Appendix U

Site Selection Protocol

PACIFIC ALUMINIUM

Document Tracking

Item	Detail
Project Name	Katherine to Gove Gas Pipeline
Project Number	DARPLA-0008
Project Manager	Andrew Buick 02 8989 5603 16/56 Marina Blvd, Cullen Bay, NT 0820
Prepared by	Mark Vile
Approved by	Warren McGrath
Status	FINAL
Version Number	1
Last saved on	30 April 2013

This report should be cited as 'Eco Logical Australia 2013. *Katherine to Gove Gas Pipeline – Environmental Impact Statement – Site Selection protocol for ancillary infrastructure and works*. Prepared for Pacific Aluminium.'

Acknowledgements

This document has been prepared by Eco Logical Australia Pty Ltd with support from Pacific Aluminium

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Abbreviations

Abbreviation	Description
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EPBC Act	*Environment Protection and Biodiversity Act 1999*
KGGP	Katherine to Gove Gas Pipeline

1 Introduction

1.1 KGGP PROJECT BACKGROUND

Pacific Aluminium (a business unit of Rio Tinto) operates and owns a bauxite mine and alumina refinery at Gove, 650 kilometres (km) east of Darwin in north-east Arnhem Land, Northern Territory through the following entities. The Gove mine and refinery are operated by Alcan Gove Pty Limited (ACN 000 453 663), a subsidiary of Swiss Aluminium Australia Ltd (SAAL) (ACN 008 589 099) and Gove Aluminium Limited (GAL) (ACN 000 640 353). SAAL and GAL are the registered holders of the Gove mineral lease and associated special purpose leases and are the owners of the Gove mine and refinery.

The Gove mine and refinery is a bauxite mining and alumina processing operation. High grade bauxite is mined, refined into alumina and then shipped for smelting. Power and steam for the Gove refinery and mining operations is generated from imported fuel oil.

Pacific Aluminium intends to construct the Katherine to Gove Gas Pipeline (KGGP) connecting to Gove refinery to the existing NT Amadeus Gas Pipeline at a point approximately 20 km south of Katherine. The KGGP would be approximately 603 km long and largely traverse pastoral leases and Aboriginal freehold land as well as small sections of private freehold and Crown lease. The KGGP Project was determined a 'controlled action' under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) in early December 2012 on the basis of potential impacts to listed species and communities and listed migratory species. The Commonwealth Government has determined that the project will be assessed by accredited assessment under the NT EA Act.

1.2 SITE SELECTION PROTOCOLS BACKGROUND

Specific locations for some ancillary infrastructure (e.g. construction camps) and other works (e.g. access tracks, laydown areas, machinery and vehicular parking, borrow pits) would be determined during detailed design. To ensure detailed design of ancillary infrastructure is within the predicted potential impacts of the KGGP Project, as assessed by the EIS, Pacific Aluminium has developed this Site Selection Protocol.

The protocol firstly employs environmental constraints mapping to delineate areas of environmental, social or cultural sensitivity. These maps would be used during detailed design to inform potential locations of ancillary infrastructure and other works, evaluate potential additional impacts and identify alternatives; field validation would then confirm final placement of the infrastructure.

1.3 PURPOSE AND SCOPE OF THIS DOCUMENT

This document has been prepared to assist detailed planning of the KGGP Project to inform the location of ancillary infrastructure or other works during detailed design to maintain predicted potential impacts within those assessed by the EIS. Specifically the document:

- Provides for the use of environmental constraints mapping to show areas of environmental sensitivity.
- Provides for a process embedded in the Protocol to manage the detailed design, evaluation of alternatives and field validation to confirm final placement of the infrastructure.

The Protocol described in this document applies to all Pacific Aluminium activities within the KGGP project area that may disturb terrestrial or aquatic environments including listed threatened and/or migratory species and ecological communities and their habitat, and wetlands of international importance (refer to Chapters 8-10 in the EIS). This includes any potential minor deviations to the location of the pipeline and/or associated infrastructure that is as yet finalised in terms of specific location and/or extent within the project area.

