling situated on the lot and is permitted to have a dwelling on that lot.

- (g) If the independent dust investigations in sub-clause f(ii) above confirm that dust limits are in excess of the relevant EPA dust amenity criteria, the Applicant shall at the written request of the owner acquire the relevant property. Acquisition shall be in accordance with the procedures set out in Condition 11.
- (h) Further independent investigations shall cease if the Director-General is satisfied that the relevant consent limits or relevant EPA dust amenity criteria are not being exceeded and are unlikely to be exceeded in the future.

6.1.3 Dust Suppression and Control

- (a) ⁴⁹Activities occurring at the mine/quarry must be carried out in a manner that will minimise emissions of dust from the site.

⁴⁸ EPA GTA

- (b) ⁵⁰Air pollution control equipment must be fitted to the drilling rig(s) to minimise fines generated during drilling being discharged to the atmosphere.
- (c) A mobile water tanker equipped with a pump and sprays must be provided to suppress dust from unsealed roads when in use.
- (d) Haul roads must be surfaced in selected hard, non-friable material.

6.1.4. Gaseous emissions management

(a). Gaseous Emissions Management Plan

Prior to the commencement of operation of the Nickel/ Cobalt Processing Facility, the Applicant shall prepare a Gaseous Emissions Management Plan detailing measures to minimise impacts of the Project on local and regional air quality. The Plan shall be updated to reflect process and management changes at the development or as required by the Director-General. The Plan shall include, but not necessarily be limited to:

- i) details of the sources of all polluting gaseous emissions from the Nickel/ Cobalt Processing Facility, being both point-source and diffuse emissions, including identification of the major components and quantities of these emissions;
 - ii) details of monitoring for gaseous emissions from the Nickel/ Cobalt Processing Facility, in accordance with the EPA's requirements;
 - iii) policies and procedures for the minimisation of gaseous emissions from the Nickel/ Cobalt Processing Facility, and reduction in emissions over time, where feasible;
 - iv) process philosophies and protocols for the efficient use of materials indirectly contributing to gaseous emissions, including elemental sulphur and natural gas, and a program for the consideration and introduction of more efficient process technology, should such technology be available, feasible and appropriate to the Project (refer to condition 3.11);
 - v) protocols for regular maintenance of process equipment to minimise the potential for leaks and fugitive emissions; and
 - vi) details of any appropriate measures to be employed to compensate for the negative environmental impacts of gaseous emissions from the Nickel/ Cobalt Processing Facility.
- (b) Offensive odours

⁵¹The Applicant must not cause or permit the emission of offensive odours from the premises, as defined under section 129 of the Protection of the Environment Operations Act 1997.

(C) Concentration limits

⁵²For each monitoring/discharge point or utilisation area specified in the tables below (by point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.

⁴⁹ EPA GTA

⁵⁰ EPA GTA

⁵¹ EPA GTA

⁵² EPA GTA

Point 1 - Acid Pressure Leach Scrubber.

Pollutant	Units of measure	100 % limit	Reference conditions
Volumetric flow rate	Nm ³ /s	MPG [*]	dry, 273 K, 101.3 kPa
Sulfuric acid mist (H ₂ SO ₄) or sulfur trioxide (SO ₃) or both (as SO ₃ equivalent)	g/m ³	0.1	dry, 273 K, 101.3 kPa
Type I and Type II substances (Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn or V)	mg/m ³	5.0	dry, 273 K, 101.3 kPa
Solid particles	mg/m ³	100	dry, 273 K, 101.3 kPa

**Note: Volumetric flow rates to be specified in Manufacturer's Performance Guarantees (MPG).*

Point 4 - Vent from Extraction Fan Over Sulfide Filter.

Pollutant	Units of measure	100 % limit	Reference conditions
Volumetric flow rate	Nm ³ /s	5.3	dry, 273 K, 101.3 kPa
Hydrogen sulfide (H ₂ S)	g/m ³	0.0002 [*]	dry, 273 K, 101.3 kPa

Note: ^{}Emission concentration limit based on the information presented in the EIS and meeting a design ground-level concentration for Hydrogen Sulfide of 0.14 µg/m³ at the nearest sensitive receptor.*

Point 5 - Sulfuric Acid Plant.

Pollutant	Units of measure	100 % limit	Reference conditions
Volumetric flow rate	Nm ³ /s	19.2	dry, 273 K, 101.3 kPa
Sulfuric acid mist (H ₂ SO ₄) or sulfur trioxide (SO ₃) or both (as SO ₃ equivalent)	g/m ³	0.1	dry, 273 K, 101.3 kPa
Sulfur dioxide (SO ₂)	g/m ³	1.5 [*]	dry, 273 K, 101.3 kPa

Note: ^{}Emission concentration limit based on the emission rate presented in the EIS.*

Point 7 - Flare Stack.

Pollutant	Units of measure	100 % limit	Reference conditions
Volumetric flow rate	Nm ³ /s	0.65	dry, 273 K, 101.3 kPa
Hydrogen sulfide (H ₂ S)	g/m ³	0.005	dry, 273 K, 101.3 kPa
Sulfur dioxide (SO ₂)	g/m ³	46.7 [*]	dry, 273 K, 101.3 kPa
Nitrogen dioxide (NO ₂) or nitric oxide (NO) or both (as NO ₂ equivalent)	g/m ³	2.0	dry, 273 K, 101.3 kPa, 7 % O ₂

Note: ^{}Emission concentration limit based on the emission rate presented in the EIS.*

Point 8 - Hydrogen Reformer Stack.

Pollutant	Units of measure	100 % limit	Reference conditions
Volumetric flow rate	Nm ³ /s	1.42	dry, 273 K, 101.3 kPa
Nitrogen dioxide (NO ₂) or nitric oxide (NO) or both (as NO ₂ equivalent)	g/m ³	2.0	dry, 273 K, 101.3 kPa, 7 % O ₂

Point 9 - Power Plant and HRSG.

Pollutant	Units of measure	100 % limit	Reference conditions
Volumetric flow rate	Nm ³ /s	18.4	dry, 273 K, 101.3 kPa
Nitrogen dioxide (NO ₂) or nitric oxide (NO) or both (as NO ₂ equivalent)	g/m ³	0.07	dry, 273 K, 101.3 kPa, 15 % O ₂

Point 10 - Auxiliary Boiler.

Pollutant	Units of measure	100 % limit	Reference conditions
Volumetric flow rate	Nm ³ /s	MPG [*]	dry, 273 K, 101.3 kPa
Nitrogen dioxide (NO ₂) or nitric oxide (NO) or both (as NO ₂ equivalent)	g/m ³	0.35	dry, 273 K, 101.3 kPa, 7 % O ₂

Note: ^{}Volumetric flow rates to be specified in Manufacturer's Performance Guarantees. MPG.*

Point 11 - Diesel Generators.

Pollutant	Units of measure	100 % limit	Reference conditions
Volumetric flow rate	Nm ³ /s	MPG [*]	dry, 273 K, 101.3 kPa
Sulfuric acid mist (H ₂ SO ₄) or sulfur trioxide (SO ₃) or both (as SO ₃ equivalent)	g/m ³	0.1	dry, 273 K, 101.3 kPa
Sulfur dioxide (SO ₂)	g/m ³	0.13 ^{**}	dry, 273 K, 101.3 kPa
Nitrogen dioxide (NO ₂) or nitric oxide (NO) or both (as NO ₂ equivalent)	g/m ³	2.0	dry, 273 K, 101.3 kPa, 7 % O ₂
Solid particles	mg/m ³	100	dry, 273 K, 101.3 kPa

Note: *Volumetric flow rates to be specified in Manufacturer's Performance Guarantees. MPG.
 **Emission concentration limit based on the emission rate presented in the EIS.

(d) The hydrogen sulfide flare (point 7) must be operated to ensure no visible emissions.

