

## 2 Legislative Context

### 2.1 Environmental Impact Assessment Process

#### 2.1.1 State Agreements

A State Agreement is a legal agreement between the State of Western Australia and a proponent of a major project within the boundaries of Western Australia. Alcoa's WA mines operate within ML1SA (Figure 2-1), and are granted under the following State Agreements:

- *Alumina Refinery Agreement Act 1961* and subsequent State Agreement Acts;
- *Alumina Refinery (Pinjarra) Agreement Act 1969* (Pinjarra State Agreement);
- *Alumina Refinery (Wagerup) Agreement and Acts Amendment Act 1978* (Wagerup State Agreement);
- *Alumina Refinery Agreements (Alcoa) Amendment Act 1987*.

Key provisions for the State Agreements include:

- Granting mineral leases for bauxite mining;
- Construction and operation of alumina refineries;
- Railway transport and wharf facilities;
- Water and electricity supply arrangements;
- Royalty payments; and
- Environmental and land use conditions.

ML1SA is 7,129 km<sup>2</sup> and located on the Darling Plateau, spanning from east of Perth in the north to east of Bunbury in the south. Its western boundary is the Swan Coastal Plain (SCP), while the eastern boundary adjoins the Worsley Mining Lease 258SA, as well as the Mundaring and Youraling State Forests and Wandoo National Park, as seen in Figure 2-1.

The MMPLG was created in 1979 by an arrangement between Alcoa and the State pursuant to Clause 5 (Mining Plan) of the *Alumina Refinery (Wagerup) Agreement and Acts Amendment Act 1978*.

The Bauxite Mining Operations of Alcoa of Australia Limited – Guidelines for Submission and Approval of Mining and Management Programmes dated 13 February 1979 anticipated that a cross-agency working group of senior State officers would liaise with Alcoa in the preparation of the initial MMP and thereafter, as necessary. MS 728 identifies the MMPLG as comprising representatives of State Government agencies whose areas of responsibility are affected by the mining operations of Alcoa; and states that the MMPLG will continue to review Alcoa's mining plans, manage issues relating to its mining operations and coordinate environmental auditing of Alcoa's MMP.

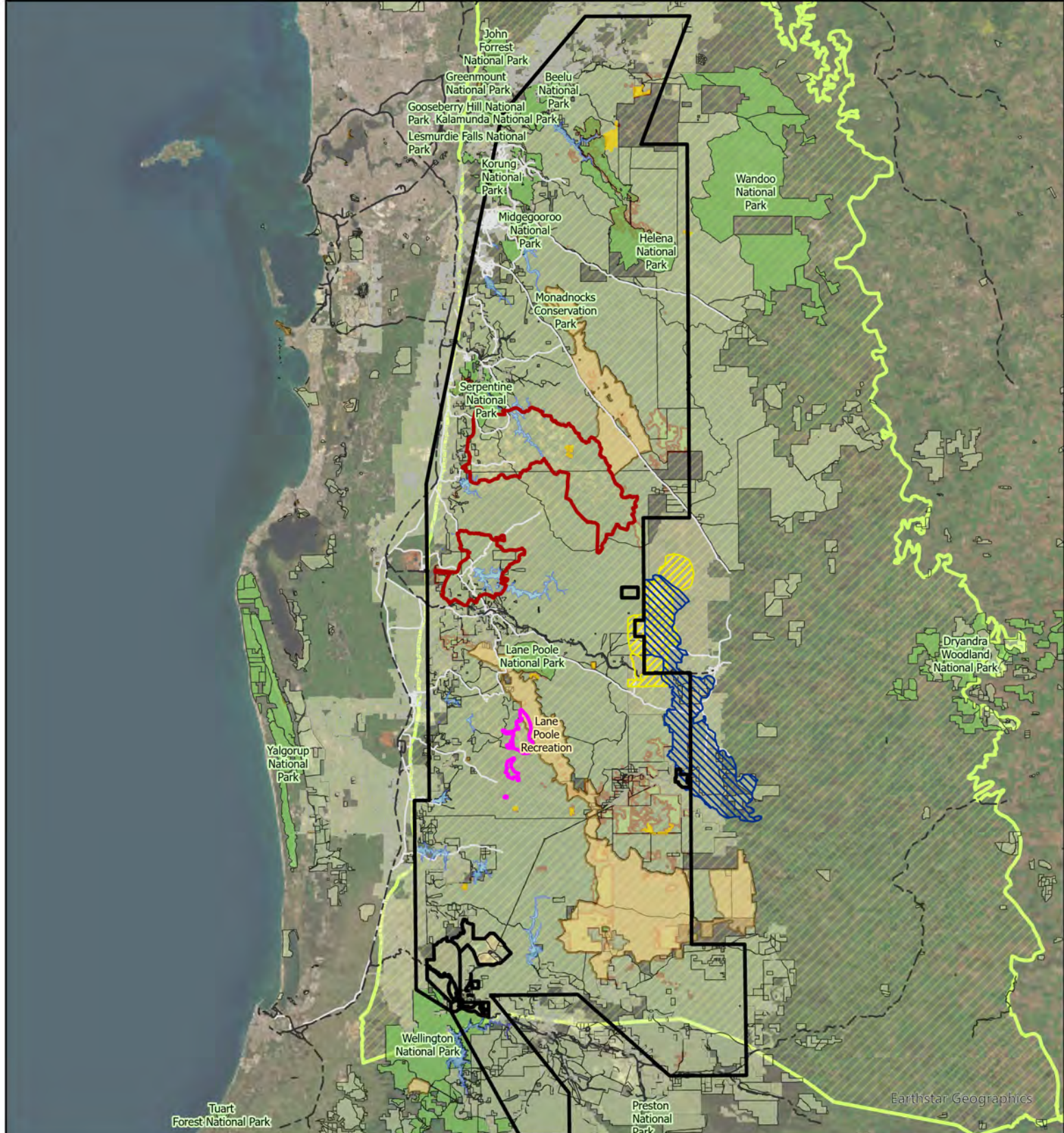
The Department of Jobs, Tourism, Science and Innovation (DJTSI) released the Bauxite State Agreements – administrative framework review in July 2024, which endorsed a revised process to facilitate stakeholder advice to inform State Agreement decisions.

The current Administrative Framework is detailed in Table 2-1. The Draft MMP is submitted to the BSEC which then refer the MMP to the ITAG for technical review and feedback to BSEC. Following consultation on the draft MMP with BSEC, Alcoa submits the final MMP to the Minister for State and Industry Development for an endorsement decision in concurrence

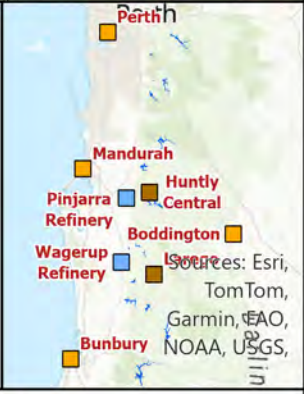
with the Ministers for Environment and Water and in consideration of BSEC advice. Alcoa does not implement an MMP until agreement has been reached with the State or it has been determined by arbitration.

**Table 2-1: Current State Agreement administrative framework**

Group	Function	Representatives
Bauxite Strategic Executive Committee (BSEC)	Provision of final advice to inform Ministerial decisions making	Executive Director level or higher representation from the following: <ul style="list-style-type: none"> <li>• DJTSI (Chair);</li> <li>• Department of Biodiversity; Conservation and Attractions (DBCA);</li> <li>• Department of Energy, Mines, Industry Regulation and Safety (DEMIRS);</li> <li>• Department of Water and Environmental Regulation (DWER);</li> <li>• Department of Planning, Lands and Heritage (DPLH);</li> <li>• Department of Health (DoH);</li> <li>• Forest Products Commission (FPC); and</li> <li>• ITAG Chair.</li> </ul>
Independent Technical Advisory Group (ITAG)	Consists of two functions: <ul style="list-style-type: none"> <li>• Function 1 – Technical review of MMP, environmental and other reports and assessment of proposed informal Comprehensive, Adequate, and Representative (CAR) reserve inclusions. Provision of advice to BSEC.</li> <li>• Function 2 – Co-design and implementation of technical studies and reports (as required in MMP approval conditions or by BSEC). Provision of advice to BSEC.</li> </ul>	Function 1 members: <ul style="list-style-type: none"> <li>• Independent Chair;</li> <li>• DWER;</li> <li>• Water Corporation;</li> <li>• DBCA;</li> <li>• DPLH;</li> <li>• DEMIRS; and</li> <li>• DoH.</li> </ul> Additional members for Function 2: <ul style="list-style-type: none"> <li>• Representation from academic and research institutions, relevant Catchment Councils and Alcoa.</li> </ul>
Mining Operations Group (MOG)	Technical assessment of FCA submissions and provision of advice to BSEC.	DBCA (Chair) and DWER.

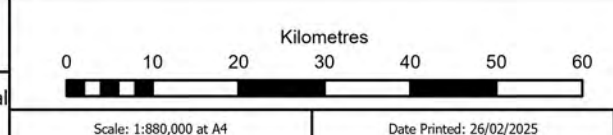


Legend		
ML1SA	EPA Referred Significant Proposals (DWER-120)	South32 Worsley Alumina Development Envelope
Huntly Mine DE	Willowdale Mine DE	CAR Informal Reserve
Willowdale Mine DE	Reservoirs	Recreation Reserve
Reservoirs	Newmont Boddington Gold Development Envelope	National Park
	Railway Lines	Conservation Reserve
	Roads	IBRA sub-region (Northern Jarrah Forest)
	Private Properties	Old Growth Forest
		Railway Lines
		DBCA - Legislated Lands and Waters (DBCA-011)



Bauxite mining on the Darling Range in the Southwest of WA - 2023 to 2027

Figure 2-1 Mining Lease 1SA Extent and Regional Context



### 2.1.2 Part IV of the *Environmental Protection Act 1986* (WA)

Part IV of the EP Act serves as the main legislation for environmental impact assessment (EIA) in Western Australia. The following Table 2-2 illustrates the relevant Ministerial statements and amendments.