Implementation of the Protocol would be undertaken for each project element once its nature and general location is proposed during detailed design. The purpose of these protocols is to provide a robust framework for the management of each component of the development in a manner that minimises its potential impact on the environment.

1.4 RELATIONSHIP WITH THE KGGP ENVIRONMENTAL MANAGEMENT PLAN

This document should be read in conjunction with the KGGP Project EMP. The KGGP EMP describes actions that would be undertaken to avoid or minimise environmental impacts from activities in specific locations along the pipeline corridor. These actions include measures which would be employed when undertaking the development of ancillary infrastructure and other works to avoid or minimise potential impacts on the environment.

2 Site Selection Protocols

Pacific Aluminium in parallel with the EIS assessment process is undertaking design phases and studies to support the location and impact of ancillary works. Steps in the Site Selection Protocol consist of:

1. Environmental Constraints Mapping.
2. KGGP Detailed Design.
3. Identify additional potential impacts to that assessed in the EIS.
4. Identify alternative locations in collaboration with contractor.
5. Field validation of existing and alternative sites.
6. Determine most suitable location for ancillary infrastructure or other works.

These steps are shown in Figure 1 and described in Sections 2.1 to 2.4.

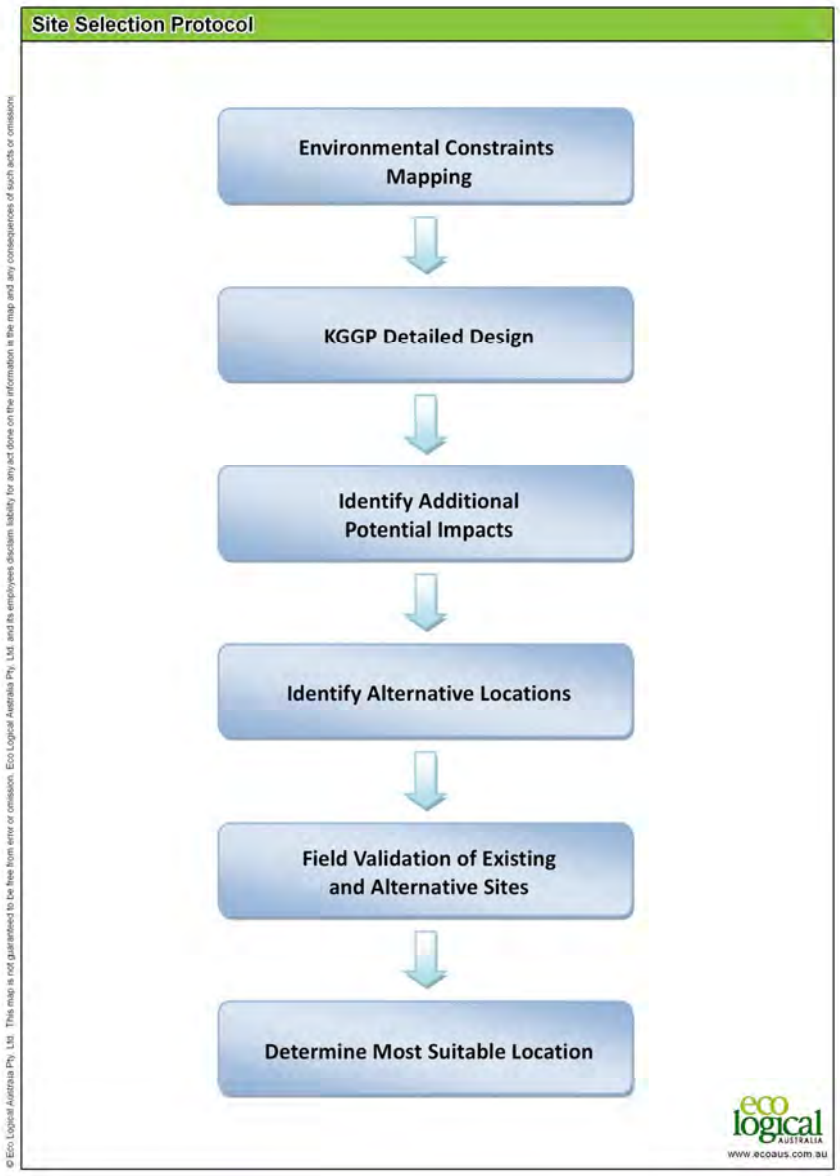

Figure 1: Steps in Site Selection Protocol

2.1 ENVIRONMENTAL CONSTRAINTS MAPPING

The Environmental Constraints Mapping will be developed using finalised information from studies for the EIS (drafts of these have been presented in the draft EIS and would be finalised on project approval). The environmental constraints identified during the EIS process would be put in a project Geographic Information System (GIS) and these constraints would be used in determining the most suitable potential locations of ancillary infrastructure.

Table 1 provides a description of the environmental constraints for locating ancillary infrastructure and other works where specific locations are to be finalised during detailed design. Where possible, these constraints would be mapped, however the descriptions below should be considered along with the mapping, once finalised upon project approval.

Table 1: Environmental Constraints

ENVIRONMENTAL CONSIDERATION	ENVIRONMENTAL CONTRAINTS
Biodiversity	• Avoid clearing or other activities where there are known, likely or potential locations and habitat of threatened and/or migratory species or ecological communities listed under Territory or Commonwealth legislation. • Avoid disturbance near known locations or potential habitat for Yellow Crazy Ants.
Land and Soils	• Avoid clearing and construction on dispersible soils or highly erodible soils where possible. • Avoid construction or other activities on potentially contaminated land. • Avoid good agricultural and/pastoral land where possible. • Avoid construction on slopes greater than 6 degrees (10%).