6.1.5. Emissions monitoring

(a). Testing methods - concentration limits for air quality monitoring

⁵³Monitoring for the concentration of a pollutant emitted to the air required to be conducted by the EPA's general terms of approval, or a licence under the Protection of the Environment Operations Act 1997, in relation to the development or in order to comply with a relevant local calculation protocol must be done in accordance with:

- The "Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales"; or
- any methodology which is required by or under the POEO Act 1997 to be used for the testing of the concentration of the pollutant; or
- if no such requirement is imposed by or under the POEO Act 1997, any methodology which the general terms of approval or a condition of the licence or the protocol (as the case may be) requires to be used for that testing; or
- if no such requirement is imposed by or under the POEO Act 1997 or by the general terms of approval or a condition of the licence or the protocol (as the case may be), any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

(b) ⁵⁴The following points referred to in tables 4 and 5 are identified for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

Table 4

EPA identification point	Type of monitoring point	Type of discharge point	Description of location
1	Air emission concentration monitoring point	Air emission concentration discharge point	Acid Pressure Leach Scrubber
2		"	Tailings Neutralisation Vent Stack
3		"	Leach Liquor Neutralisation Tank Vents
4	"	"	Vent From Extraction Fan Over Sulfide Filter
5	"	"	Sulfuric Acid Plant
6		"	Limestone Wet Scrubber
7	"	"	Flare Stack
8	"	"	Hydrogen Reformer Stack
9	"	"	Power Plant & HRSG
10	"	"	Auxiliary Boiler
11	"	"	Diesel Generators

⁵³ EPA GTAs

⁵⁴ EPA GTA

- (c) ⁵⁵ For each monitoring/discharge point or utilisation area specified below (by point number), the applicant must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The applicant must use the sampling method, units of measure and sample at the frequency, specified opposite in the other columns:

Note: Section 58 of the Protection of the Environment Operations Act 1997 allows the EPA to vary a condition of a licence issues in respect to the carrying on of a scheduled activity. The EPA will consider varying the monitoring frequency in 6.1.5(c) on application by the holder of the licence. Any application made by the licence holder must justify the amendment based on statutory environmental and technical basis.

Table 5: ⁵⁶Source Emissions Sampling and Analysis Requirements.

POLLUTANT	EPA Identification Point	Method ¹	Frequency
Sulfuric acid mist (H ₂ SO ₄) or sulfur trioxide (SO ₃) or both (as SO ₃ equivalent)	1,5,11	TM-3	Post commissioning, quarterly
Sulphur dioxide (SO ₂)	11	TM-4	Post commissioning, quarterly
Nitrogen dioxide (NO ₂) or nitric oxide (NO) or both (as NO ₂ equivalent)	7,8,9,10,11	TM-11	Post commissioning, quarterly
Type I and Type II substances (Sb, As, Be, Cd, Cr, Co, Pb, Mn, Hg, Ni, Se, Sn or V)	1	TM-12,13,14	Post commissioning, quarterly
Solid particles	1, 11	TM-15	Post commissioning, quarterly

PARAMETER	EPA Identification Point	METHOD ¹	FREQUENCY
VELOCITY	1,4,5,7,8,9,10,11	TM-2	POST COMMISSIONING, QUARTERLY
VOLUMETRIC FLOW RATE	1,4,5,7,8,9,10,11	TM-2	POST COMMISSIONING, QUARTERLY
TEMPERATURE	1,4,5,7,8,9,10,11	TM-2	POST COMMISSIONING, QUARTERLY
MOISTURE	1,4,5,7,8,9,10,11	TM-22	POST COMMISSIONING, QUARTERLY
DRY GAS DENSITY/MOLECULAR WEIGHT OF STACK GASES	1,4,5,7,8,9,10,11	TM-23	POST COMMISSIONING, QUARTERLY
CARBON DIOXIDE IN STACK GASES	1,4,5,7,8,9,10,11	TM-24	POST COMMISSIONING, QUARTERLY
OXYGEN	1,4,5,7,8,9,10,11	TM-25	POST COMMISSIONING, QUARTERLY

OTHER	EPA Identification Point	METHOD ¹	FREQUENCY
SELECTION OF SAMPLING POSITIONS	1,4,5,7,8,9,10,11	TM-1	-

- (d) ⁵⁷Continuous monitoring of air pollutants and parameters from each discharge point identified in the Table 6 below shall be carried out strictly in accordance with the methods specified in the table. Sampling points shall be located strictly in accordance with the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.

Table 6: Continuous Source Emissions Monitoring Requirements.

POLLUTANT	Point number	Method	Frequency
Hydrogen sulfide	4,7	GEM-7	Continuous

⁵⁵ EPA GTA

⁵⁶ EPA GTA

⁵⁷ EPA GTA

Sulphur dioxide (SO ₂)	5,7	CEM-2	Continuous
Opacity	7	CEM-1	Continuous

PARAMETER	Point number	Method	Frequency
Temperature	4,5,7	Method approved by the EPA in writing	Continuous
Moisture	4,5,7	Method approved by the EPA in writing	Continuous
Volumetric flow rate	4,5,7	CEM-6	Continuous
Oxygen	4,5,7	CEM-3	Continuous

Notes: (a) All methods are specified in the Approved Methods for the Sampling and Analysis of Air Pollutants in NSW and all monitoring must be conducted strictly in accordance with the requirements outlined in this document

(b) If the applicant considers that continuous monitoring for a particular discharge point is not possible, the applicant may nominate which sources they consider measurement impractical. For those sources the applicant must submit an alternative sampling method and frequency to the Chief Scientists of the EPA and have that method and frequency approved in writing. The approved method and frequency will replace the Method and Frequency currently listed in Table 5.

6.1.6. Emissions control - plant and equipment design parameters

- (a) ⁵⁸The design parameters for the discharge points specified in Table 7 must meet the requirements specified in the table.

Table 7: Plant and Equipment – Design Parameters.

EPA Identification Point	Parameter	Units of Measure	Minimum
7	Hydrogen sulfide destruction efficiency	%	100

- (b) ⁵⁹ The design parameters for the discharge points specified in Table 8 must meet the requirements specified in the table. All stacks shall be designed in accordance with good engineering practice in order to minimise the effects of stack tip downwash and building wake effects on ground-level air pollutant concentrations.

Table 8: Plant and Equipment – Design Parameters.

EPA Identification Point	Description	Minimum Stack Height (m)	Stack Diameter (m)
4	Vent From Extraction Fan Over Sulfide Filter	15	0.56
5	Sulfuric Acid Plant	80	1.17
7	Flare Stack	80	0.5
8	Hydrogen Reformer Stack	36	0.43
9	Power Plant and HRSG	25	1.55

Note: Section 58 of the Protection of the Environment Operations 1997 allows the EPA to vary a condition of a licence in respect of carrying on of a scheduled activity. The EPA will consider varying the minimum stack height and stack diameter listed in Table 8 on application by the holder of the license. Any application made by the license holder must demonstrate that air quality

⁵⁸ EPA GTA

⁵⁹ EPA GTA

impact assessment caused as a result of the proposed stack heights and diameters will not exceed the impact predicted

- (c) ⁶⁰ The stack diameters and heights for the discharge points specified in Table 9 shall be designed in such a manner which ensures that the design ground-level concentration criteria (GLC) specified in the table are not exceeded at any location at or beyond the boundary of the premises.

Table 9: Plant and Equipment – Stack Height Design GLC Criteria.

EPA Identification Point	Pollutant	Design Ground-Level Concentration Criteria (µg/m3)	Averaging Time	Percentile
1,11	Sulfuric Acid	33	3 minute	99.9
11	Sulfur Dioxide	500	10 minute	99.9
10,11	Nitrogen Dioxide	246	1 hour	99.9
1	Nickel or Compounds Containing Nickel	0.004	Annual	100
1,11	Solid Particles	330	3 minute	99.9

6.1.6. Emissions control - plant and equipment design parameters

- (a).⁵⁸ The design parameters for the discharge points specified in Table 7 must meet the requirements specified in the table.

Table 7. Plant and Equipment - Design Parameters.

EPA Identification Point	Parameter	Units of Measure	Minimum
10	Hydrogen sulfide destruction efficiency	%	100

- (b).⁵⁹ The design parameters for the discharge points specified in Table 8 must meet the requirements specified in the table. All stacks shall be designed in accordance with good engineering practice in order to minimise the effects of stack tip downwash and building wake effects on ground-level air pollutant concentrations.

Table 8. Plant and Equipment – Design Parameters.

EPA Identification Point	Description	Minimum Stack Height (m)	Stack Diameter (m)
4	Vent From Extraction Fan Over Sulfide Filter	15	0.56
6	Nitric Vent Fan	10	0.15
8	Sulfuric Acid Plant	80	1.17
10	Flare Stack	80	0.5
11	Hydrogen Reformer Stack	36	0.43
12	Power Plant and HRSG	25	1.55

⁶⁰ EPA GTA

⁵⁸ EPA GTA

⁵⁹ EPA GTA

Note : Section 58 of the Protection of the Environment Operations 1997 allows the EPA to vary a condition of a licence in respect of carrying on of a scheduled activity. The EPA will consider varying the minimum stack height and stack diameter listed in Table 8 on application by the holder of the license. Any application made by the license holder must demonstrate that air quality impact assessment caused as a result of the proposed stack heights and diameters will not exceed the impact predicted

- (c). ⁶⁰The stack diameters and heights for the discharge points specified in Table 9 shall be designed in such a manner which ensures that the design ground-level concentration criteria (GLC) specified in the table are not exceeded at any location at or beyond the boundary of the premises.

Table 9. Plant and Equipment – Stack Height Design GLC Criteria.

