Government of Western Australia
Department of Water and Environmental Regulation

Amendment Report

Application for Licence Amendment

Part V Division 3 of the *Environmental Protection Act 1986*

Licence Number	L5271/1983/14
Licence Holder	Alcoa of Australia Limited
ACN	004 879 298
File Number	DEC643/3
Premises	Pinjarra Alumina Refinery South West Hwy PINJARRA WA 6208 Legal description – Lot 19 on Diagram 44739, Part of Lot 109 on Diagram 60089, Part of Lot 151 on Plan 10914, Lot 221 on Plan 302632, Lot 222 on Plan 302638, Part of Lot 251 on Plan 35963 and Lot 252 on Plan 35963 As depicted in Schedule 1 of the licence
Date of Report	6 January 2021
Proposed Decision	Revised licence granted

Amine Fisher
A/Manager, Process Industries

An officer delegated by the CEO under section 20 of the EP Act

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Definitions

In this Amendment Report, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
ACN	Australian Company Number
Amendment Report	refers to this document
ANCOLD	Australian National Committee on Large Dams
Annual Exceedance Probability (AEP)	the probability that a particular flood value will be exceeded in any one year
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	Chief Executive Officer of the Department of Water and Environmental Regulation CEO for the purposes of notification means: Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC, WA 6919 or: info@dwer.wa.gov.au
Delegated Officer	an officer under section 20 of the EP Act
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the EP Act
DWER	Department of Water and Environmental Regulation
EPA	Environmental Protection Authority
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of, and during this amendment
Freeboard	means the vertical distance between the top of a dam and the water level in the dam. The top of the dam is the level of watertightness of the structure.
ICOLD	International Commission on Large Dams

Term	Definition
Licence Holder	refers to the occupier of the premises, being the person specified on the front of the licence as the person to whom this licence has been granted.
PMP	Probable Maximum Precipitation – the theoretical greatest depth of precipitation for a given duration that is physically possible over a particular catchment area, based on generalised methods.
Prescribed premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Amendment Report applies, as specified at the front of this Amendment Report.
Process water	includes contaminated stormwater.
Residue	refers to process tailings from the Bayer process of extracting alumina from bauxite.
Revised Licence	the amended Licence issued under Part V, Division 3 of the EP Act following the finalisation of this assessment.
Risk event	as described in Guidance Statement: Risk Assessment.
ROWS	Run Off Water Storage.
RSA	Residue Storage Area.
Spillway	a structure to provide the controlled discharge from a dam or Residue Storage Area.
Wet winter	means rainfall from 1 May to 30 September in each calendar year that is greater than or equal to 814mm as measured by the Alcoa Pinjarra Meteorological Station located at Oakley South;
1:100 AEP	an accumulated rainfall volume which has a 1% probability of being exceeded in any one year (Annual Exceedance Probability)

1. Decision summary

Licence L5271/1983/14 is held by Alcoa of Australia Limited (Licence Holder) for the Pinjarra Alumina Refinery (the Premises), located at Pinjarra, WA.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed installation and operation of an emergency spillway on the western side of residue storage area (RSA) 5. As a result of this assessment, Revised Licence L5271/1983/14 has been granted.

The Revised Licence issued as a result of this amendment consolidates and supersedes the existing Licence and all previous amendments issued between 2016 to 2019. The Revised Licence has been granted in a new format with existing conditions being transferred, but not reassessed, to the new format.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the Department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at https://www.der.wa.gov.au.

2.2 Overview of the Premises

Alcoa of Australia Limited (the Licence Holder) has operated the Premises since 1972 as a bauxite refinery to produce aluminium oxide, commonly known as alumina. The Premises is located approximately 90km south of Perth and 5km east-south-east of the Pinjarra township. The refinery uses the Bayer process to refine bauxite ore into aluminium oxide, commonly known as alumina. The ore is conveyed overland to the Premises from the Licence Holder's nearby licensed ore crushing and processing operation at its Huntly Mine site.

The Premises can be split into two core components, being the refinery and the residue storage area (RSA). The RSA consists of containment mud lakes for residue waste, ponds for cooling water and runoff collection water, oxalate storage and a landfill.

The Licence relates to activities at the Premises for the Prescribed Premises categories under the *Environmental Protection Regulations 1987* (EP Regulations) as listed on Revised Licence L5271/1983/14.