Table 2-2: Part IV Environmental Protection Act 1986 (WA) Ministerial Statements

Mine/Refinery	Legislation/ Approval	Physical Elements	Development Envelope (DE)	Disturbance Footprint	Operational Elements	Amendments
Huntly Mine – Pinjarra Refinery	MS 646 (Part IV of EP Act)	Pits, haul roads, topsoil stockpiles, conveyors, supporting infrastructure, rehabilitation	Not defined	7,712.4 ha (inclusive of rehabilitation), 800 ha proposed (inclusive of 33 ha previously approved clearing and not cleared under historical FCA)	Annual bauxite ore production rate, water abstraction, crushing rates, conveying and transport rates not specified.	<p><b>March 2004</b> – Proposal approved</p> <p><b>1 July 2008</b> -Section 45C changes approved and issued</p> <p><b>21 September 2015</b> – Section 45C – increased the maximum production of the refinery from 3.5 Mtpa to 5.0 Mtpa with an associated increase in bauxite mining at the Huntly Mine.</p>
Willowdale Mine – Wagerup Refinery	MS 728 (Part IV of EP Act) MS 897 & MS 1157 amendments	Pits, haul roads, topsoil stockpiles, conveyors, supporting infrastructure, rehabilitation	Not defined	6,047.3 ha (inclusive of rehabilitation), 3,003 ha proposed (inclusive of 637 ha previously approved clearing and not cleared under historical FCA).	Initially approved for up to 2 Mtpa; increased to up to 4.7 Mtpa in two stages (subject to specific conditions). Bauxite ore production rate: up to 16 Mtpa; other operational elements not defined	<p><b>27 September 2016</b> – s46 – Pursuant to section 46A(1) of the <i>Environmental Protection Act 1986</i>, Interim Implementation Conditions were in effect instead of implementation condition 4 of Statement 728 dated 14 September 2006, and replaces condition 4 of Statement 897. These Interim Implementation Conditions are to be read in conjunction with Statement 728 and are to have effect until a further statement is published under section 45(5) as applied by section 46(8) of the <i>Environmental Protection Act 1986</i>. All other conditions of Statement 728 continue to have effect.</p> <p><b>January 2021</b> – an amendment to MS 728 via MS 897 and 1157 permitted the Wagerup Refinery to increase production in two stages: first to 3.3 Mtpa and subsequently to 4.7 Mtpa, with each stage subject to specific MS conditions. Wagerup Refinery operations are further regulated through Ministerial Statements (Table 2-3).</p>
Myara North and Holyoake; and expansion of O’Neil within the Huntly Mine	Assessment 2253	Planned mining operations part of the 2023-27 MMP	Initial DE: 22,703 ha; reduced to 15,403 ha in November 2023	As per amendments column	Alumina production, Refinery DE, Mining DE, Bauxite Export.	<p><b>17 June 2020</b> – Assessment Submitted. Increase in Pinjarra Refinery’s alumina production by 5%, from 5.0 Mtpa to 5.25 Mtpa, and an increase to the mining rate to export bauxite up to 2.5 Mtpa from the Huntly Mine.</p> <p><b>30 March 2021</b> – EPA amendment request under s43A to increase disturbance of native vegetation within the Pinjarra Refinery DE from 10 hectares to 89 hectares. To offset this, the clearing of native vegetation associated with mining was reduced by 79 hectares, from 6,700 to 6,621 hectares. Additionally, the Holyoake DE was reduced from 10,170 to 9,158 hectares, a decrease of 1,012 hectares. This represented a reduction of the Mine DEs from 42,415 ha to 41,403 ha.</p> <p><b>24 June 2022</b> – EPA consented to (under s43A) increase the extent of disturbance within the Mine DEs by 2,652 ha, from 6,621 ha to 9,273 ha to account for the inclusion of mining associated with the Kwinana refinery.</p> <p><b>19 May 2023</b> – s43A request to change the Proposal and remove bauxite export component.</p> <p><b>27 November 2023</b> – EPA consented to Alcoa making a third amendment to the Proposal during assessment under s43A of the EP Act. This amendment reduced the Myara North DE by 7,300 ha, from 22,703 ha to 15,403 ha. The amendment resulted in the relocation of a 519-ha portion of the Holyoake DE infrastructure corridor to the east of the mine region, the Holyoake DE remained at 18,700 ha. The DE amendments represented a reduction of the Mine DEs from 41,403 ha to 34,103 ha. The extent of disturbance within the Mine DEs was reduced by 950 ha, from 9,273 ha to 8,323 ha. The amendment also removed the option to export 2.5 Mtpa of bauxite from the Proposal, with all bauxite to be processed in WA.</p> <p><b>22 October 2024</b> – In response to further stakeholder consultation and conditions applied to the 2023-27 MMP approval and the Exemption Order, Alcoa requested that the EPA approve further amendments to the Mine DEs, the disturbance area within the Mine DEs, and amend the disturbance area within the Pinjarra Refinery DE. Overall, Alcoa is proposing to decrease the total area of disturbance by 823 ha from 8,323 ha to 7,500 ha across the Mine DEs. These amendments comprise the following and are currently being evaluated by the EPA:</p> <ol style="list-style-type: none"> <li>1. Decreasing the size of the Myara North DE by 4,698 ha, from 15,403 ha to 10,705 ha. The proposed Myara North DE excludes the Reservoir Protection Zone (RPZ) of the Serpentine Dam from mining activities, but includes some infrastructure.</li> <li>2. Decreasing the size of the Holyoake DE by 11,076 ha, from 18,700 ha to 7,624 ha. In doing so, Alcoa proposes to incorporate the eastern infrastructure corridor, now significantly reduced in area, into the mining area. The proposed Holyoake DE excludes the RPZ for the South Dandalup Dam from mining activities, but includes some infrastructure.</li> </ol>

Mine/Refinery	Legislation/ Approval	Physical Elements	Development Envelope (DE)	Disturbance Footprint	Operational Elements	Amendments
						<ol style="list-style-type: none"> <li data-bbox="1320 283 2783 451">3. Adding an additional area within the Huntly Mine to the Proposal and the Huntly Mine DE. This area is within the O'Neil mining region and has a DE of 5,571 ha. The O'Neil mining region contains planned mining operations that are part of the 2023-27 MMP and currently under assessment via Assessment 2385. An area of 739 ha within the proposed O'Neil DE contains the mining activities of the 2023-27 MMP. This 739-ha area and the associated mining activities will remain excluded from the Revised Proposal since they are included within Assessment 2385. Any disturbance approved via the amended Proposal, will be in addition to the 739 ha.</li> <li data-bbox="1320 451 2783 508">4. Deferring any additional disturbance within the Pinjarra Refinery DE, reducing the proposed disturbance footprint from 1,695 ha to the currently approved 1,396 ha. The Pinjarra Refinery DE will remain at 3,241 ha.</li> </ol>

**Table 2-3: History of Ministerial Statements at Wagerup Refinery**

Activity	Statement Number	Approval Year
Consultative Environmental Review	N/A	1989
Wagerup Alumina Refinery Expansion	MS 095	1990
Increase in Alumina Production to 3.3 Mtpa at Wagerup Alumina Refinery, and Associated Bauxite Mining Activities	MS 390	1995
Amend Conditions Applying to the Proposal: Increase in Alumina Production to 3.3 Mtpa at Wagerup Alumina Refinery, and Associated Bauxite Mining Activities	MS 564	2001
Revised Proposal: Wagerup Alumina Refinery – Production to a Maximum Capacity of 4.7 Mtpa and Associated Bauxite Mining	MS 728	2006
Amend Conditions Applying to the Proposal: Wagerup Alumina Refinery – Production to a Maximum Capacity of 4.7 Mtpa and Associated Bauxite Mining	MS 897	2012
Amend Conditions Applying to the Proposal: Wagerup Alumina Refinery – Production to a Maximum Capacity of 4.7 Mtpa and Associated Bauxite Mining	MS 1069	2017
Amend Conditions Applying to the Proposal: Wagerup Alumina Refinery – Production to a Maximum Capacity of 4.7 Mtpa and Associated Bauxite Mining	MS 1157	2021

On 28 February 2023, two third party referrals under Section 38 of the EP Act were made on Alcoa projects. These included:

- Assessment 2384 – the Bauxite mining on the Darling Range in the southwest of WA for the years 2022 to 2026; and
- Assessment 2385 – the Bauxite mining on the Darling Range in the southwest of WA for the years 2023 to 2027.

Alcoa has consolidated these Proposal into a single ERD (Assessment 2385) given the overlapping Mine DEs, as detailed in the ESD dated 26 August 2024 and the s.43A amendment dated 28 February 2025. The EPA considers the Proposal to be a significant amendment to MS 646 and MS 728. Consequently, this ERD has been prepared in accordance with section 40AA of the EP Act, which addresses the assessment of significant amendments, and as required by section 40(3) and outlined in the ESD. The ERD has been developed following the guidelines set out in the *Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual* (EPA, 2021a), in accordance with the EPA *Instructions on how to prepare an Environmental Review Document* (EPA, 2024c), the ESD and relevant EPA policy position statements and guidance documents.

### 2.1.2.1 Implementation Conditions

The Proposal relates to production of up to 42.5 Mtpa (wet) of bauxite ore, with water abstraction of 1.095 GL/annum (noting maximum water demand of 3.7 GL/annum whereby the gap may be obtained through a Bulk Water Agreement with Water Corporation to purchase water from the South Dandalup Dam (if this is financial viable), or via amendment of an RIWI Act section 5C Licence. The plan includes bauxite crushing, conveying, and transport of up to 42.5 Mtpa of bauxite ore. Although the Proposal shows increase to operational elements, some existing conditions remain relevant. However, it should be acknowledged that the current MS conditions are not aligned with contemporary

environmental standards for the bauxite mining element of the Proposal. Although these revisions are required, Alcoa considers that the implementation conditions under MS 646 and MS 728, particularly as they relate to the refining elements of the Proposal does not warrant an inquiry under Section 46 of the EP Act.