EPA Identification Point	Pollutant	Design Ground-Level Concentration Criteria ($\mu\text{g}/\text{m}^3$)	Averaging Time	Percentile
1,5,14	Sulfuric Acid	33	3 minute	99.9
14	Sulfur Dioxide	500	10 minute	99.9
13,14	Nitrogen Dioxide	246	1 hour	99.9
1	Nickel or Compounds Containing Nickel	0.004	Annual	100
1,14	Solid Particles	330	3 minute	99.9

- (d). Prior to commissioning the processing facility, the applicant shall carry out dispersion modelling and prepare a report to the satisfaction of the EPA that demonstrates that the stack diameters and heights for the discharge points identified in the table have been designed in an acceptable manner.

6.1.7. Manufacturer's Performance Guarantees

- (a) ⁶¹ Prior to construction of the processing facility, the applicant shall provide manufacturer's performance guarantees for all plant and equipment, demonstrating to the satisfaction of the EPA that emissions of air pollutants from all sources will comply with:
- the *Clean Air (Plant and Equipment) Regulation 1997*;
 - the emission concentration limits proposed by the applicant and included for EPA identification points 1,4,5,7,8,9,10,11; and where relevant
 - the plant and equipment design parameters specified in Tables 7 and 8.
- (b) ⁶² The manufacturer's performance guarantees shall specify the volumetric flow rate for all air discharge points and in particular for the sources included for EPA identification points 1,4,5,7,8,9,10,11 for which a volumetric flow rate has not been specified.

6.2. Blast Management And Monitoring

⁶⁰ EPA GTA

⁶¹ EPA GTA

⁶² EPA GTA

6.2.1 Blast Management

Overpressure

⁶³The overpressure level from blasting operations on the premises must not:

- (i) exceed 115dB (Linear Peak) for more than 5% of the total number of blasts over a period of 12 months; and
- (ii) exceed 120dB (Linear Peak) at any time.

when measured at any point that is located at least 3.5m from any building or structure at any nearby residential property or other noise sensitive location such as a school or hospital.

Ground Vibration

⁶⁴Ground vibration peak particle velocity from the blasting operations must not:

- (i) exceed 5mm/s for more than 5% of the total number of blasts over a period of 12 months; and
- (ii) exceed 10mm/s at any time.

when measured at any point within the grounds of noise sensitive locations and within 30m of any residence or other noise sensitive location such as a school or hospital.

6.2.2 Time and Frequency of Blasting

(a) ⁶⁵ Blasting operations may only take place between 9 am and 5 pm Monday to Friday inclusive.

(b) ⁶⁶The hours of operation for blasting operations specified in this condition may be varied if the EPA, having regard to the effect that the proposed variation would have on the amenity of the residents in the locality, gives written consent to the variation.

6.2.3 Blast Management Plan

(a) The Applicant shall prepare and implement a Blasting and Vibration Management Plan for the limestone quarry site, to the satisfaction of the Director-General prior to the commencement of any blasting. The plan must include, but need not be limited to, the following matters:

- I. compliance standards;
- ii. mitigation measures;
- iii. remedial action;
- iv. monitoring methods and program;
- v. monitoring program for flyrock distribution;
- vi. measures to protect any underground utilities, native fauna, and livestock nearby;

⁶³ EPA GTA

⁶⁴ EPA GTA

⁶⁵ EPA GTA

⁶⁶ EPA GTA

- vii. procedures for the notification of neighbours prior to detonation of each blast; and
- viii. measures to ensure no damage by flyrock to people, property, livestock and powerlines

- (b) The Applicant shall advise residents within two (2) kilometres of the site of future blasting events on a monthly basis, and of any changes to monthly programs.
- (c) Upon written request of the owner of any dwellings located within two (2) kilometre of the site, the Applicant shall arrange at its own costs, for the inspection by a technically qualified person agreed to by both parties, to record the material condition of any structure on such property within 14 days of receipt of the request. The Applicant shall supply a copy of any inspection report, certified by the person who undertook the inspection, to the relevant property owner within fourteen (14) days of receipt of the report;

6.2.4 Blast Monitoring

- (a) ⁶⁷The Applicant must monitor ground vibration and overpressure of all quarry blasts.
- (b) ⁶⁸For the purpose of blast monitoring, the ground vibration or the overpressure must be measured at noise sensitive sites (eg. residences, hospitals, schools etc), selected in consultation with the EPA.
- (c) The Applicant shall provide the Director-General with results of the blast monitoring on a quarterly basis, unless otherwise agreed by the Director-General, and in the AEMR (Condition 9.2)

6.3. Noise Management And Monitoring

6.3.1 Noise Level Criteria

(a) Noise Impact Assessment Criteria

Mine and processing facility

⁶⁹ The Applicant shall ensure that the noise emission from the operation of the mine and associated activities shall not exceed the noise limits in Table 10 at all non-project related residences.

TABLE 10 – NOISE IMPACT ASSESSMENT CRITERIA – MINE AND PROCESSING FACILITY

LOCATION	DAY	EVENING	NIGHT
	L _{Aeq} (15 minute) dB(A)	L _{Aeq} (15 minute) dB(A)	L _{Aeq} (15 minute) dB(A)
CURRAJONG PARK	35	39	40
BROOKLYN, ROSEHILL, FLEMINGTON, SUNRISE, WANDA BYE, GLENBURN, FIFIELD, WARRAWINDI, SLAPDOWN	35	35	35

⁶⁷ EPA GTA

⁶⁸ EPA GTA

⁶⁹ EPA GTA

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- Notes:
 - a) In the above table:
 - (i) Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and public holidays;
 - (ii) Evening is defined as the period 6pm to 10pm; and
 - (iii) Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and public holidays.
 - b) The criteria above apply to noise emissions under the following weather conditions:
 - (i) wind speed up to 3 m/s; and
 - (ii) Pascall stability classes A,B,C,D and F (and 'E' for Tables 12-15 below).
 - c) The criteria do not apply where the Applicant and the affected landowner have reached a negotiated agreement in regard to noise, and a copy of the agreement has been forwarded to the Director-General and DEC.
 - d) Noise from the development is to be measured at the most affected point or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary, to determine compliance with the $L_{Aeq(15\text{ minute})}$ noise limits in the above table. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DEC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
 - e) These notes apply equally to Tables 11-15, in so far as they are applicable.

Limestone quarry

The Applicant shall ensure that the noise emissions from the operation of the limestone quarry and associated activities shall not exceed the noise limits in Table 11 at all non-project related residences.

TABLE 11: NOISE IMPACT ASSESSMENT CRITERIA – LIMESTONE QUARRY

LOCATION	DAY	EVENING	NIGHT
	L_{Aeq} (15 minute) dB(A)	L_{Aeq} (15 minute) dB(A)	L_{Aeq} (15 minute) dB(A)
MOORELANDS	42	35	35
LESBINA, EASTBOURNE	38	35	35
GILLENBINE	37	35	35
REAS FALLS, HILLSDALE, THE TROFFS	35	35	35

RAIL SIDING

The Applicant shall ensure that the noise emissions from the operation of the rail siding and associated activities shall not exceed the noise limits in Table 12 at all non-project related residences.

TABLE 12: NOISE IMPACT ASSESSMENT CRITERIA – RAIL SIDING

LOCATION	DAY	EVENING	NIGHT
	L_{Aeq} (15 minute) dB(A)	L_{Aeq} (15 minute) dB(A)	L_{Aeq} (15 minute) dB(A)
GLEN ROCK, BALLANRAE, SPRING PARK	37	35	35

(b) Land Acquisition Criteria

Mine and processing facility

The noise acquisition zone during the operations of the mine and processing facility is defined by demonstrated exceedances of noise limits (at non Company owned dwellings) shown in Table 13 below.

Table 13: Land acquisition criteria – mine and processing facility.

LOCATION	DAY	EVENING	NIGHT
	L _{Aeq} (15 minute) dB(A)	L _{Aeq} (15 minute) dB(A)	L _{Aeq} (15 minute) dB(A)
BROOKLYN, CURRAJON PARK, ROSEHILL	45	40	40
FLEMINGTON	41	44	40
SUNRISE	45	45	40
WANDA BYE, GLENBURN	44	46	40
FIFIELD	41	40	40
WARRAWINDI	41	44	40
SLAPDOWN	41	44	40

Limestone quarry

The noise acquisition zone during the operations of the limestone quarry is defined by demonstrated exceedances of noise limits (at non Company owned dwellings) shown in Table 14 below.

Table 14: Land acquisition criteria – limestone quarry

LOCATION	NOISE AFFECTATION LIMITS DAY	NOISE AFFECTATION LIMITS EVENING AND NIGHT
MOORELANDS, REAS FALLS, GILLENBINE, HILLSDALE	42	40
LESBINA, THE TROFFS, EASTBOURNE	41	40

Rail Siding

The noise acquisition zone during the operation of the rail siding is defined by demonstrated exceedances of noise limits (at non Company owned dwellings) shown in Table 15 below.