Within Western Australia, the Licence Holder also operates two other licensed bauxite refineries (Wagerup Alumina Refinery and Kwinana Alumina Refinery), two licensed bauxite ore crushing and processing facilities (Willowdale Mine and Huntly Mine), and a licensed power generation facility (Wagerup Co-generation Plant).

2.3 Part IV of the EP Act

Ministerial Statement 646 granted under Part IV of the EP Act, applies to the operation of the Premises. None of the conditions of Ministerial Statement 646 are of relevance to the Licence Holder's application to amend Licence L5271/1983/14.

2.4 State Agreements

The Premises is subject to the requirements of the Alumina Refinery (Pinjarra) Agreement Act 1969, and the Alumina Refinery Agreements (Alcoa) Amendment Act 1987. The Agreement Act contains the following conditions that are of relevance to the Licence Holder's application to amend Licence L5271/1983/14:

Disposal of red mud.

(5) dispose of red mud and all other effluent from the Pinjarra refinery and contain such red mud and effluent on and within the boundaries of the Pinjarra refinery site in a manner agreed between the parties from time to time;

Pollution.

(6) take such action to prevent the pollution of rivers and underground water as may be agreed between the parties from time to time;

Drainage.

(7) adequately drain the Pinjarra refinery site and related facilities and dispose of such drainage in accordance with plans and specifications to be submitted by the Company and approved by the State;

Determination of compliance with the conditions of State Agreements is beyond the scope of this assessment; and the Licence Holder contends that these clauses do apply to the construction of the spillway.

2.5 Licence Holder initiated amendment

2.5.1 Application summary

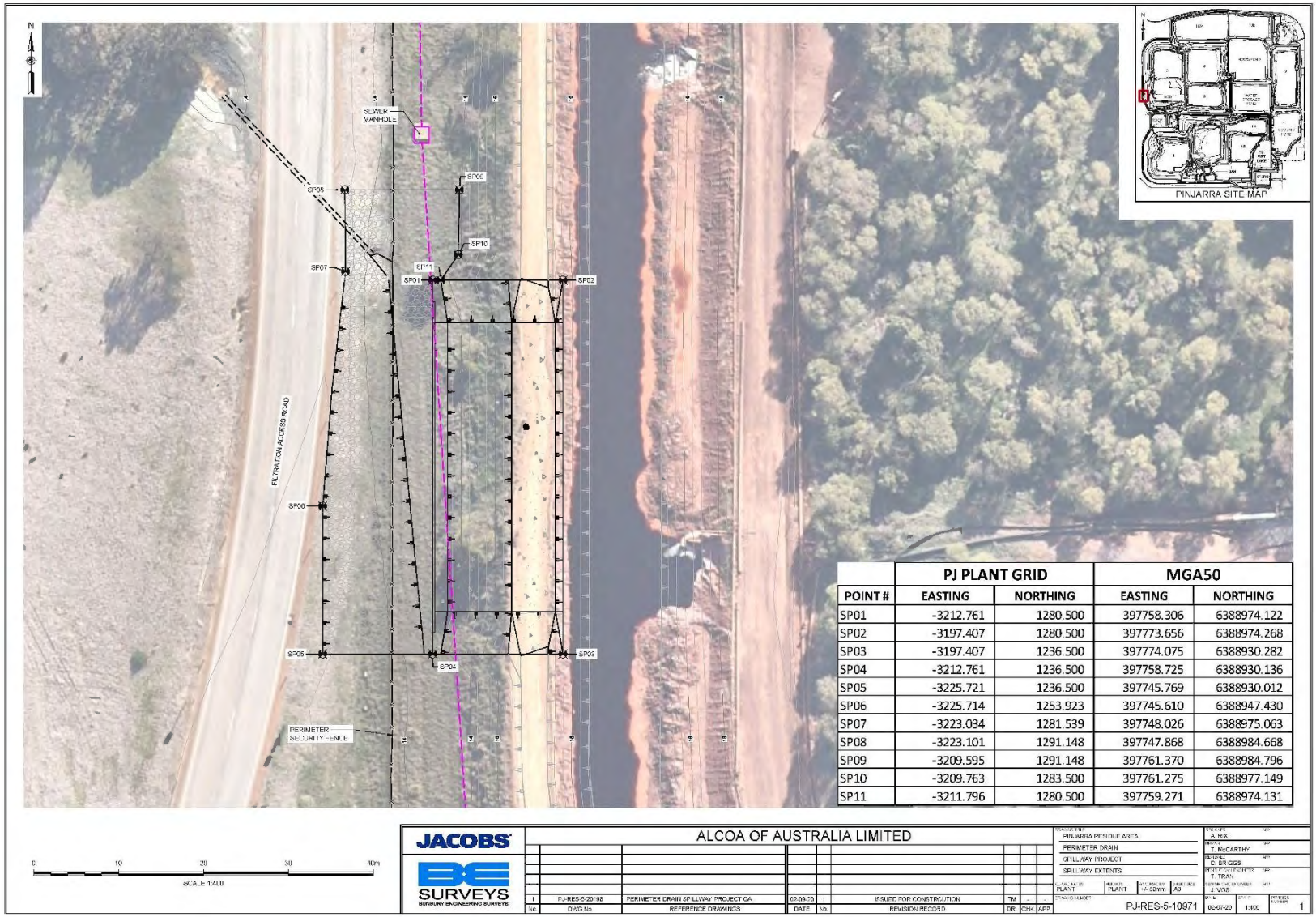
On 1 May, the Licence Holder submitted an application to the Department to amend Licence L5271/1983/14 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). This amendment is limited only to changes to Category 46: Bauxite refining activities from the existing licence. It does not require an alteration to the Premises boundary or changes to the production/design capacity.