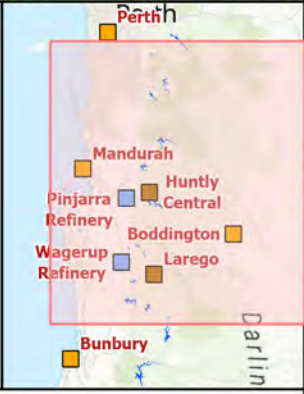
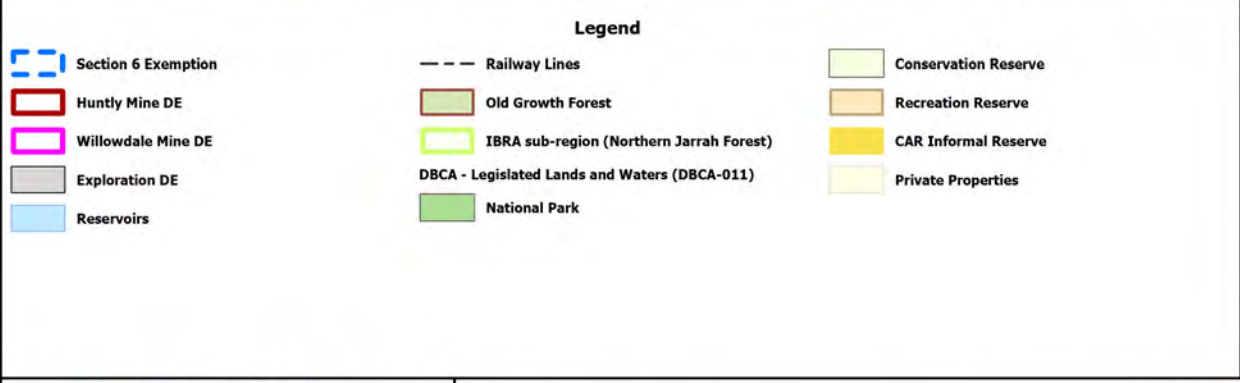
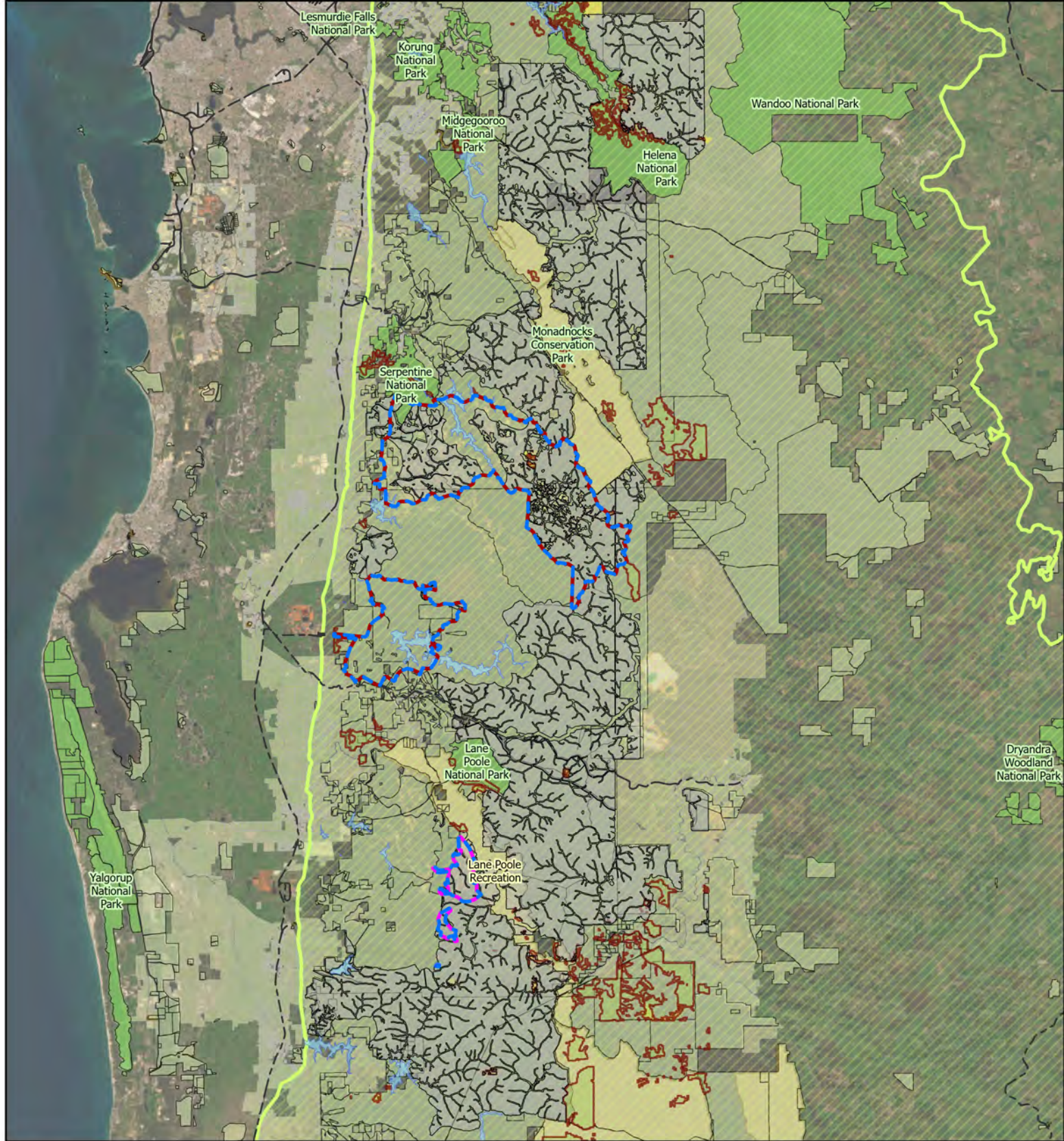
### **2.1.2.2 *Environmental Protection Act 1986 (Section 6 Exemption) Environmental Protection (Darling Range Bauxite Mining Proposal) Exemption Order 2023***

Section 6 of the EP Act provides the power for the Minister for Environment or the EPA, with the approval of the Governor, to declare an exemption to all or any of the provisions of the EP Act for a specified premises, area or activity.

On 14 December 2023 an Exemption Order was issued to Alcoa. The Exemption Order relates to the Proposal, permitting Alcoa to continue its bauxite mining operations in the Darling Range, southwest WA, for the periods 2022 to 2026 and 2023 to 2027, under specified conditions. The areas relevant to the Exemption Order are shown in Figure 2-2.

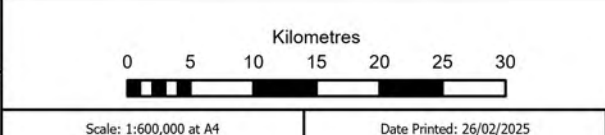
The order exempts Alcoa from certain compliance requirements under Sections 41 and 41A of the EP Act. Section 41 prohibits other decision-making authorities from allowing a proposal to be implemented during EPA assessment. While section 41A of the EP Act prohibits the implementation of a proposal under assessment by the EPA.

The Exemption Order implements a transitional approval and assurance mechanism to allow for the short- to medium-term bauxite mining operations to continue in accordance with imposed conditions while the EPA considers the referred Proposal. The DWER has developed an initial assurance program (IAP) to support the Minister in evaluating compliance with the Exemption Order and to monitor its operations (Government of Western Australia, 2024b). The Exemption Order permits endorsed clearing under approved MMPs until 31 December 2027, the term of the approved 2023-2027 MMP. The IAP will assess its effectiveness alongside an additional third-party independent compliance verification requirement.



Bauxite mining on the Darling Range in the Southwest of WA - 2023 to 2027

Figure 2-2 Section 6 Exemption Order area



## 2.2 Environmental Management Framework

### 2.2.1 Mining and Management Programs

MMPs outline the proposed Five Year Mine Plan, detailing relevant operational aspects, environmental management, and community consultation. They are submitted annually to the Minister for State and Industry Development. The MMP relates to:

- Activities contained within the Five Year Mine Plans for the Huntly and Willowdale mines.
- Activities contained within the Exploration Disturbance Footprint.

It should be noted that minor clearing activities could occur outside the Five Year Mine Plan and Exploration Disturbance Footprint spatial extent, such as:

- Installation of monitoring infrastructure for surface water, groundwater, and air quality.
- Minor clearing for rehabilitation remediation activities or drainage control.

If required, the minor clearing activities associated with these activities may be applied for through a Native Vegetation Clearing Permit (NVCP) under Part V of the EP Act prior to native vegetation clearing and reported in the Annual Environmental Review (AER).

The 2023–2027 MMP was approved by the Minister for State and Industry Development on 20 December 2023 with a set of Ministerial Approval Conditions (2023–2027 MMP Conditions). In combination with the Exemption Order clauses, these conditions provide a framework for the Alcoa Transitional Approvals Framework which has been designed to afford a level of reasonable risk mitigations as Alcoa transitions to contemporary regulation (Part IV EP Act assessment).

### 2.2.2 Forest Clearing Advice

On 30 June 2004, the Western Australian Government amended the EP Act to enhance native vegetation protection. As part of this, the *Environmental Protection (Alcoa – Huntly and Willowdale Mine Sites) Exemption Order 2004* was established. The Exemption Order allows Alcoa to assess clearing areas through the annual MMP process instead of requiring a clearing permit under Part V of the EP Act. This provides clearing endorsement within ML1SA, aligned with a mine plan approved by the Minister for State and Industry Development.

A Forest Clearing Advice (FCA) is used to gain approval for clearing within the Conceptual Clearing Areas as outlined in the Five-Year Mine Plan, which is approved through MMPs. FCAs must be submitted to the Mine Operations Group (MOG) for endorsement before commencement of any vegetation clearing activities, including timber harvesting. The FCA process addresses specific issues related to proposed clearing activities at a detailed level between Alcoa and MOG, without disrupting the overall MMP approval process. Alcoa only proceeds with MMP approved clearing after receiving FCA endorsement.