Table 15: Land acquisition criteria – rail siding

LOCATION	NOISE AFFECTATION LIMITS DAY	NOISE AFFECTATION LIMITS EVENING AND NIGHT
GLEN ROCK, BALLEENRAE, SPRING PARK	42	40

Additional Procedures

- (c) In the event that a landowner or occupier considers that noise from the project component at their dwelling is in excess of the noise limits given in Tables 10, 11 or 12, or that a landowner considers that the noise limits are being exceeded over more than 25% of their vacant land and the Director-General is satisfied that an investigation is required, the Applicant shall upon the receipt of a written request:
- (i) consult with the landowner or occupants affected to determine their concerns;
 - (ii) make arrangements for appropriate independent noise investigations in accordance with the Noise Management Plan (refer Condition 6.3.3), and to the satisfaction of the Director-General, to quantify the impact and determine the source of the effect;
 - (iii) modify the activities in accordance with a noise reduction plan prepared as part of the Noise Management Plan, if exceedances are demonstrated to result from the site activities. This shall include:

- introduction of additional controls, either on noise emission from individual sources on the site or on site operations or modify operations, to ensure that the criteria above are achieved;
 - with the agreement of the landowner, undertaking of noise control at the dwelling to achieve acceptable internal noise levels;
 - enter into an agreement with the landowner or provide such other forms of benefit or amelioration as may be agreed between the parties as providing acceptable benefit or amelioration for the noise levels experienced;
- (iv) conduct follow up investigations to the satisfaction of the Director-General, where necessary.

Note: Vacant land in this condition means the whole of the lot in a current plan registered at the Land Titles Office as at the date of this consent that does not have a dwelling situated on the lot and is permitted to have a dwelling on that lot.

- (d) If the independent noise investigations in sub-clause b(ii) above confirm that noise acquisition criterion in Tables 13, 14, or 15 is being exceeded, the Applicant shall at the written request of the owner acquire the relevant property. Acquisition shall be in accordance with the procedures set out in Condition 11.
- (e) If continued complaints and noise investigations confirm that the noise limits in Table 10, 11, or 12 are being exceeded, but are less than the noise levels in Table 13, 14 or 15, the Applicant shall continue to negotiate with the landowner until an acceptable resolution is reached.
- (f) Further independent investigations shall cease if the Director-General is satisfied that the relevant consent limits are not being exceeded and are unlikely to be exceeded in the future.

6.3.2 Hours of Operation

Table 16.

Phase	Location	Operating Hours (hrs)
Construction Phase	Main Project site – maintenance, process, plant construction and testing	24 hours (Monday to Sunday)
	Main project site – construction earthworks	0700-1800 (Monday to Sunday)
	Haul Road (Route 64)	Daytime (0700-1800 Monday to Sunday)
	Limestone quarry	0700-1700 (Monday to Sunday)
	Rail siding	0700-1800 (Monday to Sunday)
	Gas and water pipelines	0700-1800 (Monday to Sunday)
	Operating phase	Main Project site
Haul road (Route 64)		24 hours (Monday to Sunday)
Limestone quarry		0700-1700

		(Monday to Sunday) (Truck loading is 24 hours if necessary)
	Rail siding	24 hours (Monday to Sunday)

(a) ⁷²Condition 6.3.2 does not apply to the delivery of material outside the hours of operation permitted if police or other authorities for safety reasons require the delivery; and/or the operation of personnel or equipment are endangered. In such circumstances, prior notification is provided to the EPA and affected residents as soon as possible, or within a reasonable period in the case of emergency.

(b) ⁷³The hours of operation specified in this Condition may be varied with the written consent of the EPA, if the EPA is satisfied that the amenity of residents in the locality will not be adversely affected. The Director-General and the Community Consultative Committee is to be advised of any changes to hours of operation approved by the EPA.

6.3.3 Noise Management and Monitoring Plan

- (a) The Applicant shall prior to commencement of the mine/quarry/rail siding operations, develop a Noise Management Plan for the mine/quarry and rail siding to the satisfaction of the Director-General. The Plan shall:
- (i) include details of the conduct of noise investigations at six monthly intervals (unless otherwise agreed by the Director-General) to evaluate, assess and report the $L_{Aeq(15\text{ minute})}$ noise emission levels due to normal operations;
 - (ii) include details of the proposed methodologies including establishing the mine/quarry's operating configuration; determining survey intervals; weather conditions and seasonal variations; selecting variations, locations, periods and times of measurements;
 - (iii) outline the design of any noise modelling or other studies including the means for determining the noise levels emitted by the activities;
 - (iv) identify noise affected properties and the relevant noise limits consistent with the EIS,
 - (v) specify the procedures for a noise monitoring program for the purpose of undertaking independent noise investigations;
 - (vi) outline the procedure to notify property owners and occupiers likely to be affected by noise from the operations;
 - (vii) establish a protocol for handling noise complaints that include recording, reporting and acting on complaints;
 - (viii) record appropriate mechanisms for community consultation;
 - (ix) outline mitigation measures to be employed on the site to limit noise emissions;
 - (x) identify longer term strategies directed towards mitigating noise levels that exceed the target noise criteria listed in Tables 10,11 & 12 under adverse meteorological conditions;
 - (xi) outline measures to be used to reduce the impact of intermittent, low frequency and tonal noise (including truck reversing alarms);
 - (xii) specify measures to be taken to document any higher level of impacts or patterns of temperature inversions, and detail actions to quantify and

⁷² EPA GTA

⁷³ EPA GTA

⁷⁴ EPA GTA

ameliorate enhanced impacts if they lead to exceedence of the relevant noise criteria; and,

- (xiii) survey and investigate noise reduction measures from plant and equipment annually and report in the AEMR at the conclusion of the first 12 months of site operations and set targets for noise reduction taking into consideration valid noise complaints in the previous year. The Report shall also include remedial measures to achieve compliance with the specified noise goals.

- (b) Prior to construction commencing on the mine/quarry and rail siding respectively, the applicant must prepare, and subsequently implement, a Construction Noise Management Plan. The plan must include, but need not be limited to, the following matters:

- (i) compliance standards;
- (ii) community consultation;
- (iii) complaints handling monitoring/system;
- (iv) site contact person to follow up complaints;
- (v) mitigation measures;
- (vi) the design/orientation of the proposed mitigation methods demonstrating best practice;
- (vii) construction times;
- (viii) contingency measures where noise complaints are received;
- (ix). monitoring methods and program.

- (c) ⁷⁴The Applicant shall, prior to hauling material along the haulage route from the rail siding/quarry to the mine site, prepare and submit to the EPA, a Traffic Noise Management Plan for the mine/quarry and rail siding to the satisfaction of the Director-General for traffic associated with the proposal. The plan shall consider but is not necessarily limited to:

- mitigation measures to be employed to reduce truck noise emissions and meet the relevant EPA criteria set out in the EPA's *Environmental Criteria for Road Traffic Noise*. These may include:
 - i. limiting usage of exhaust brakes
 - ii. consideration of the type of road surface
 - iii. reducing speed limits for trucks
 - iv. using quiet trucks and/or truck with air bag suspension
 - v. strategies for mitigating truck noise emissions that exceed the relevant EPA criteria and describe appropriate actions to be undertaken to reduce noise impacts in the event of complaints being received from residences;
 - vi. procedures for the ongoing assessment of truck noise impacts on private dwellings and identify procedures for the implementation of reasonable mitigation works on private dwellings adversely impacted by road noise from the operations;
 - vii. details of monitoring that will be undertaken;
 - viii. methods for educating drivers in the reduction of truck noise impacts;
 - ix. scheduling truck movements outside critical time periods
 - x. details of ongoing community liaison to monitor complaints
 - xi. phasing in the increased road use

- (d) The applicant shall also include a summary of all noise monitoring results in the AEMP.

- (e) The noise management plans required under Condition 6.3.3(a)-(c) above shall be prepared in consultation with the DEC, and to the satisfaction of the Director-General.

6.4 **Light Emissions**

Impact from night lighting will be minimised by :

- i. screening or directing all on-site lighting away from residences and roadways to the satisfaction of LSC, PSC, and FSC, and
- ii. only lighting where specifically required.

7. **Transport and Utilities**

7.1 **Road Transport**

- (a). The Applicant shall prepare a Traffic Code of Conduct for all haulage vehicles associated with the Syerston Project operating within the Lachlan, Parkes and Forbes Shires prior to commencement of construction and to the satisfaction of LSC, PSC, FSC respectively, in consultation with the Director-General, requiring these haulage vehicles to comply with the Code. The Code shall include, but not be limited to:
 - operators conforming to designated haulage routes, including clear stipulation that MR 354 shall not be used by haulage vehicles travelling to/from the Project site, and that any contracts with hauliers have this prohibition clearly stated in the contract;
 - hours of operation;
 - speed limits;
 - vehicle maintenance;
 - load coverage;
 - behavioural requirements;
 - noise; and
 - protocols with school bus operations.