Surface Water	• Avoid clearing and construction within flood prone areas. • Avoid clearing within 100 m of a natural wetland or spring. • Avoid clearing in or within 200 m of any wetland of national or international importance. • Avoid clearing within 50 m of the high bank of a watercourse. • Avoid placement of infrastructure over tributaries and flow paths where practicable.
Indigenous Cultural Heritage	• Avoid disturbance of culturally significant areas and identified Sacred Sites defined within Restricted Work Areas (Chapter 13 of the EIS). • Avoid archaeological sites except as provided through the process established in the Cultural Heritage Management Plan and in accordance with requirements under the *Heritage Act 2011*.
Non - Indigenous Cultural Heritage	Avoid disturbance of heritage places identified on the Northern Territory or Commonwealth register as described in Chapter 13 of the EIS.
Noise and Vibration, and Air Quality	Locate construction camps, ancillary infrastructure and other works at appropriate distances from sensitive receptors identified in Chapter 14 of the EIS.

2.2 KGGP DETAILED DESIGN

During the preparation of the EIS for the KGGP, some ancillary infrastructure and other works were proposed with further detailed design required to determine the precise locations.

Pacific Aluminium has commissioned a contractor to undertake the detailed design for the KGGP in 2013. During the detailed design process, the location of all KGGP Project infrastructure and works areas would be compared with the Environmental Constraints Mapping. The design team will work closely with Eco Logical Australia (ELA) to consider the implications of this mapping for placement of infrastructure.

2.3 IDENTIFICATION OF ADDITIONAL POTENTIAL IMPACTS AND ALTERNATIVE SITES

Pacific Aluminium would work with the contractor engaged to undertake detailed design for the KGGP to manage the location of ancillary infrastructure and other works in order to maintain the predicted potential impacts of the KGGP Project within those assessed by the EIS.

If it is determined the proposed site for ancillary infrastructure and other works in the detailed design is generally in accordance with that assessed during the EIS, the ancillary infrastructure or works would remain at the site proposed in the detailed design.

If it is determined the proposed site for ancillary infrastructure and other works is not generally in accordance with that assessed during the EIS, an alternative site would be identified in consideration of the Environmental Constraints Mapping.

2.4 FIELD VALIDATION AND DETERMINE SUITABLE LOCATION

Field validation of the proposed and alternative locations would then be undertaken to determine the most suitable site to maintain the predicted potential impacts of the KGGP Project within those assessed in the EIS.

Field validation surveys would be undertaken in accordance with Northern Territory and Commonwealth guidelines, and undertaken by a suitably qualified environmental person.