### 2.2.3 Management Plans

Existing management plans are in effect for the Key Environmental Factors outlined in this ERD. The June 2024 Compliance Assessment Report (CAR) completed by Ramboll (2024) indicates that Alcoa has effectively implemented the Management Plans supporting the MMP approval, as required by 2023–2027 MMP Condition 13.

Ramboll reports that Alcoa has made substantial progress in developing the following revised Management Plans for mining activities under the MMP, as stipulated in 2023–2027 MMP Condition 17:

- Fauna Management Plan – Huntly and Willowdale Mines (Fauna MP) (Version 1) submitted to the Minister for State and Industry Development on 13 June 2024, as included in Appendix 5;
- Water Resources Management Plan– Huntly and Willowdale Mines (Version 2) submitted to the Minister for State and Industry Development on 7 February 2025, as included in Appendix 6;
- Environmentally Hazardous Materials Management Plan – Huntly and Willowdale Mines, (Version 1) I submitted to the Minister for State and Industry Development on 20 June 2024, as included in Appendix 7;
- ML1SA operational Cultural Heritage Management Plan (CHMP), as per communication to Minister for State Development (12 February 2025), under development in consultation with Gnaala Karla Booja Regional Corporation.
- Rehabilitation Management Plan and Schedule – Huntly and Willowdale Mines (Version 1) submitted to the Minister for State and Industry Development on 20 June 2024, as included in Appendix 8;
- Recreational Trails and Facilities Management Plan (Version 1) developed on 17 December 2024, as included in Appendix 9 (Huntly) and Appendix 10 (Willowdale); and
- Flora and Vegetation Management Plan – Huntly and Willowdale Mines (Version 1) submitted to the Minister for State and Industry Development on 19 December 2024, as included in Appendix 11.
- Drainage Control Management Plans (DCMPs) for pit and haul road clearing in public drinking water catchments are submitted for assessment with FCAs to MOG.

The management plans included in this ERD's appendices are currently being implemented as part of existing operational practises and are expected to be revised to reflect the information, mitigations and outcomes provided in this ERD. Therefore, the ERD is considered to take precedence over any of the management plans.

Alcoa has additional management plans and procedures in place to address issues related to the environmental, cultural, and social aspects of their mining operations. These plans are the result of decades of experience and research, demonstrating the company's long-term commitment to sustainable practices. Alcoa conduct pre-clearing flora and vegetation surveys, which have guided mine planning and informed clearing approvals. Alcoa's *Phytophthora* dieback management system, operating in agreement with DBCA, has effectively mitigated the spread of *Phytophthora* dieback during mining activities.

Alcoa's commitment to environmental protection extends beyond its operational areas, with contributions to feral animal control programs in the Northern Jarrah Forest. Alcoa also manages environmental hazards through established strategies for dust emissions and contaminant discharges.

Noise management employs a two-stage process involving predictive and operational noise modelling to ensure regulatory compliance and minimise impacts on nearby communities. Area specific Noise Management Plans are developed, if required.

While some of Alcoa's management plans require updates, the overall management approach remains comprehensive and is underpinned by continuous research and monitoring efforts.

#### 2.2.4 Rehabilitation Program Establishment

Alcoa has implemented a comprehensive progressive rehabilitation program for disturbed areas by mining and associated activities, dating back to 1966. Alcoa includes rehabilitation activities within each annual iteration of the MMP, as per MMP Approval Condition 15a which states that Alcoa must consecutively increase rehabilitated and stabilised areas yearly. The Section 6 Exemption Order is referred to as the Exemption Order in this ERD. Clause 5 of the Exemption Order requires defined mining areas to be stabilised within 12 months of completion and rehabilitated as soon as practicable after completion.

Alcoa's rehabilitation performance is measured against Completion Criteria that define the standard for successful rehabilitation towards a goal of relinquishment of land back to the State and cessation of a proponent's liability and management requirements. Over Alcoa's many decades of mining there have been five iterations of rehabilitation completion criteria (RCC).

Rehabilitated areas established up to 1987 reflect the agreed Post Mining Land Use (PMLU), which at that time was to support the establishment of a non-jarrah forest ecosystem, with species chosen for their resilience to the soil born pathogen *Phytophthora cinnamomi*. These are collectively termed Early Era rehabilitation. Since 1988, key RCC have been related to the establishment of native species overstorey, which is the primary indicator of vegetation cover and primary productivity in a forest ecosystem; and understory species, which are the predominant floristic diversity in the Jarrah Forest.

The current RCC was developed in 2015 and applied in 2016 onwards and are published on the Alcoa website. Alcoa's current rehabilitation objective, as per the 2016 onwards RCC endorsed by MMPLG is to *'Establish, and return to the State, a self-sustaining Jarrah Forest ecosystem, planned to enhance or maintain water, timber, recreation, conservation and other nominated forest values. Rehabilitated areas must become amenable to similar management practices employed in the surrounding Jarrah Forest'* (Alcoa, 2023c). The rehabilitation completion criteria are reviewed and updated approximately every five years.

Alcoa's RCC is currently under review to be in alignment with the 2024-2033 FMP and key stakeholder expectations. Ministerial condition 23 of the 2023–2027 MMP requires Alcoa to reach agreement with the DBCA in drafting a revised set of rehabilitation completion criteria. In consideration of Ministerial Statement 728 and the *Pinjarra Alumina Refinery (Pinjarra) Agreement Act (1969)*, the agreed RCC will be further reviewed in consultation with the BSEC before public consultation period.

More details regarding Alcoa's rehabilitation framework and methodology are provided in Section 6.1 with an overview of the rehabilitation performance provided in Section 6.3.

## 2.3 Other Approvals and Regulations

### 2.3.1 Land Tenure

The Huntly and Willowdale mine regions lie predominantly in State Forest, within Alcoa's mineral lease ML1SA (Figure 2-1).

Huntly mine is adjacent to the Serpentine National Park and Monadnocks Conservation Park, with the predominant underlying land being zoned as the Jarrahdale, Dwellingup, and Marrinup State Forests. The underlying land is vested to the Conservation Commission of WA.

Willowdale mine is adjacent to and has historically intersected the Lane Poole Reserve established for recreational and conservation purposes. The remaining area is predominantly made up of a portion of the Dwellingup State Forrest. The underlying land is vested to the Conservation Commission of WA.

The Willowdale mine and southwest portion of the Huntly mine lie within the Murray-Wellington and Southwest Region, with the remainder of Huntly located within Darling Range and East Metropolitan (to the north) and the Central Wheatbelt and Agricultural (to the east) Western Australian electoral catchments. Huntly mine transects four local planning schemes (LPS) being Shire of Murray LPS No. 4, Shire of Serpentine-Jarrahdale LPS No. 3, Shire of Wandering LPS No. 3 and Shire of Boddington LPS No. 3. Willowdale is within the Shire of Waroona LPS No. 7.

The northern and eastern sections of the Huntly Mine DE is included within a Water Catchment Area (R 16634) under the Metropolitan Region Scheme, as it lies within the drinking water catchment of Serpentine Dam. The Huntly mine area also intersects both the North and South Dandalup drinking water catchments.

Several pending exploration leases underly the Mine DEs. Most within the Huntly mine area are held by Newmont Boddington Pty Ltd (E 70/ 3750; 3982; 4235; 5838; and 5839); however, there are a number of additional holders including Rolca Pty Ltd (E 70/4218), AngloGold Ashanti Australia Limited (E 70/2550), South Boddington Gold Pty Ltd (E 70/4590; 6289), Steven Parnell (E 70/5578; 5579) and Moho Resources Limited (E 70/5948). Two pending exploration leases underly Willowdale mine area and are held by Telupac Holdings Pty Ltd (E 70/6456) and Access Australia Mining Pty Ltd (E 70/6523).

### 2.3.2 Decision-making Authorities

Provisions in the EP Act (Section 44 (2AA)) allow the EPA and the Minister for Environment to consider other statutory decision-making processes that may mitigate environmental impacts and ensure that environmental factor objectives are met.

Interim EPA guidance (EPA, 2021b) outlines aspects that the EPA will consider when assessing whether an alternative Decision Making Authority (DMA) can effectively mitigate the environmental impacts of a proposal. These are:

- The ability of the DMA to consider the impact of the Proposal;
- The process that the DMA uses to assess the potential impacts of the activity on the environment;
- The relevant considerations which the DMA can take into account in decision making;

- The conditions that may be applied as a result of the decision-making process;
- Likely outcomes; and
- Overall conclusion.

The relevant approvals associated with the DMAs in regard to the Proposal are outlined in Table 2-4, which explains the applicability of each, where relevant, to mitigate impacts on the environment. In addition to this, Table 2-5 details other statutory decision-making processes which can mitigate potential impacts on the environment.