The Code of Conduct shall also include measures that will be undertaken by the Applicant in the event it is established that haulage vehicles have not complied with the Code.

- (b). The Applicant is to include reports of violations of this condition in its AEMR and to observe any requirements of the Director General regarding the implementation of this condition.
- (c). The route to be taken by all restricted access vehicles such as B Doubles type and Road Train type shall conform to the designated routes as prescribed under the Roads Act 1993, and cited as "General Notice for the Operation of B Doubles 1996" (or its latest version), and General Notice for the Operation of Road Trains 1996" (or its latest version).
- (d). The Applicant shall provide radio communications between all school buses and haulage operators operating on the materials haulage route between the rail siding and mine site.

7.2 **Road Works to be undertaken**

- (a) The Applicant shall prepare a road construction program detailing the timing and scheduling of road construction required by these conditions to reflect the

level of project construction and operation activity and associated road usage. The program shall be prepared in consultation with LSC and PSC and to the satisfaction of the Director-General, prior to commencement of construction.

- (b) All works to be undertaken on public roads as detailed in the EIS shall be at the expense of the Applicant. This includes:
 - (i) road upgrades as shown on Figure B1-1 of the EIS, including the construction of the Fifield by-pass;
 - (ii) the sealing of sections of the Mellrose to Gillenbine Road and Fifield to Wilmartha Road in Lachlan Shire as described in the EIS (refer also subclause 7.2 (e) below);
 - (iii) upgrade of intersections subject to increased traffic as identified in Appendix C, section 6.2 of the EIS;
 - (iv) all necessary lighting and signage associated with subclauses (i)-(ii) above.
- (c) The Applicant shall seal the gravel sections of the Middle Trundle Road (SR 83) in Parkes Shire to a heavy vehicle standard in accordance with AUSTRROADS specifications, and also contribute \$300,000 (indexed according to the Consumer Price Index (CPI) at the time of payment) to PSC for the upgrade of the remainder of SR 83 to the same heavy vehicle standard. The contribution shall be made immediately prior to commencement of the road upgrade works. The Applicant shall ensure, as far as possible, that all the Middle Trundle Road upgrade works occur concurrently.
- (d) Any upgrades to MR 350 between the junctions of SR 83 and SR 171 shall be negotiated as part of the PSC Road Maintenance Agreement (refer condition 7.5) except for those portions of MR 350 between the junctions of SR 83 and SR 171 that may require upgrading for safety reasons, to a 7.5m seal with a 0.5m shoulder, unless otherwise agreed by the Director-General. The portions of road that require upgrading for safety reasons shall be determined by an independent surveyor/engineer mutually agreed to and funded equally by the Applicant and PSC, and the works carried out at the expense of the Applicant.
- (e) Condition 7.2(b) (ii) above does not apply if the Applicant and LSC mutually agree to construct Route E as shown in Appendix 2 of LSCs submission to DUAP dated 23 January 2001, subject to any necessary approvals.

In the event that Route E is constructed, the Applicant shall as a minimum contribute funds for the road construction which would equate to the sealing SR 34 and SR 44 as detailed in the EIS. Any additional contribution towards the road upgrade shall be agreed between the Applicant and LSC as part of the mutual agreement to construct Route E, and may be based on predicted/actual traffic usage of the route by mine traffic (refer also condition 7.5 (b));

- (f) Any upgrades to the Springvale Road (SR 60) shall be negotiated as part of the LSC Road Maintenance Agreement (refer condition 7.5) except for those portions of SR 60 that may require upgrading for safety reasons, unless otherwise agreed by the Director-General. The portions of road that require upgrading for safety reasons shall be determined by an independent surveyor/engineer mutually agreed to and funded equally by the Applicant and LSC, and the works carried out at the Applicant's expense.
- (g) All road works undertaken at the Applicant's expense on public roads within the Lachlan, Parkes and Forbes Shires as applicable shall be subject to a 12

month defects liability period where all defects shall be repaired at full cost to the Applicant. The 12 month period commences from completion of the relevant road work. A security deposit or bank guarantee of 10% of agreed road work costs shall be lodged with LSC, PSC and LSC as applicable prior to commencement of road works, reducing to 5% on issue of the compliance certificate (refer condition 7.3 (i) below). LSC, PSC, and FSC as relevant shall use the security to make good any roadwork defects if required. Any unspent part of the security will be refunded to the Applicant on expiry of the 12 month defects liability period.

7.3 Submission of Engineering Plans for Roadworks

- a) ⁷⁵Prior to any work commencing within a public road reserve located within the Lachlan, Parkes or Forbes Shires, the Applicant shall submit for the approval of LSC, PSC or FSC respectively detailed engineering design drawings of intended works. The drawings are to be accompanied by associated sediment control plans, environmental management plans, work method statements and traffic control plans.
- b) ⁷⁶Environmental management plans shall take into consideration the implications of the “Parkes Shire Roadside Management Plan”, Parkes Shire Council 1997, for works to be undertaken in Parkes Shire, particularly identification and treatment of high value roadside vegetation.
- c) ⁷⁷Road and intersection designs are to be in accordance with the RTA’s “Road Design Guide” 1999 (or its latest version) and/or AUSTRROADS – Guide to Traffic Engineering Practice series.
- d) ⁷⁸Intersections shall be designed in accordance with AUSTRROADS – Guide to Traffic Engineering Practice Part 5. In adopting intersection configurations as per AUSTRROADS, the curve returns, storage lengths and taper distances should reflect the maximum size vehicle expected to use the facility, and the design should accommodate the sweep path generated by such vehicles.
- e) ⁷⁹Detailed engineering drawings and specifications shall be in accordance with LSC, PSC and FSC requirements as applicable, and/or AUSTRROAD Specifications.
- f) ⁸⁰Traffic Control Plans are to be in accordance with Australian Standard 1742.3 and/or the RTA’s Manual “Traffic Control at Work Sites”, 1998 (or its latest version).

⁷⁵ LSC, PSC, FSC General Terms of Approval

⁷⁶ PSC General Terms of Approval

⁷⁷ LSC, PSC, FSC General Terms of Approval

⁷⁸ LSC, PSC, FSC General Terms of Approval

⁷⁹ LSC, PSC, FSC General Terms of Approval

⁸⁰ LSC, PSC, FSC General Terms of Approval

- g)⁸¹ All required road signs, guide posts and other road-side furniture shall be designed and installed by the Applicant in accordance with Australian Standard 1742 and Australian Standard 1743 (or their latest versions).
- h)⁸² Suitably located bus stops along the materials haulage route between the rail siding and mine site shall be constructed and sealed by the Applicant. The dimensions of these laybys shall be commensurate with figure 3.4-1 of the RTA's Road Design Guide Issue 1 dated June 1999 (or its latest version), and be provided with a pavement seal. Pavement marking at the layby shall consist of a continuation of the edgeline past the facility.
- i)⁸³ The Applicant is required to obtain a "compliance certificate" from LSC, PSC and FSC, as applicable, certifying that all road, intersection, drainage and pipeline infrastructure within the road reserves in the Lachlan, Parkes and Forbes Shires, as applicable, has been constructed and completed to the satisfaction of LSC, PSC and FSC as relevant. The Applicant shall consult with LSC, PSC and FSC, as applicable, to determine when inspections of works are required and the costs associated with obtaining a compliance certificate.
- j)⁸⁴ A scaled "works as executed plan" showing the layout of works shall be submitted to LSC, PSC and FSC, as applicable, by the Applicant for approval prior to the issue of a compliance certificate. "Works as executed" plans shall be prepared in accordance with the requirements of LSC, PSC and FSC respectively, and/or AUSTRROADS specifications.
- k)⁸⁵ Prior to commencement of operation of the haul road, all public road intersections within the Lachlan and Parkes Shires as applicable on the haulage route, where turning movements will occur by heavy vehicles servicing the Syerston Project are to be adequately lit in accordance with the requirements of LSC, PSC and RTA respectively. The Applicant shall submit intersection lighting plans for the approval of LSC and PSC, as relevant, prior to installation.
- l)⁸⁶ Roadwork contractors engaged by the Applicant must meet LSC, PSC and FSC's "Contractor Prequalification" requirements prior to undertaking any works in Lachlan, Parkes, or Forbes Shires respectively.