The Licence Holder has reviewed the management of its RSAs against the Australian technical standards (ANCOLD) and international standards (ICOLD) for the design and management of tailings storage facilities and dams. This process identified that best practice management of such facilities should include the installation of an emergency overflow structure in the form of a spillway to manage an overtopping risk in excess of a 1:100 AEP for a Wet Winter. ANCOLD also recommends the installation of a spillway on 'no spill' designed facilities such as those at Pinjarra Refinery. This reduces the potential for an embankment failure through the release of excess stormwater in a controlled manner.

The proposed additional infrastructure is summarised in Table 2.

Table 2: New infrastructure

Infrastructure and equipment	Construction and installation requirements	Infrastructure location (see Figure 1)
A spillway on the RSA5 perimeter drain to discharge process water and runoff water from the collection pond (ROCP) following a Wet Winter where rainfall is in excess of a 1:100 AEP event.	To be constructed using impermeable materials e.g. concrete. Levels and sizing to be as per the drawings provided in Figure 2 and Figure 3.	To be located on the western embankment of the RSA's perimeter drain.



	PJ PLANT GRID		MGA50	
POINT #	EASTING	NORTHING	EASTING	NORTHING
SP01	-3212.761	1280.500	397758.306	6388974.122
SP02	-3197.407	1280.500	397773.656	6388974.268
SP03	-3197.407	1236.500	397774.075	6388930.282
SP04	-3212.761	1236.500	397758.725	6388930.136
SP05	-3225.721	1236.500	397745.769	6388930.012
SP06	-3225.714	1253.923	397745.610	6388947.430
SP07	-3223.034	1281.539	397748.026	6388975.063
SP08	-3223.101	1291.148	397747.868	6388984.668
SP09	-3209.595	1291.148	397761.370	6388984.796
SP10	-3209.763	1283.500	397761.275	6388977.149
SP11	-3211.796	1280.500	397759.271	6388974.131