**Table 2-4: Decision making authorities and processes**

Decision-making Authority	Legislation or Agreement regulating the activity	Approval required (and specify which Proposal elements the approval is related to)
Minister for Aboriginal Affairs	<i>Aboriginal Heritage Act 1972</i>	<ul style="list-style-type: none"> <li>Section 18 Permit/ consent to impact a registered Aboriginal heritage site</li> <li>Disturbance and rehabilitation of an Aboriginal Heritage site if un-avoidable (NA for this Proposal).</li> </ul>
Minister for Environment	<i>Biodiversity Conservation Act 2016</i>	<ul style="list-style-type: none"> <li>Section 40 authority to take or disturb threatened species</li> <li>Section 45 authority to modify occurrence of a threatened ecological community.</li> </ul>
Minister for State and Industry Development (Includes BSEC, ITAG and MOG)	State Agreements: <ul style="list-style-type: none"> <li><i>Alumina Refinery Agreement Act 1961</i></li> <li><i>Alumina Refinery (Pinjarra) Agreement Act 1969</i></li> <li><i>Alumina Refinery (Wagerup) Agreement and Acts Amendment Act 1978</i></li> </ul>	<i>State Agreement Act</i> approval for the following elements. <ul style="list-style-type: none"> <li>Disturbance and rehabilitation;</li> <li>Mining operations and associated mitigation measures (including Drainage Control Management Plan (DCMPs) and FCAs);</li> <li>Establishment of facilities.</li> </ul>
Department of Water and Environmental Regulation (DWER) – Minister of Water	<i>WA Rights in Water and Irrigation Act 1914</i>	<ul style="list-style-type: none"> <li>Section 5C licence to take water</li> <li>Section 17 Bed and Banks</li> <li>Section 26D licence to construct or alter a well (N/A)</li> </ul>
Director General, Department of Biodiversity, Conservation and Attractions	<i>Biodiversity Conservation Act 2016</i> <i>Biodiversity Conservation Regulations 2018</i>	<ul style="list-style-type: none"> <li>Disturbance and rehabilitation (TFA 2324-0211 and TFA 2324-0211b (Myara mining region – FCA23B) 31/03/2027)</li> <li>Authorisation to take or disturb Threatened Fauna in a Management Operation (Section 40) (FR28000432-b 30/04/2027)</li> <li>Section 5 authority to take flora and fauna (other than threatened species).</li> </ul>
	<i>Conservation and Land Management Act 1984</i>	<ul style="list-style-type: none"> <li>Permit/lease/licence in respect of State Forest, timber reserves, national parks, conservation parks, nature reserves, marine nature reserves, marine parks, marine management areas and land vested in Conservation and Parks Commission.</li> </ul>

Decision-making Authority	Legislation or Agreement regulating the activity	Approval required (and specify which Proposal elements the approval is related to)
Chief Dangerous Goods Officer, Department of Energy, Mines, Industry Regulation and Safety	<i>Dangerous Goods Safety Act 2004</i>	Storage and handling of dangerous goods. Huntly Mine Licence: ETS002357 (18/05/2029), Willowdale Mine: ETS002354 (18/05/2029), Willowdale Mine: ETS002933 (21/02/2029) for the following elements <ul style="list-style-type: none"> <li>• Disturbance and rehabilitation</li> <li>• Mining operations</li> <li>• Establishment of facilities</li> </ul>
Worksafe Commissioner	<i>Work Health and Safety Act 2020</i> <i>Work Health and Safety (Mines) Regulations 2022</i>	Mine Safety
CEO, Department of Water and Environmental Regulation	<i>Environmental Protection Act 1986</i>	Part V works approval and licence Works Approval and Licence (Huntly Mine: L6210/1991/10, 12/09/2035 and Willowdale Mine: L6465/1989/10, 04/10/2031)
CEO, Department of Water and Environmental Regulation	<i>Metropolitan Water Supply Sewerage and Drainage Act 1909 and by-law 4.8</i> <i>Development, mining, offensive trades etc.</i>	Written approval from CEO required to commence, carry out, change or expand any agricultural, industrial, commercial, quarrying or mining development in a catchment area.

**Table 2-5: Other statutory decision-making process which can mitigate potential impacts on the environment**

Environmental Impact	How is the impact regulated by other decision-making process(es)?	Limit(s) of the decision-making process(es) to regulate the impact e.g., time limits, excluded operations	Likely environmental outcome of decision-making process(es), and consistency with EPA objective	Conditions, enforcement, and review process required by decision-making process(es)	Stakeholder engagement in decision-making process(es)
Direct loss of ecological linkage and wildlife corridors	<ul style="list-style-type: none"> <li>• Fauna MP</li> <li>• State Agreement Administrative Framework – MMP and FCA clearing assessment.</li> </ul>	<p>Clearing Schedule (Proposed Disturbance Footprint) is assessed and endorsed by Minister for State and Industry Development.</p> <p>Effectiveness depends on proper implementation management targets and monitoring of:</p> <ul style="list-style-type: none"> <li>• Disturbance and mine planning.</li> <li>• Post-clearing inspections.</li> <li>• Regular review of Protection Zones, Limited Disturbance Area (LDA) and Mine Avoidance Zone (MAZ).</li> </ul>	<ul style="list-style-type: none"> <li>• Maintenance of ecological linkages and wildlife corridors.</li> </ul>	<ul style="list-style-type: none"> <li>• As per MMP Approval Conditions, regular reporting on fauna management effectiveness is required.</li> <li>• Managed through Fauna MP via Target 6 which requires avoidance or otherwise minimal fragmentation of high value habitats, as far as reasonably practicable, by retaining ecological corridors/linkages (i.e., streamzone vegetation).</li> <li>• Construction of fauna underpasses via multi-use culverts where appropriate for long-term infrastructure, with consideration of appropriate placement in the landscape (e.g., streamzone vegetation and mid-slope), and preferably within areas that are known to support high quality vegetation and high levels of faunal abundance.</li> </ul>	<ul style="list-style-type: none"> <li>• MMP stakeholder consultation process</li> </ul>
Direct loss of Native Vegetation at a Local and Regional Scale	<ul style="list-style-type: none"> <li>• State Agreement Administrative Framework – MMP and FCA clearing assessment.</li> <li>• Ministerial approval conditions (8 to 11) for the 2023–2027 MMP in addition to the requirements imposed on by the Exemption Order.</li> <li>• Ministerial Statements 646 and 728</li> <li>• Clearing limited by MMP conditions; Fauna MPs required. Regulated through Environmental Protection Act requirements and clearing permits. Management plans include strategies to minimise clearing.</li> </ul>	<ul style="list-style-type: none"> <li>• Clearing limits set annually; specific conditions for sensitive areas (e.g., Black Cockatoo habitats). Limited by existing land use approvals and effectiveness of management plans.</li> <li>• Ministerial condition 9 – Alcoa will not clear more than 800 ha of native vegetation for MMP-related mining activities per calendar year for the duration of the Exemption Order.</li> <li>• Ministerial Condition 10 – Unused capacity from the annual clearing cap detailed within Condition 9 may be rolled over into the following year, only following approval from the State Development Minister as part of any subsequent MMP submissions.</li> </ul>	<ul style="list-style-type: none"> <li>• Consistent with minimising direct loss; aligns with EPA objectives for vegetation conservation. Reduced loss of native vegetation due to regulated clearing limits.</li> </ul>	<ul style="list-style-type: none"> <li>• Compliance reports and monitoring required; subject to State Development Minister approval.</li> </ul>	<ul style="list-style-type: none"> <li>• MMP stakeholder consultation process</li> <li>• Consultation with biodiversity agencies and stakeholders. Consultation with environmental authorities and local communities during planning.</li> </ul>
<p>Direct loss of Threatened and Priority Ecological Communities</p> <p>Direct loss of Protected Areas and conservation areas</p>	<ul style="list-style-type: none"> <li>• State Agreement Administrative Framework – MMP and FCA clearing assessment.</li> <li>• State Agreement Administrative Framework – MMP and FCA clearing assessment.</li> <li>• Avoidance strategies in place for high-risk areas; specific conditions to minimise impacts.</li> </ul>	<ul style="list-style-type: none"> <li>• As per Flora and Vegetation Management Plan (FVMP), no clearing of threatened flora individuals or communities without regulatory consultation and appropriate approvals.</li> <li>• Implementation of MAZ for threatened species (unless</li> </ul>	<ul style="list-style-type: none"> <li>• Minimised impact on threatened and priority ecological communities through targeted measures.</li> </ul>	<ul style="list-style-type: none"> <li>• Detailed reporting and compliance checks are mandated.</li> </ul>	<ul style="list-style-type: none"> <li>• Engagement with environmental authorities (DBCA) to ensure compliance with ecological standards and management plan development.</li> </ul>

Environmental Impact	How is the impact regulated by other decision-making process(es)?	Limit(s) of the decision-making process(es) to regulate the impact e.g., time limits, excluded operations	Likely environmental outcome of decision-making process(es), and consistency with EPA objective	Conditions, enforcement, and review process required by decision-making process(es)	Stakeholder engagement in decision-making process(es)
	<p>Flora Management Plans include surveys and protections for significant species.</p> <p>If clearing of threatened species is required then management options will be developed in consultation with DBCA and the Department of Climate Change, Energy, the Environment and Water (DCCEEW) with appropriate approval obtained under the <i>Biodiversity Conservation Act 2016</i> (WA) (BC Act) and the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Commonwealth) (EPBC Act).</p>	<p>regulatory consultation and appropriate approvals obtained).</p> <ul style="list-style-type: none"> <li>Implement Limited Disturbance Areas (LDA) for threatened species (unless regulatory consultation and appropriate approvals obtained).</li> </ul>			
Direct loss of Groundwater Dependent Ecosystems (GDE)	<ul style="list-style-type: none"> <li>Water Resources Management Plans (WRMP) include measures to protect groundwater regimes and GDEs</li> <li>State Agreement Administrative Framework – MMP and FCA clearing assessment.</li> </ul>	<ul style="list-style-type: none"> <li>Plans may not cover all potential impacts; effectiveness depends on implementation.</li> <li>Avoidance measure outlined in management plan for no mining operational activities (excludes infrastructure) within applied 100 m buffer zone for mapped Stream Vegetation.</li> </ul>	<ul style="list-style-type: none"> <li>Protection of groundwater ecosystems through controlled water use and clearing practices.</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring and response programme including surface and groundwater monitoring upstream of reservoirs and at impact and reference sites. Annual environmental report.</li> </ul>	<ul style="list-style-type: none"> <li>Stakeholders involved in reviewing water management strategies</li> </ul>
Direct loss of Old Growth Forest	<ul style="list-style-type: none"> <li>The MMPs have specific restrictions on clearing in sensitive areas and prioritises alternative sites for development.</li> <li>State Agreement Administrative Framework – MMP and FCA clearing assessment.</li> </ul>	<ul style="list-style-type: none"> <li>Limited by existing forest clearances prior to new regulations. As per FVMP, implementation of MAZ for DBCA Old Growth Forest limits clearance.</li> <li>Implement LDA for DBCA Old Growth Forest.</li> <li>Field verification of old-growth forest boundaries is undertaken in accordance with DBCA's 'Procedures for the assessment, identification, and demarcation of old-growth forests' (Department of Parks and Wildlife, 2017b).</li> </ul>	<ul style="list-style-type: none"> <li>Preservation of old growth forests through strict regulation.</li> </ul>	<ul style="list-style-type: none"> <li>Compliance audits ensure adherence to clearing restrictions.</li> </ul>	<ul style="list-style-type: none"> <li>Community consultation during planning phases to address concerns.</li> </ul>
Direct loss of Conservation significant flora	<ul style="list-style-type: none"> <li>State Agreement Administrative Framework – MMP and FCA clearing assessment.</li> <li>Flora Management Plans include surveys and protections for significant species.</li> <li>2023 -2027 MMP has specific restrictions on clearing in conservation avoidance zones</li> </ul>	<ul style="list-style-type: none"> <li>Plans may not cover all species or potential impacts.</li> </ul>	<ul style="list-style-type: none"> <li>Enhanced protection for significant flora through targeted actions.</li> </ul>	<ul style="list-style-type: none"> <li>Continuous monitoring ensures adherence to protection measures</li> </ul>	<ul style="list-style-type: none"> <li>Consultation with DBCA</li> </ul>
Fragmentation of Vegetation	<ul style="list-style-type: none"> <li>Addressed through strategic planning to minimise habitat fragmentation during development activities</li> </ul>	<ul style="list-style-type: none"> <li>Limited by existing land use patterns and development needs.</li> </ul>	<ul style="list-style-type: none"> <li>Reduced fragmentation through integrated land use planning.</li> </ul>	<ul style="list-style-type: none"> <li>Compliance with fragmentation minimisation strategies is monitored</li> </ul>	N/A