⁸¹ LSC, PSC, FSC General Terms of Approval

⁸² LSC, PSC, FSC General Terms of Approval

⁸³ LSC, PSC, FSC General Terms of Approval

⁸⁴ LSC, PSC, FSC General Terms of Approval

⁸⁵ LSC, PSC, FSC General Terms of Approval

⁸⁶ LSC, PSC, FSC General Terms of Approval

7.4 Road Construction

- (a).⁸⁷The Applicant shall construct the materials transport route sections identified by Fig B1-1 and Fig B2-3 of the EIS (which includes part Lachlan Shire Road Nos. 64, 34, Main Road No.57, proposed Fifield bypass, and part Parkes Shire Road No. 171, and Main Rd No.350), to an 8.5 metre wide two lane sealed carriageway in accordance with AUSTRROADS Specifications.
- (b).⁸⁸The Applicant shall provide a minimum three (3) metre wide shoulder, in addition to the 8.5 metre sealed pavement required by sub-clause (a) above, for a minimum of 30 metres on either side of all minor roads along the haulage route. Property access roads shall be appropriately prepared and sealed 3.5 metres wide.
- (c).⁸⁹The priority at the intersection of Parkes Shire Rd No.171 and Main Rd No. 350 shall remain with the main road and to comprise the installation of stop signs. Observance of such signs is to be written into the Code of Conduct (refer condition 7.1(a)).
- (d).⁹⁰ The intersections of Parkes Shire Road No. 83 with State Route No. 90 and Main Road No.350 respectively shall be upgraded by the Applicant to a Type C AUSTRROADS Specification, prior to construction and to the satisfaction of Parkes Shire Council or RTA as relevant.

7.5 Road Maintenance

- (a) The Applicant shall enter into a Road Maintenance Agreement for the rail siding to mine site haulage route with LSC and PSC prior to completion of the rail siding to mine site road upgrade. The Agreement shall include a requirement for a joint inspection every six months, or as agreed by LSC and PSC as relevant, following completion of the road upgrade, to determine and assess as to whether maintenance is required, and to stipulate that should maintenance be required and not be carried out within one month of the inspection, the LSC and/or PSC as applicable, will be entitled to carry out such maintenance work at the Applicant's cost.
- (b) Notwithstanding sub clause 7.5 (a) above, the Applicant shall also enter into a Road Maintenance Agreement with LSC, PSC and FSC prior to commencement of construction, for other roads within the relevant Shires which are likely to be used by traffic to the Project site. The Agreement shall include: the requirement for a traffic monitoring and reporting process to be developed and implemented at the Applicant's expense, to identify the use of roads by mine traffic; and mechanisms to calculate contributions for road maintenance commensurate with mine/quarry traffic use as identified by traffic monitoring.

7.6 Railway Level Crossings

⁸⁷. LSC, PSC General Terms of Approval

⁸⁸. LSC, PSC General Terms of Approval

⁸⁹. PSC General Terms of Approval

⁹⁰. PSC General Terms of Approval

The rail crossing on Main Road No. 350 located between the junctions of Shire Road No 83 (Middle Trundle Road) and Shire Road No. 171; and the rail crossing on Shire Road No. 171 located adjacent to the proposed rail siding, shall be audited by the Applicant prior to construction, to determine the level of compliance with Section 6 of the RTA's Traffic Engineering manual and requisite adjustments made as required to the satisfaction of PSC.

7.7 Stock Crossing Management Plan

The applicant shall prepare a Stock Crossing Management Plan which details measures to be undertaken to ensure adequate and safe crossing for stock and farm machinery when crossing or moving along access roads or stock routes to be used by construction and operational traffic. The plan is to be prepared in consultation with FSC, LSC, PSC, the Rural Lands Protection Board, and the CCC and to the satisfaction of the Director-General prior to the commencement of construction.

7.8. Provision of utility services

Prior to the construction the Applicant shall consult with affected service authorities and make arrangements satisfactory to those authorities for the protection or relocation of services (such as transmission lines, pipelines, optic cables etc) prior to the commencement of project construction. This shall include consultation with the Ministry of Energy and Utilities in regard to the construction of the proposed gas pipeline.

7.8.1. Sewage Treatment plant

- a. The applicant must :
 - assess and consider the reuse of treated effluent from the sewage treatment plants, including the monitoring of land and potential receiving water;
 - ⁹¹provide sufficient design and engineering detail in relation to the on-site sewage treatment system and effluent reuse/disposal to allow the EPA to be in a position to issue the required Environment Protection Licence. The information referenced above must be provided to the EPA with an application for an Environment Protection Licence being made by the applicant.
- b. The design of the effluent management system should include (but not necessarily be limited to) consideration of the following:
 - The measures that will be employed to ensure any effluent discharges do not limit the ability of receiving waters to meet relevant water quality objectives as described in *Water Quality and River Flow Interim Environmental Objectives – Guidelines for River, Groundwater and Water Management Committees – Macquarie River Catchment*.
 - The reuse of treated effluent from the sewage treatment plant. The design of the system should consider the EPA's draft guideline "Utilisation of Treated Effluent by Irrigation". Monitoring of land and potential receiving waters to determine the impact of waste water application may be required by the EPA.

⁹¹ EPA GTA

7.9 Pipelines Construction and Operation

The Applicant shall construct and operate the gas and water pipelines in accordance with the requirements of any pipeline permit/licence granted by the Minister for Energy under the Pipelines Act.

7.10 Rail Siding Environmental Management Plan

- (a) Prior to construction commencing, the Applicant shall prepare a Rail Siding Environmental Management Plan (RSEMP) to the satisfaction of Director General and in consultation with the DLWC, LSC and PSC.
- (b) The RSEMP shall include but not be limited to:
 - (i) demonstrating consistency with the conditions of this consent and any other statutory approvals;
 - (ii) providing the basis for implementing operations, environmental management, and ongoing monitoring; and
 - (iii) identifying a schedule of development for the project for the period covered by the plan and include:
 - the area proposed to be impacted by the rail loading/unloading activities and remediation measures
 - areas of environmental, heritage or archaeological sensitivity and mechanisms for appropriately minimising impact
 - (iv) Erosion control measures during construction including details of temporary sediment and erosion control systems to be used during construction, topsoil management and measures for the protection of watercourses.(refer Condition 3.5)
 - (v) Water management proposals during construction including separation of clean and dirty water runoff, and contingency plans for managing adverse impacts on surface and groundwater during construction.
 - (vi). Details of rehabilitation proposals for disturbed areas (refer Condition 3.6).
 - (vii). Proposals for on-going maintenance of fences and pastures and control of weeds, vermin, and feral animals.
 - (viii). Measures for the control of dust during construction.
 - (ix). Details of landscaping and measures to blend surface structures with the surrounding landscape.
 - (x) Measures for minimising noise during construction including:
 - Construction hours,
 - compliance standards;
 - community consultation;
 - complaints handling monitoring/system;
 - site contact person to follow up complaints;
 - mitigation measures;
 - the design/orientation of the proposed mitigation methods demonstrating best practice;
 - contingency measures where noise complaints are received;
 - monitoring methods and program.

A copy of the RSEMP, shall be forwarded to , LSC and PSC within 14 days of approval by the Director-General, EPA and DLWC.

8. Monitoring/Auditing

- (a) In addition to the requirements contained elsewhere in this consent, the Director-General may, at any time in consultation with the relevant government authorities and Applicant, require the monitoring programs in Conditions 3,4 and 6 to be revised/updated to reflect changing environmental requirements or changes in technology/operational practices. Changes shall be made and approved in the same manner as the initial monitoring programs. All monitoring programs shall also be made publicly available at LSC, PSC and FSC within two weeks of approval of the relevant government authority.
- (b) All sampling strategies and protocols undertaken as part of any monitoring program shall include a quality assurance/quality control plan and shall require approval from the relevant regulatory agencies to ensure the effectiveness and quality of the monitoring program. Only accredited laboratories shall be used for laboratory analysis.
- (c) Where agreement cannot be reached between the Applicant and a landholder alternative arrangements are to be agreed with the Director General and/or relevant regulatory authority.
- (d) The Applicant shall obtain land holder agreement for monitoring on private property.

8.1 Third Party Monitoring/Auditing for the project

Independent Environmental Audit

- (a) Every three years from the commencement of construction of the nickel/cobalt mine, or as otherwise directed by the Director-General, the Applicant shall conduct an *Independent Environmental Audit* of the project components in accordance with *ISO 14010 – Guidelines and General Principles for Environmental Auditing and ISO 14011 – Procedures for Environmental Auditing* (or the current versions) and in accordance with any specifications of the Director-General. Copies of the report shall be submitted by the Applicant to the Director-General, LSC, PSC FSC, EPA, DLWC, DMR, NPWS and the CCC within two weeks of the report's completion for comment
- (b) The audit shall:
 - i. assess compliance with the requirements of this Consent, licence and approvals;
 - ii. assess the development against predictions in the EIS;
 - iii. review the effectiveness of the environmental management of the development, including any mitigation works;
 - iv. be carried out at the Applicant's expense; and
 - v. be conducted by a duly qualified independent person or team approved by the Director-General.
- (c) The Director-General may, after considering an audit report and any submissions made by the EPA, DLWC, PSC, LSC and FSC on the report, notify the Applicant of any reasonable requirements for compliance with this Consent. The Applicant shall comply with those requirements within such time as the Director-General may direct.