Figure 1: Location of proposed spillway

Licence: L5271/1983/14

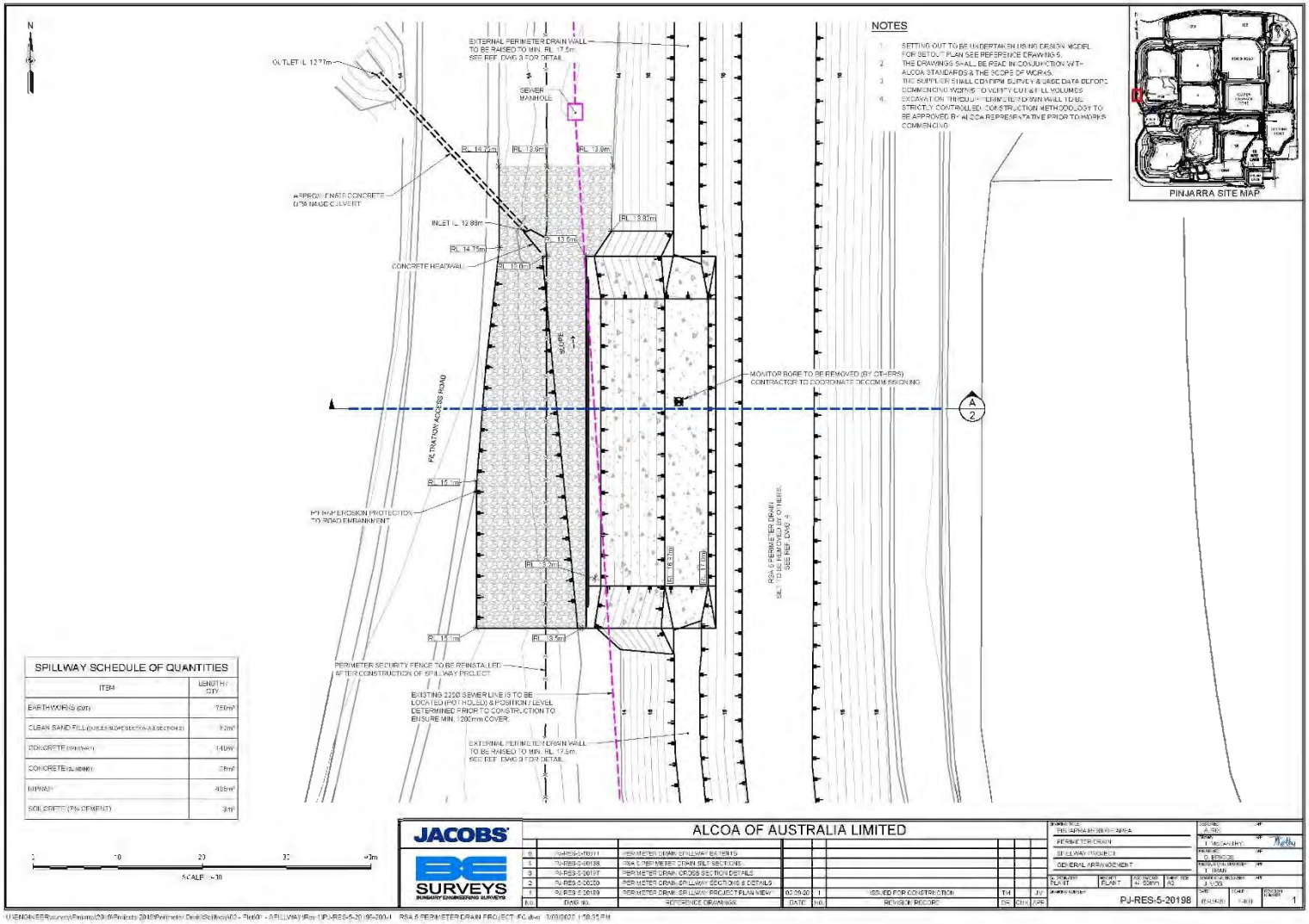


Figure 2: Engineering design drawings for the spillway – plan view

Licence: L5271/1983/14

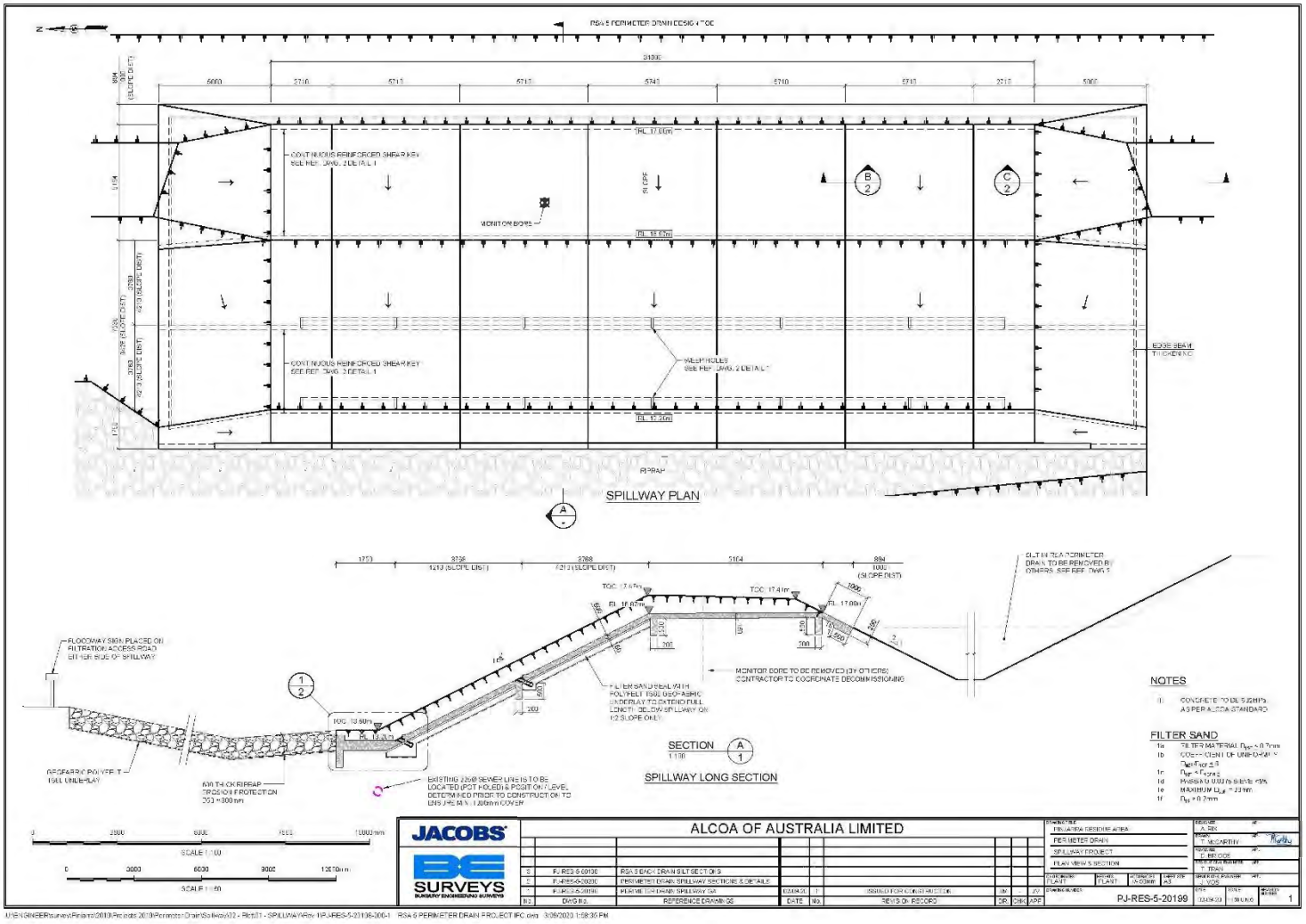


Figure 3: Engineering design drawings for the spillway – cross-section

2.5.2 Supporting information summary

Spillway design

The Licence Holder proposes to construct and operate (as a result of a Wet Winter) a spillway at Pinjarra's Refinery's RSA. Based on an assessment of the ANCOLD standards and hydraulic modelling, a spillway has been recommended on the residue perimeter drain adjacent to the south west corner of RSA5 as it is the lowest point in the Pinjarra Residue containment infrastructure.

The spillway has been designed to be activated in the event of a greater than 1:100 Annual Exceedance Probability (AEP) rainfall event. This prevents the overfilling of the RSA and enables the controlled release of water to avoid potential uncontrolled discharge due to embankment failure during an extreme rainfall event.

A Wet Winter has been determined to be rainfall in excess of 814mm at the Pinjarra Refinery between 1 May to 30 September in any calendar year. In the event of a Wet Winter occurring, the spillway will discharge sometime during September and continue (dependent on rainfall) throughout October. The water levels in the storage areas of the RSA would be expected to recede with minimal rainfall in November and then throughout summer. Should there be further rainfall during November, discharges could continue through to mid-December before the water levels in the RSA recede.