Environmental Impact	How is the impact regulated by other decision-making process(es)?	Limit(s) of the decision-making process(es) to regulate the impact e.g., time limits, excluded operations	Likely environmental outcome of decision-making process(es), and consistency with EPA objective	Conditions, enforcement, and review process required by decision-making process(es)	Stakeholder engagement in decision-making process(es)
Altered Hydrology/Groundwater Regimes	<ul style="list-style-type: none"> <li>WRMP includes hydrology impact assessments.</li> <li>Implementation of controls and mitigation measures detailed in DCMPs.</li> </ul>	<ul style="list-style-type: none"> <li>Limited by natural variability in hydrological conditions</li> </ul>	<ul style="list-style-type: none"> <li>Stabilised hydrological regimes through careful management</li> </ul>	<ul style="list-style-type: none"> <li>Adaptive management strategies employed based on monitoring data</li> </ul>	N/A
Change in Fire Regimes	<ul style="list-style-type: none"> <li>Fire Management Plans incorporate risk assessments and mitigation strategies</li> </ul>	<ul style="list-style-type: none"> <li>Limited by unpredictable natural fire events</li> </ul>	<ul style="list-style-type: none"> <li>Reduced risk of uncontrolled fires impacting the environment</li> </ul>	<ul style="list-style-type: none"> <li>Regular updates based on fire risk assessments</li> </ul>	N/A
Introduction and/or Spread of <i>Phytophthora</i> dieback and other Forest Diseases	<ul style="list-style-type: none"> <li>Managed through FVMP and Fauna MP that include monitoring and control measures</li> </ul>	<ul style="list-style-type: none"> <li>Effectiveness depends on adherence to protocol, ongoing monitoring and adaptive management strategies.</li> </ul>	<ul style="list-style-type: none"> <li>Aims to prevent spread; aligns with maintaining ecological integrity. Reduced spread of weeds through proactive management.</li> </ul>	<ul style="list-style-type: none"> <li>Regular updates and reviews of management plans and protocols, based on new data, is required.</li> </ul>	<ul style="list-style-type: none"> <li>Stakeholders are consulted during the development of management plans.</li> <li>Engagement with local communities to raise awareness about disease prevention.</li> </ul>
Changes to both the surface water and groundwater systems, including changes in surface water and groundwater flows, geochemistry, and downgradient receiving environments	<ul style="list-style-type: none"> <li>Regulated through WRMP that include monitoring and control measures</li> <li>Implementation of controls and mitigation measures detailed in DCMPs.</li> </ul>	<ul style="list-style-type: none"> <li>Limited by natural variability and implementation effectiveness</li> </ul>	<ul style="list-style-type: none"> <li>Stabilised water systems through controlled management</li> </ul>	<ul style="list-style-type: none"> <li>Continuous monitoring and adaptive management strategies are enforced</li> </ul>	<ul style="list-style-type: none"> <li>Involvement of DWER in planning</li> </ul>
Changes to the hydrological regime as a result of changes in groundwater levels, altering ecological habitats	<ul style="list-style-type: none"> <li>Managed through hydrological assessments and mitigation strategies included in Environmental Management Plans</li> <li>Implementation of controls and mitigation measures detailed in DCMPs.</li> </ul>	<ul style="list-style-type: none"> <li>Effectiveness depends on accurate assessments and timely interventions</li> </ul>	<ul style="list-style-type: none"> <li>Minimised ecological disruption through careful hydrological management</li> </ul>	<ul style="list-style-type: none"> <li>Regular updates based on hydrological data and impact assessments</li> </ul>	N/A
Mobilisation of existing contamination as a result of groundwater elevation increases	<ul style="list-style-type: none"> <li>Forest Clearing Advice</li> <li>Implementation of controls and mitigation measures detailed in DCMPs.</li> </ul>	<ul style="list-style-type: none"> <li>Limited by existing contamination levels and remediation technology</li> </ul>	<ul style="list-style-type: none"> <li>Reduced contamination risk through proactive management</li> </ul>	<ul style="list-style-type: none"> <li>Immediate reporting and response actions required for any incidents</li> </ul>	-
Increased sediment loads in surface water.	<ul style="list-style-type: none"> <li>Managed through hydrological assessments and mitigation strategies included in Environmental Management Plans (WRMP and DCMPs)</li> <li>Implementation of controls and mitigation measures detailed in DCMPs.</li> <li>Avoidance of RPZ.</li> </ul>	<ul style="list-style-type: none"> <li>Limited by natural turbidity and sediment levels (particularly following storm events) and mitigation effectiveness.</li> </ul>	<ul style="list-style-type: none"> <li>Minimised ecological disruption through careful hydrological management</li> </ul>	<ul style="list-style-type: none"> <li>Compliance monitoring ensures adherence to construction standards</li> <li>Monitoring requirements ensure compliance with control standards</li> </ul>	<ul style="list-style-type: none"> <li>Involvement of DWER, Water Corporation in planning</li> </ul>
Increased saline discharge to surface water and soil salinisation.	<ul style="list-style-type: none"> <li>Managed through hydrological assessments and mitigation strategies included in Environmental Management Plans</li> <li>Implementation of controls and mitigation measures detailed in DCMPs.</li> </ul>	<ul style="list-style-type: none"> <li>Limited by natural salinity levels and mitigation effectiveness</li> <li>Regulated via established rehabilitation.</li> </ul>	<ul style="list-style-type: none"> <li>Reduced salinity impact through targeted management actions and rehabilitation effort</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring requirements ensure compliance with salinity control standards</li> </ul>	<ul style="list-style-type: none"> <li>Engagement with environmental agencies for effective management</li> </ul>

Environmental Impact	How is the impact regulated by other decision-making process(es)?	Limit(s) of the decision-making process(es) to regulate the impact e.g., time limits, excluded operations	Likely environmental outcome of decision-making process(es), and consistency with EPA objective	Conditions, enforcement, and review process required by decision-making process(es)	Stakeholder engagement in decision-making process(es)
PASS contamination of surface water or groundwater as a result of soil and sediment removal at creek crossings.	<ul style="list-style-type: none"> <li>Regulated through Acid Sulphate Soil Management Plans (ASSMP) that include identification and treatment measures</li> </ul>	<ul style="list-style-type: none"> <li>Effectiveness depends on adherence to construction protocols and monitoring results.</li> </ul>	<ul style="list-style-type: none"> <li>Minimised acid sulphate soil (ASS) disturbance through proactive management including;</li> <li>Where excavation of 100 m<sup>3</sup> or more or dewatering of swamp sediments is required in an identified high to moderate ASS risk mapped area, ASS investigation will be undertaken in accordance with Identification and investigation of ASS and acidic landscapes [DER (2015a)]</li> <li>Where ASS is confirmed as present within the excavation or groundwater drawdown area, construction will be reviewed to avoid disturbance as far as practicable. Where ASS disturbance is not avoidable, an ASSMP will be prepared in accordance with Treatment and management of soil and water in acid sulphate soil landscapes (DER, 2015a)</li> </ul>	<ul style="list-style-type: none"> <li>Development of ASSMP required. Compliance monitoring in line with plan to ensure adherence to monitoring and treatment protocols.</li> </ul>	<ul style="list-style-type: none"> <li>Consultation with environmental experts during planning stages to address potential impacts.</li> </ul>
Potential disturbance to Ramsar and/or other wetlands of significance due to changes in surface water contributions to these systems and/or changes in surface water quality	<ul style="list-style-type: none"> <li>Implementation of controls and mitigation measures detailed in DCMPs.</li> </ul>	<ul style="list-style-type: none"> <li>Effectiveness depends on proper implementation and monitoring</li> </ul>	<ul style="list-style-type: none"> <li>Maintenance of wetland integrity through careful planning</li> </ul>	<ul style="list-style-type: none"> <li>Regular reporting on wetland management effectiveness is required</li> </ul>	N/A
Impacts to amenity from traffic	<ul style="list-style-type: none"> <li>The <i>Mines Safety and Inspection Act 1994</i>, <i>Mines Safety and Inspections Regulations 1995</i>, and Alcoa's safety procedures require all persons driving on the mine to obtain a mine driving permit and to comply with mine driving procedures.</li> <li>Regulated through Traffic Management Plans that include monitoring and mitigation measures.</li> </ul>	<ul style="list-style-type: none"> <li>Limited by existing road infrastructure and traffic volumes.</li> </ul>	<ul style="list-style-type: none"> <li>Reduced traffic impact through strategic planning and management.</li> </ul>	<ul style="list-style-type: none"> <li>Compliance monitoring ensures adherence to traffic management standards.</li> </ul>	<ul style="list-style-type: none"> <li>Stakeholder consultation during plan development to address traffic concerns</li> </ul>
Impact on recreational use of areas	<ul style="list-style-type: none"> <li>Recreational Trails and Facilities Management Plans</li> <li>Partially mitigated through the <i>Aboriginal Heritage Act 1972</i>.</li> <li>WA Strategic Trails Blueprint 2022-2027 (Trails Reference Group, 2022) and The Peel Regional Trails Strategy 2019 (PRTS) (Common Grounds Trails Pty Ltd, 2019) identify recreational use areas and prioritises them.</li> </ul>	<ul style="list-style-type: none"> <li>No clearing or mining of ore in conservation reserves. Provision of mining avoidance zones for significant areas of recreational value.</li> <li>Establish and maintain mining avoidance zones within the region to prevent direct impacts, which will be clearly marked on construction and mining maps.</li> <li>Revision of the Recreational Trails and Facilities Management Plan (RTFMP), in consultation</li> </ul>	<ul style="list-style-type: none"> <li>Continued maintenance of recreational use through RTFMP and state/government initiatives.</li> </ul>	<ul style="list-style-type: none"> <li>Regular reporting on recreational use management effectiveness is required. Effectiveness depends on proper implementation and monitoring.</li> </ul>	<ul style="list-style-type: none"> <li>Involvement of local communities in planning stages to ensure recreational area protection.</li> <li>Consultation with DBCA and relevant stakeholders as required by Ministerial Conditions for the 2023–2027 MMP condition 14c.</li> </ul>