Hazard Audit

Twelve months after the commencement of operation of the Nickel/ Cobalt Processing Facility, or within such further period as the Director-General may agree, the Applicant shall carry out a comprehensive Hazard Audit of the Project and within one month of the Audit submit a report to the Director-General. The Audit shall be carried out at the Applicant's expense by a duly qualified independent person or team approved by the Director-General prior to the commencement of the Audit. Further Audits shall be carried out every three years, or as required by the Director-General. Hazard Audits shall be carried out in accordance with the Department's publication *Hazardous Industry Planning Advisory paper No. 5 - Hazard Audit Guidelines*. The Hazard Audit shall include a review of the site Safety Management System and a review of all entries made in the incident register since the previous Audit. The Applicant shall comply with the reasonable requirements of the Director-General in response to the findings and recommendations of the Audit.

8.2 Meteorological

8.2.1. Meteorological monitoring

- (a).⁹² Prior to commissioning of the processing facility the applicant must undertake the following works to the satisfaction of the EPA:
- (i) A campaign of upper-level meteorological monitoring at the project site which is sufficient to validate the dispersion modelling studies prepared for the EIS. In particular, the applicant should demonstrate that the stack top wind speeds estimated from the on-site surface-level meteorological measurements are consistent with upper-level measurements;
 - (ii) Carry out additional dispersion modelling using on-site upper-level meteorological monitoring data;
 - (iii) Prepare a report detailing the results of the above study and the implications with respect to dispersion of pollutants from the premises; and

The applicant should ensure that all meteorological monitoring conducted for the project is undertaken in accordance with the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.

- (b).⁹³ The Applicant shall undertake sampling and analysis of the meteorological parameters specified in the following Table. Sampling and analysis of meteorological parameters must be undertaken strictly in accordance with the methods and the frequencies specified in the table. Meteorological monitoring equipment must be sited in accordance with the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.

Table 17. Requirements for Monitoring of Surface Meteorology.

Parameter	Units of measure	Averaging Period	Method ¹	Frequency
Wind Speed @ 10 m	m/s	1 hour	AM2 & AM-4	Continuous
Wind Direction @ 10 m	°	1 hour	AM-2 & AM-4	Continuous
Sigma Theta @ 10 m	°	1 hour	AM-2 & AM-4	Continuous
Temperature @ 10 m	°K	1 hour	AM-4	Continuous
Temperature @ 2 m	°K	1 hour	AM-4	Continuous
Solar radiation	W/m ²	1 hour	AM-4	Continuous
Rainfall	mm	24 hours	AM-4	Continuous
Additional requirements		Method ¹		

⁹² EPA GTA

⁹³ EPA GTA

Siting	AM-1 & AM-4
Measurement	AM-2 & AM-4

Note ⁹⁴All methods are specified in the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales* and all monitoring must be conducted strictly in accordance with the requirements outlined in this document.

8.2.2 Meteorological station

The proponent must install a meteorological station at the mine in accordance with the requirements of AS 2922 1987 "Ambient Air Guide for Siting of Sampling Units". The Meteorological station must be capable of recording wind direction and speed, temperature and sigma theta and be operated in accordance with the requirements of AS 2923-1987 "Ambient Air Guide Horizontal Wind for Air Quality Application".

9. Reporting

9.1 Reports on Operations

The Applicant shall report on mine/quarry operations in accordance with the Mine operations Plan (Condition 2.1).

9.2. Incident reporting and recording

- (a) Within 24 hours of any incident or potential incident with actual or potential significant off-site impacts on people or the biophysical environment, a report shall be supplied to the Department outlining the basic facts. A further detailed report shall be prepared and submitted following investigations of the causes and identification of necessary additional preventative measures. That report must be submitted to the Director-General no later than 14 days after the incident or potential incident.
- (b) The Applicant shall maintain a register of accidents, incidents and potential incidents. The register shall be made available for inspection by the Director-General at any time.

9.2 Environmental Reporting

9.2.1 Annual Environmental Management Report (AEMR)

- a. The Applicant shall, throughout the life of the project and for a period of at least three years after the completion of mining or processing operations, whichever occurs the later, prepare and submit an Annual Environmental Management Report (AEMR) to the satisfaction of the Director-General. The AEMR shall review the performance of the operations against the Environmental Management Strategy, the conditions of this consent, and other licences and approvals relating to the operations. To enable ready comparison with the EIS's predictions, diagrams and tables, the report shall include, but not be limited to, the following matters:
 - i. an annual compliance audit of the performance of the project against conditions of this consent and statutory approvals;
 - ii. a review of the effectiveness of the environmental management of the mine/quarry/rail siding in terms of EPA, DLWC, DMR, LSC, PSC and FSC requirements;

⁹⁴ EPA GTA

- iii. results of all environmental monitoring required under this consent or other approvals, including interpretations and discussion by a suitably qualified person;
 - iv. identify trends in monitoring results over the life of the project;
 - v. an assessment of any changes to agricultural land suitability resulting from the project, including cumulative changes;
 - vi. a listing of any variations obtained to approvals applicable to the subject area during the previous year;
 - vii. rehabilitation report; and
 - viii. environmental management targets and strategies for the next year, taking into account identified trends in monitoring results.
- (b) In preparing the AEMR, the Applicant shall:
- i. respond to any requests made by the Director-General or DMR for any additional requirements;
 - ii. comply with any requirements of the Director-General, DMR or other relevant government agency; and
 - iii. ensure that the first report is completed and submitted within twelve months of this consent, or at a date determined by the Director-General in consultation with the LSC, PSC, FSC and the EPA.
- (c) The Applicant shall ensure that copies of each AEMR are submitted at the same time to DUAP, EPA, DMR, DLWC, LSC, FSC and PSC, and made available for public information at LSC, PSC & FSC within fourteen days of submission to these authorities. A copy of the AEMR shall be made available to the Community Consultative Committee.

9.3 Recording and Reporting Requirements

9.3.1. Reporting conditions

- a. ⁹⁵The applicant must provide an annual return to the EPA in relation to the development as required by any licence under the Protection of the Environment Operations Act 1997 in relation to the development. In the return the applicant must report on the annual monitoring undertaken (where the activity results in pollutant discharges), provide a summary of complaints relating to the development, report on compliance with licence conditions and provide a calculation of licence fees (administrative fees and, where relevant, load based fees) that are payable. If load based fees apply to the activity the applicant will be required to submit load-based fee calculation worksheets with the return.
- b. The results of any monitoring required to be conducted by the EPA's general terms of approval, or a licence under the Protection of the Environment Operations Act 1997, in relation to the development or in order to comply with the load calculation protocol must be recorded and retained as set out in conditions 9.3.1(c) and 9.1.3 (d)
- c. All records required to be kept by the licence must be:
 - in a legible form, or in a form that can readily be reduced to a legible form;
 - kept for at least 4 years after the monitoring or event to which they relate took place; and

⁹⁵ EPA GTA

- produced in a legible form to any authorised officer of the EPA who asks to see them.
- d. The following records must be kept in respect of any samples required to be collected: the date(s) on which the sample was taken;
- the time(s) at which the sample was collected;
 - the point at which the sample was taken; and
 - the name of the person who collected the sample.

9.3.2. General conditions

⁹⁶The applicant must nominate at least two persons (and their telephone numbers) who will be available to the EPA on a 24 hours basis, and who have authority to provide information and to implement such measures as may be necessary from time to time to address a pollution incident or to prevent pollution from continuing as directed by an authorised officer of the EPA.

10. Community Consultation/Obligations

10.1 Community Consultative Committee

(a) establish a Community Consultative Committee and ensure that the first meeting is held prior to submission of the Environmental Management Strategy (Condition 3.2). Selection of representatives shall be to the satisfaction of the Director-General in consultation with the Applicant, LSC, PSC, and FSC. The Committee shall be chaired by an independent chairperson appointed by the Director-General. The Committee shall comprise two (2) representatives of the Applicant (including the Environmental Officer), the Chairperson, one (1) representative from each Council and four (4) community representatives ((two (2) from Lachlan Shire, one (1) from Forbes Shire and one (1) from Parkes Shire)).

Representatives from relevant government agencies or other individuals may be invited to attend meetings as required by the Chairperson. The Committee may make comments and recommendations about the implementation of the development and environmental management plans, monitor compliance with conditions of this consent and other matters relevant to the operations during the term of the consent. The Applicant shall ensure that the Committee has access to the necessary plans for such purposes. The Applicant shall consider the recommendations and comments of the Committee and provide a response to the Committee and Director-General.