Discharge water would comprise of stormwater contaminated by alkaline process fluids, saline with elevated levels of aluminium (Al) and other elements. The discharge area would be to the west, onto Alcoa held farmland and then to the eastern side of Pinjarra, eventually entering a tributary of the Murray River. In the event of a Wet Winter there would be substantial dilution of the alkaline process water within the RSA prior to discharge.

The Licence Holder currently has in place a number of operational management processes for the RSA and storage areas in order to maintain storage levels and therefore, minimise spillway activation (See Section 3.1.2)

The spillway would be a concrete structure superimposed over the existing RSA perimeter drain clay liner (Figure 2 and 3).

The spillway design is likely to reduce risk to sensitive receptors by minimising the potential for embankment wall failure and potential major loss of containment event occurring as a result of extreme rainfall events.

Inundation due to the spillway discharge

The spillway will overtop and discharge process water following periods of extreme rainfall (wet winter). The Licence Holder has provided modelling results, see Figure 4, to demonstrate that during periods of spillway discharge, the surrounding land will be in flood, and contends that this flood water will further dilute the discharged process water. Modelling also demonstrates that the spillway discharge has a minimal impact on the extent of the pre-discharge flood pattern, and that its direct influence will be contained within the premise boundary, covering an area of farmland and remnant native vegetation, see Figure 5.

The modelled discharge, although now mixed with pre-existing floodwaters, does have the potential to pass through an area of residential and stable premises on the edge of Pinjarra, before reaching a tributary of the Murray River. From the modelling provided by the Licence Holder, the Delegated Officer has determined that the spillway discharge will not significantly alter any existing flood risk to the residential and stable premises.

2.6 Licence amendment notice consolidation process

This amendment also includes a DWER intiated amendment to consolidate previously issued amendments to the Existing Licence. A draft licence and amendment report was issued to the Licence Holder on 11 May 2020 with comments received on 26 May 2020 which can be found in Appendix 1. As the DWER initiated amendment was not finalised the Licence Holder's comments have been considered and included in this amendment.

In consolidating the Licence, the Delegated Officer has:

- updated the format and appearance of the Licence;
- removed Attachment 3: Annual Audit and Compliance Report;
- revised licence condition numbers, and removed any redundant conditions and realigned condition numbers for numerical consistency; and
- corrected clerical mistakes and unintentional errors.

The Department has not undertaken any additional risk assessment of emissions and discharges from the Premises during this amendment process, excepting those associated with the Licence Holder initiated licence amendment detailed in Section 2.5.

Previously issued amendment notices will remain on the Department's website for future reference and will act as a record of the Department's decision making.

2.6.1 Amendment history

Table 3 provides an overview of the amendments relating to licence L5271/1983/14. The original licence was issued on 13 June 2014 and an extension to the licence to 16 June 2025 was undertaken as an Amendment by Notice and issued on 29 April 2016.

Table 3: Summary of amendments

Amendment Notice or Amendment Report No:	Issued	Description
2	28/07/2016	Amendment to waste management conditions S1(a) and S1(b). • S1(a) lists additional premises for purposes of receiving specified waste and disposing in specified locations. • S1(b) has been updated to include the most recent version for waste oil procedure.
3	28/07/2017	Licence Holder initiated amendment to construct and operate a residue filtration facility. • The addition of definitions and conditions (R1 – R7) relating to the construction of the residue filtration facility have been added to the licence including Schedules 1, 2, 3 and 4.
4	28/08/2018	Licence Holder initiated amendment to remove references to an emergency containment pond and associated spillway that formed part of the proposed secondary containment infrastructure for the residue filtration facility (Amendment Notice 3). • definitions relating to the emergency containment pond have been deleted; • requirements for the emergency containment pond in the Works Infrastructure Requirements Table have been deleted; • requirements for the filtration facility relating to the emergency containment pond in the Operation of Infrastructure Requirements Table has been deleted;

Amendment Notice or Amendment Report No:	Issued	Description
		• Schedule 1 has been amended to remove reference to emergency containment pond; and • Schedule 4 has been deleted.
Consolidated licence that is the subject of this report	06/01/2021	DWER initiated amendment to amalgamate separately issued licence amendment notices in the licence. Updated terms in the licence, such as Licence Holder and CEO. Also updated Annual Audit Compliance Report condition, as the Department is offering the template for the report on their website and therefore no longer attached to the licence. A new condition (R1) is added to include new infrastructure that was constructed and completed under issued works approvals.
		Licence Holder initiated amendment to install a spillway on the residue perimeter drain

3. Risk assessment

The Department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guidance Statement: Risk Assessments* (DER 2017).