Environmental Impact	How is the impact regulated by other decision-making process(es)?	Limit(s) of the decision-making process(es) to regulate the impact e.g., time limits, excluded operations	Likely environmental outcome of decision-making process(es), and consistency with EPA objective	Conditions, enforcement, and review process required by decision-making process(es)	Stakeholder engagement in decision-making process(es)
	<ul style="list-style-type: none"> <li>Addressed via Recreational Trails and Facilities Management Plan in accordance with Assessment 2253 Environmental Scoping Document Required Work item 93.</li> </ul>	<ul style="list-style-type: none"> <li>with DBCA and relevant stakeholders by 31 December 2024</li> </ul>			
<p>Impact to visual amenity from mining operations and infrastructure</p>	<ul style="list-style-type: none"> <li>Legal consent needed before disturbance. Managed through Visual Impact Management Plans that include design and screening strategies. Partially mitigated through the <i>Aboriginal Heritage Act 1972</i>.</li> <li>State Agreement Administrative Framework – MMP and FCA clearing assessment.</li> <li>Commitment to complete a Visual Impact Management Plan if within 2 km of sensitive receptors and modelling indicates unacceptable impacts.</li> </ul>	<ul style="list-style-type: none"> <li>Limited by existing landscape features and development needs.</li> </ul>	<ul style="list-style-type: none"> <li>Develop MAZ to prevent direct impacts to visual amenity and consult with relevant stakeholders when impacts are unavoidable.</li> </ul>	<ul style="list-style-type: none"> <li>Complete landscape and visual impact assessment studies based on recognised methodology. Regular monitoring and adaptive management strategies enforcement.</li> <li>Reduced visual impact through strategic planning and mitigation measures to address elevated vantage points (particularly along the Bibbulmun track) impacts that are unlikely to be avoidable in the short to medium term as operational impacts.</li> <li>Annual reporting of clearing and rehabilitation extents against completion criteria.</li> </ul>	<ul style="list-style-type: none"> <li>MMP consultation process.</li> </ul>
<p>Impacts to amenity from dust deposition</p> <p>Impacts of dust on flora and Vegetation</p> <p>Impacts from Water use for dust suppression</p>	<ul style="list-style-type: none"> <li>State Agreement Administrative Framework – MMP and FCA clearing assessment.</li> <li>Commitment to implementing Dust Management Plan (under development) if within 2 km of sensitive receptors and modelling indicates unacceptable impacts.</li> </ul>	<ul style="list-style-type: none"> <li>Limited by natural dust levels and control effectiveness. Limited by availability of alternative water sources</li> </ul>	<ul style="list-style-type: none"> <li>Reduced dust emissions through proactive management and optimise water use.</li> </ul>	<ul style="list-style-type: none"> <li>Continuous monitoring ensures compliance with dust control standards. Regular reviews ensure adherence to water use targets.</li> </ul>	<ul style="list-style-type: none"> <li>Community consultation included in dust management planning.</li> </ul>
<p>Impacts to amenity through construction and operational noise</p> <p>Impacts to amenity from light spill</p> <p>Noise and light emissions from construction and operational equipment</p>	<ul style="list-style-type: none"> <li>Regulated through Noise Management Plans that specify noise control measures and monitoring.</li> <li><i>Environmental Protection (Noise) Regulations 1997 (GoWA, 2024a)</i>.</li> <li>Ministerial statements 646 and 728</li> </ul>	<ul style="list-style-type: none"> <li>Effectiveness depends on adherence to noise limits and control measures. Annual monitoring of nighttime <math>L_{A10}</math> (A-weighted noise level that is exceeded for 10% of a measurement period) and <math>L_{A1}</math> (a noise level that is exceeded for 1% of a measurement period) noise levels over 3-hour assessment periods at offsite locations will be conducted as soon as practical following identification of exceedance. Early warning Alert – Instantaneous predicted levels at or exceeding <math>L_{A10}</math> assigned level are recorded. Screening vegetation within 200 m of public roads.</li> </ul>	<ul style="list-style-type: none"> <li>Establish light management plans to minimised light spill impact.</li> </ul>	<ul style="list-style-type: none"> <li>Compliance monitoring ensures adherence to noise standards.</li> <li>Noise sensitivity zone establishment. The zones restrict mining activities in more sensitive areas to manage noise impacts to sensitive receptors.</li> <li>The main blast follows a pilot shot which produces lower levels of noise than the main blast. If the pilot blast is above internal pilot noise limits, the main blast is postponed.</li> <li>Noise generated by mining operations is managed to meet the requirements of the <i>Environmental Protection (Noise) Regulations 1997</i>. Alcoa does not mine in areas where the pre-mining noise assessment identifies that noise impact on Noise Sensitive Premises (Highly Sensitive Area) cannot be managed below 35dB <math>L_{A10}</math>.</li> </ul>	<ul style="list-style-type: none"> <li>Engagement with local communities to address noise and light spill concerns during planning and for notification of blasting times.</li> <li>Engagement with regulatory decision-makers to ensure compliance with <i>Environmental Protection (Noise) Regulations 1997</i>.</li> </ul>

Environmental Impact	How is the impact regulated by other decision-making process(es)?	Limit(s) of the decision-making process(es) to regulate the impact e.g., time limits, excluded operations	Likely environmental outcome of decision-making process(es), and consistency with EPA objective	Conditions, enforcement, and review process required by decision-making process(es)	Stakeholder engagement in decision-making process(es)
				<ul style="list-style-type: none"> <li>A blast may not proceed if the predicted impact at a neighbouring property is above the limit identified in the Environmental Protection (Noise) Regulations 1997.</li> <li>Measured sound power levels exceed design specifications during environmental commissioning of production increase.</li> </ul>	
Disturbance to Aboriginal Heritage	<ul style="list-style-type: none"> <li>Ministerial consent under section 18 of the <i>Aboriginal Heritage Act 1972</i> or consent under Regulations 7 and 10 of the Aboriginal Heritage Regulations.</li> <li>Alcoa is developing a Cultural Heritage Management Framework in collaboration with Gnaala Karla Boodja Aboriginal Corporation's (GKB AC) under which sit CHMPs dealing with specific mine regions or heritage places (as appropriate).</li> </ul>	<ul style="list-style-type: none"> <li>Alcoa's approach to Aboriginal heritage management is guided by comprehensive heritage surveys and strict protection laws, requiring legal consent before any disturbance. It has established LDAs and MAZs through collaborative efforts across various teams to protect key heritage values and areas.</li> <li>When direct impacts on known Aboriginal heritage sites are unavoidable, Alcoa commits to consulting with relevant Traditional Owners through the GKB AC prior to seeking approvals.</li> <li>Agreed mitigation actions are documented in CHMPs, either related to specific activities or prepared to support approval applications, ensuring a comprehensive and respectful approach to heritage preservation.</li> </ul>	<ul style="list-style-type: none"> <li>Current decision -making process(es) protects social surroundings from significant harm, protecting heritage values and complying with cultural preservation standards. The current procedures apply the mitigation hierarchy to avoid or minimise impacts on social surroundings.</li> </ul>	<ul style="list-style-type: none"> <li>Prior to any ground disturbing activities, Alcoa issues an activity notice as per the Noongar Standard Heritage Agreement.</li> <li>Where it is agreed that cultural heritage surveys are required, Alcoa will undertake them in consultation with nominated Aboriginal representations in accordance with the NSHA.</li> <li>Heritage survey results are used to inform mine planning and infrastructure design.</li> <li>Direct impacts to identified Aboriginal heritage sites will be avoided within the Mine DEs to the greatest extent practicable.</li> <li>Where direct impacts of known Aboriginal heritage sites cannot be avoided, Alcoa will seek the free, prior and informed consent of Traditional Owners, document that consent and any mitigating actions agreed with Traditional Owners and seek Ministerial Consent under section 18 of the <i>Aboriginal Heritage Act 1972</i>.</li> <li>An Aboriginal CHMP will be developed for the Huntly and Willowdale Mine Development Envelopes, to guide management of Aboriginal heritage during construction and operations.</li> <li>In certain cases, targeted Aboriginal CHMPs will be developed where ground disturbing activities have the potential to impact significant cultural heritage.</li> <li>Aboriginal CHMPs will include consideration of stormwater, erosion and sediment management to prevent indirect impacts to Aboriginal heritage</li> </ul>	<ul style="list-style-type: none"> <li>Engagement with Aboriginal communities and stakeholders is mandatory for obtaining consents and best practice when developing management plans. Alcoa is committed to consultation with GKB AC prior to lodging any Notices under Section 18 of the <i>Aboriginal Heritage Act 1972</i>.</li> </ul>