- (b) The Applicant shall, at its own expense:
- i. nominate two (2) representatives to attend all meetings of the Committee;
 - ii. provide to the Committee regular information on the progress of work and monitoring results;
 - iii. promptly provide to the Committee such other information as the Chair of the Committee may reasonably request concerning the environmental performance of the development;
 - iv. provide access for site inspections by the Committee; and

⁹⁶ EPA GTA

- v. provide meeting facilities for the Committee, and take minutes of Committee meetings. These minutes shall be available for public inspection at PSC, FSC & LSC within 14 days of the meeting.
- (c) The Applicant shall establish a trust fund or other funding arrangement to be managed by the Chair of the Committee to facilitate the functioning of the Committee, and pay \$2000 per annum to the fund for the duration of operations on the Project Site, or as otherwise directed by the Director-General. The monies are to be used only if required for the engagement of consultants to interpret technical information and the like. The annual payment shall be indexed according to the Consumer Price Index (CPI) at the time of payment. The first payment shall be made by the date of the first Committee meeting. A record of the finances of the trust or other funding arrangement during each year shall be provided to the Director-General and Applicant by the Chair on each anniversary of the first payment. Any unspent monies shall be returned to the Applicant each year.

10.2 Complaints

- (a) The Environmental Officer (refer Condition 3.1) shall be responsible:
- i. for recording complaints with respect to the operations on a dedicated and publicly advertised telephone line, 24 hours a day, 7 days a week, entering complaints or comments in an up-to-date log book, or other suitable data base, and ensuring that a response is provided to the complainant within 24 hours;
 - ii. providing a report of complaints received every six months throughout the life of the project to the Director-General, EPA, DLWC, DMR, PSC, LSC and FSC or as otherwise agreed by the Director-General. A summary of this report shall be included in the AEMR (Condition 9.2.1).

11. Land acquisition relating to area of affectation

Note: In Condition 11 (a)-(h) "land" means the whole of a lot in a current plan registered at the Land Titles Office as at the date of this consent.

- (a) The owner of any dwelling, or vacant land located in areas that exceed noise acquisition and/or air quality criteria established in accordance with this consent, and at any time after the granting of development consent, may request the Applicant in writing to purchase the whole of that property.
- (b) The Applicant shall negotiate and purchase a property, as identified in sub-clause (a) above, within six (6) months of a written request from the affected land owner.
- (c) In respect of a request to purchase land arising under this condition, the Applicant shall pay the owner the acquisition price which shall take into account and provide payment for:
- i. a sum not less than the current market value of the owner's interest in the land at the date of this consent as if the land was not affected by the operations, having regard to:
 - the existing use and permissible use of the land in accordance with the applicable planning instruments at the date of the written request; and
 - the presence of improvements on the land and/or any LSC or PSC approved building or structure which although substantially commenced at the date of request is completed subsequent to that date.

- ii the owner's reasonable compensation for disturbance allowance and relocation costs within the Parkes, Lachlan or Forbes Local Government Areas, or within such other location as may be determined by the Director-General in exceptional circumstances;
 - iii. the owner's reasonable costs for obtaining legal advice and expert witnesses for the purposes of determining the acquisition price of the land and the terms upon which it is to be acquired.
- (d) Notwithstanding any other condition of this consent, the landowner and the Applicant may, upon request of the landowner, acquire any property affected by the project during the course of this consent on terms agreed to between the Applicant and the landowner.
- (e) In the event that the Applicant and any owner referred to in this condition cannot agree within the time limit upon the acquisition price of the land and/or the terms upon which it is to be acquired, then:
 - (i) either party may refer the matter to the Director-General, who shall request the President of the Australian Institute of Valuers and Land Economists to appoint a qualified independent valuer or Fellow of the Institute, who shall determine, after consideration of any submissions from the owners, a fair and reasonable acquisition price for the land as described in sub-clause (c) and/or terms upon which it is to be acquired;
 - (ii) in the event of a dispute regarding outstanding matters that cannot be resolved, the independent valuer shall refer the matter to the Director-General, recommending the appointment of a qualified panel. The Director-General, if satisfied that there is need for a qualified panel, shall arrange for the constitution of the panel. The panel shall consist of:
 - the appointed independent valuer,
 - the Director-General or nominee, and
 - the President of the Law Society of NSW or nominee.
- (f) The qualified panel shall determine a fair and reasonable acquisition price as described in sub-clause (c) above and/or the terms upon which the property is to be acquired.
- (g) The Applicant shall bear the costs of any valuation or survey assessment requested by the independent valuer, panel, or the Director-General and the costs of determination referred to in sub clauses (c) and (d).
- (h) Upon receipt of a determination pursuant to sub-clauses (c) and (d), the Applicant shall, within 14 days, offer in writing to acquire the relevant land at a price not less than the determination. Should the Applicant's offer to acquire not be accepted by the owner within six (6) months of the date of such offer, the Applicant's obligations to purchase the property shall cease, unless otherwise agreed by the Director-General.
- (i). In the event that only part of the land is to be transferred to the Applicant, the Applicant shall pay all reasonable costs associated with obtaining LSC or PSC approval to any plan of subdivision and registration of the plan at the Office of the Registrar-General.

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12. Financial contributions for community enhancement

- (i) Prior to the commencement of construction of the mine and processing facility, the applicant shall obtain the approval of the Director-General, for a community enhancement plan to provide for the social and associated implications of the proposed development.
- ii. The community enhancement plan shall be prepared by an independent person/organisation approved by the Director-General and paid for by the applicant. The plan shall be prepared in consultation with LSC, PSC and FSC.
- iii. The community enhancement plan shall specify the nature, type and amount of contribution, both financial and in kind, to mitigate and/or manage the social and associated community infrastructure requirements emanating as the result of the operation of the development, including on housing, water and sewerage, recreational and other factors, with recognition of the more disadvantaged areas in the region, particularly within the Lachlan Shire.
- iv. The community enhancement plan shall also specify the distribution of the financial and/or other inkind contributions between LSC, PSC and FSC generally in proportion to the impacts or as determined by the Director General in liaison with the Councils.
- v. The community enhancement plan shall be reviewed every three years or at any other time as otherwise determined by the Director-General in consultation with the Councils. The review shall be undertaken by an independent person/organisation appointed by the Director-General and paid for by the applicant. The review shall reflect experience with operation impacts and the outcome shall be approved by the Director General.
- (vi) The community enhancement plan shall provide as a minimum for a financial contribution from the Applicant of \$300,000 per year for the first fifteen years of the project following commencement of construction of the mine and processing facility. The first payment shall be made on commencement of construction and subsequent payments made on each anniversary thereafter. The payments shall be indexed according to the Consumer Price Index (CPI) at the time of payment. Any additional contribution, financial or in kind, shall be agreed between the proponent and the Councils, and be generally in accordance with the provisions of the plan.

13. Further Approvals and Agreements

13.1 Statutory Requirements

The Applicant shall ensure that all statutory requirements including but not restricted to those set down by the Local Government Act 1993, Protection of the Environment Administration Act 1991, Protection of the Environment Operations Act 1997, Rivers and Foreshores Improvement Act 1948, Water Act 1912, National Parks and Wildlife Act 1974, and all other relevant legislation, Regulations, Australian Standards, Codes, Guidelines and Notices, Conditions, Directions, Notices and Requirements issued pursuant to statutory powers by the LSC, PSC, FSC, EPA, DMR, NPWS, DLWC, RTA, NSW Agriculture, Ministry of Energy, and NSW Fisheries, are fully met.

⁹⁷Except as may be expressly provided by a licence under the Protection of the Environment Operations Act 1997 in relation of the development, Section 120 of the Protection of the Environment Operations Act 1997 must be complied with in and in connection with the carrying out of the development.

13.2 Structural Adequacy

Detailed plans and specifications relating to the design and construction of all structural elements associated with the proposed development are to be submitted to the Principal Certifying Authority prior to the commencement of construction works. Such plans and specifications must be accompanied by certification provided by a practicing professional structural engineer or an accredited certifier certifying the structural adequacy of the proposed building design and compliance with the Building Code of Australia.

13.3 Verification of Construction

- (a) Upon completion of building works and prior to the issue of an occupation certificate, a certificate/s prepared by a suitably qualified person or a compliance certificate/s issued by an accredited certifier, is to be submitted to the Principal Certifying Authority certifying that the following building components, where relevant, have been completed in accordance with approved plans and specifications:
- i. footings;
 - ii. concrete structures, including ground floor and any subsequent floors, retaining walls and columns;
 - iii. framing and roof structure;
 - iv. fire protection coverings to building elements required to comply with the Building Code of Australia; and
 - v. mechanical ventilation.
- (b) The certificate/s shall demonstrate at what stage of construction inspections were undertaken.
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⁹⁷ EPA GTA