Environmental Impact	How is the impact regulated by other decision-making process(es)?	Limit(s) of the decision-making process(es) to regulate the impact e.g., time limits, excluded operations	Likely environmental outcome of decision-making process(es), and consistency with EPA objective	Conditions, enforcement, and review process required by decision-making process(es)	Stakeholder engagement in decision-making process(es)
				during construction and operations. <ul style="list-style-type: none"> <li>Aboriginal cultural heritage sites located with 100 m of proposed clearing boundaries will have site specific Aboriginal CHMPs developed which may include additional controls:</li> <li>Detailed site identification level heritage assessments to confirm boundaries and establish appropriate buffer distances from development activities.</li> <li>Heritage demarcation such as fencing and signage</li> <li>Work exclusion zones</li> <li>Inclusion of heritage in applicable safety toolbox discussions and job hazard assessments</li> <li>Heritage awareness inductions of personnel and contractors</li> <li>Gnaala Karla Booja Aboriginal Corporation monitors present during agreed development activities</li> <li>Contractors and employees working on the project will be provided with cultural and heritage awareness training.</li> </ul>	
Disturbance to European heritage sites	<ul style="list-style-type: none"> <li>Managed under the <i>Australian Heritage Commission Act 1975</i>, which requires assessments against defined cultural criteria. European Heritage Management Plans (EHMPs)</li> </ul>	<ul style="list-style-type: none"> <li>Limited by identification of heritage sites and scope of protection measures.</li> <li>The company has established LDAs (including a 10 m buffer) for European heritage sites. Where avoidance of European heritage values is not practicable, Alcoa will document the findings and determine appropriate mitigation of impacts. If the places to be impacted are either entered on the relevant Register or have such significance that they could be registered, Alcoa will engage with the relevant stakeholders and statutory authority.</li> </ul>	<ul style="list-style-type: none"> <li>Preservation of European heritage is completed through assessment, consultation, and management. Current decision-making process(es) protects social surroundings from significant harm, protecting heritage values and complying with cultural preservation standards.</li> <li>The current procedures apply the mitigation hierarchy to avoid or minimise impacts on social surroundings.</li> </ul>	<ul style="list-style-type: none"> <li>Compliance with statutory obligations and regular audits are enforced.</li> </ul>	<ul style="list-style-type: none"> <li>Consultation with heritage bodies and local communities is best practise during planning stages.</li> </ul>

Environmental Impact	How is the impact regulated by other decision-making process(es)?	Limit(s) of the decision-making process(es) to regulate the impact e.g., time limits, excluded operations	Likely environmental outcome of decision-making process(es), and consistency with EPA objective	Conditions, enforcement, and review process required by decision-making process(es)	Stakeholder engagement in decision-making process(es)
Erosion of post-mining landforms	<ul style="list-style-type: none"> <li>Rehabilitation requirements outlined in MMP conditions and Rehabilitation Management Plan and Schedule.</li> </ul>	<ul style="list-style-type: none"> <li>Rehabilitation schedules must be adhered to</li> <li>Specific criteria for stabilisation and erosion control.</li> <li>Limited by existing landforms and effectiveness of rehabilitation efforts. Rehabilitation areas will be identified as part of 9-month monitoring.</li> </ul>	<ul style="list-style-type: none"> <li>Ensures rehabilitation of landforms; supports environmental recovery goals. Reduced erosion impact through careful landform management.</li> </ul>	<ul style="list-style-type: none"> <li>Regular compliance assessments and reporting required; enforcement by relevant authorities.</li> <li>Regular reviews ensure adherence to rehabilitation criteria which ensures no uncontrolled water runoff or unacceptable soil erosion in or adjoining the pit.</li> </ul>	<ul style="list-style-type: none"> <li>Engagement with technical advisory groups for rehabilitation strategies. Involvement of local communities in planning stages to ensure effective erosion control</li> </ul>
<p>Contamination from spills and/or leaks from storage and handling of hazardous materials and waste</p> <p>Contamination of ground and/or surface water</p> <p>Disruption of Public Supply Drinking Water network due to contamination of reservoirs or increased sediment loads</p>	<ul style="list-style-type: none"> <li>Addressed via Hazardous Materials Management Plans that outline containment and response actions (i.e., Inspect tanks/containers in accordance with The <i>Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007</i>).</li> </ul> <p>Regulated through Water Resource Management Plan that include monitoring, assessment, and remediation strategies.</p>	<ul style="list-style-type: none"> <li>All environmentally hazardous materials reviewed prior to onsite storage and use.</li> <li>Renewal of Dangerous Goods Licence every 5 years.</li> <li>A review annually (or when legislation changes or reportable incident occurs) of <i>Dangerous Goods Safety (Explosives) Regulations 2007</i>, risk assessment for the security and safety management of explosives storage, handling, transport &amp; use onsite.</li> <li>Annual review and audit of training records.</li> <li>Limited by response capabilities in case of large-scale spills</li> <li>No mining operational activities (excludes infrastructure) within applied buffer zones for:                             <ul style="list-style-type: none"> <li>200 m buffer zone from reservoir top water level (OCA1).</li> <li>100 m buffer zone for mapped Stream Vegetation.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Minimised risk of environmental contamination from spills.</li> <li>Improved water quality through stringent management practices to control contamination.</li> </ul>	<ul style="list-style-type: none"> <li>Immediate reporting and response actions required for any incidents to DEMIRS and DWER.</li> <li>Regular audits and compliance checks ensure adherence to water quality standards</li> </ul>	<ul style="list-style-type: none"> <li>Coordination with emergency services for effective response strategies, reporting to DEMIRS and DWER.</li> </ul>
Direct loss of Conservation significant fauna habitat	<ul style="list-style-type: none"> <li>Managed through Fauna MP and habitat offset strategies.</li> <li>State Agreement Administrative Framework – MMP and FCA clearing assessment.</li> </ul>	<ul style="list-style-type: none"> <li>Limited by identification of habitat areas and effectiveness of offsets.</li> </ul>	<ul style="list-style-type: none"> <li>Enhanced protection for significant fauna habitats through targeted actions.</li> </ul>	<ul style="list-style-type: none"> <li>Regular updates to management plans based on monitoring results.</li> </ul>	<ul style="list-style-type: none"> <li>Engagement with stakeholders for habitat protection.</li> </ul>
Direct impacts as a result of injury/mortality from fauna entrapment or vehicle/equipment collisions	<ul style="list-style-type: none"> <li>Addressed via Fauna MP that include monitoring and mitigation measures such as speed limits and fauna crossings.</li> </ul>	<ul style="list-style-type: none"> <li>Effectiveness depends on adherence to mitigation measures.</li> </ul>	<ul style="list-style-type: none"> <li>Minimised injury/mortality risk through proactive management.</li> </ul>	<ul style="list-style-type: none"> <li>Compliance monitoring ensures adherence to safety standards.</li> </ul>	<ul style="list-style-type: none"> <li>Involvement of local communities in planning stages to address fauna safety concerns.</li> </ul>
Attraction of feral animals	<ul style="list-style-type: none"> <li>Controlled through Feral Animal Management Plans that include monitoring and control measures.</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring and control measure limited by effectiveness of control measures and natural variability in feral populations.</li> </ul>	<ul style="list-style-type: none"> <li>Reduced feral animal impact through targeted management actions.</li> </ul>	<ul style="list-style-type: none"> <li>Continuous monitoring ensures compliance with control standards.</li> </ul>	<ul style="list-style-type: none"> <li>Stakeholder consultation during plan development to address feral animal concerns.</li> </ul>

### 2.3.3 *Rights in Water and Irrigation Act 1914*

The *Rights in Water and Irrigation Act 1914* (RIWI Act) provides for the regulation, management, use and protection of water resources within Western Australia. The RIWI Act vests the State's groundwater and surface water resources to the Crown and provides the DWER with the power to issue licences for the taking and use of water; and permits for activities that may damage, obstruct or interfere with water flow or the beds and banks of watercourses and wetlands in proclaimed rivers, surface water management areas and irrigation districts.

In accordance with section 11, 17, or 21A of the RIWI Act a permit issued by the Minister for Water is required to interfere with the waters, bed or banks of a watercourse on Crown Land.

Alcoa has had in place longstanding "Working Arrangements" with DWER and the Water Corporation, the most recent spanning the period 2018-2023. Under these arrangements Alcoa is exempt from obtaining Bed and Banks Permits when proposed work is to be undertaken on Crown Land contained in ML1SA. Assessment of works that interfere the water, bed or banks of a watercourse was delegated to the State Agreement Administrative Framework.

A revised version of the Working Arrangement has yet to be developed. Therefore, it is unclear whether DWER considers that the Bed and Banks Permit exemption is still valid, or whether the Minister of Water's permit approval delegation to the Minister for State Development is still in force.

Alcoa's current operations are still adhering to the 2018-2023 Working Arrangements, and there is no expectation that Bed and Banks permits are required for planned stream or river crossings.

Alcoa holds five 5C surface water licences (SWL 61024, 63409, 68893, 83356 and 153635), authorising the taking of a combined total of 1.095 GL per annum across the Huntly and Willowdale mining areas (inclusive of Alcoa's surrounding operations). The project water demand for assessment 2385, due to an increase in haulage distances as the operations progress is up to 3.7 GL/annum. The gap volume is to be sourced through a Bulk Water Agreement with Water Corporation to purchase water from the South Dandalup Dam (subject to finalisation of commercial agreements).