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during the construction and operation of the spillway, which have been considered in this Amendment Report are detailed in Table 2. Table 2 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

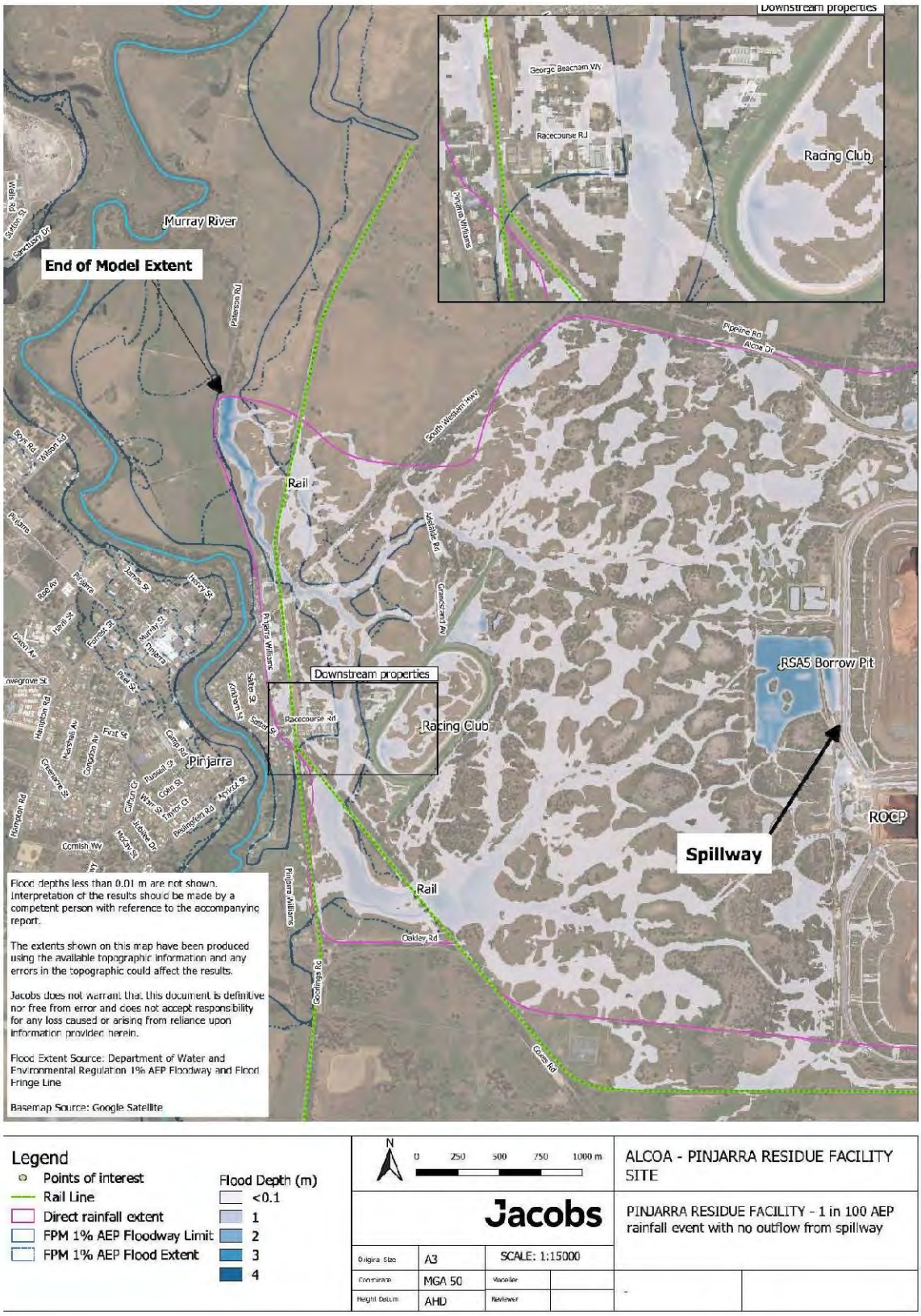


Figure 4: 1:100 AEP wet winter, with no spillway discharge

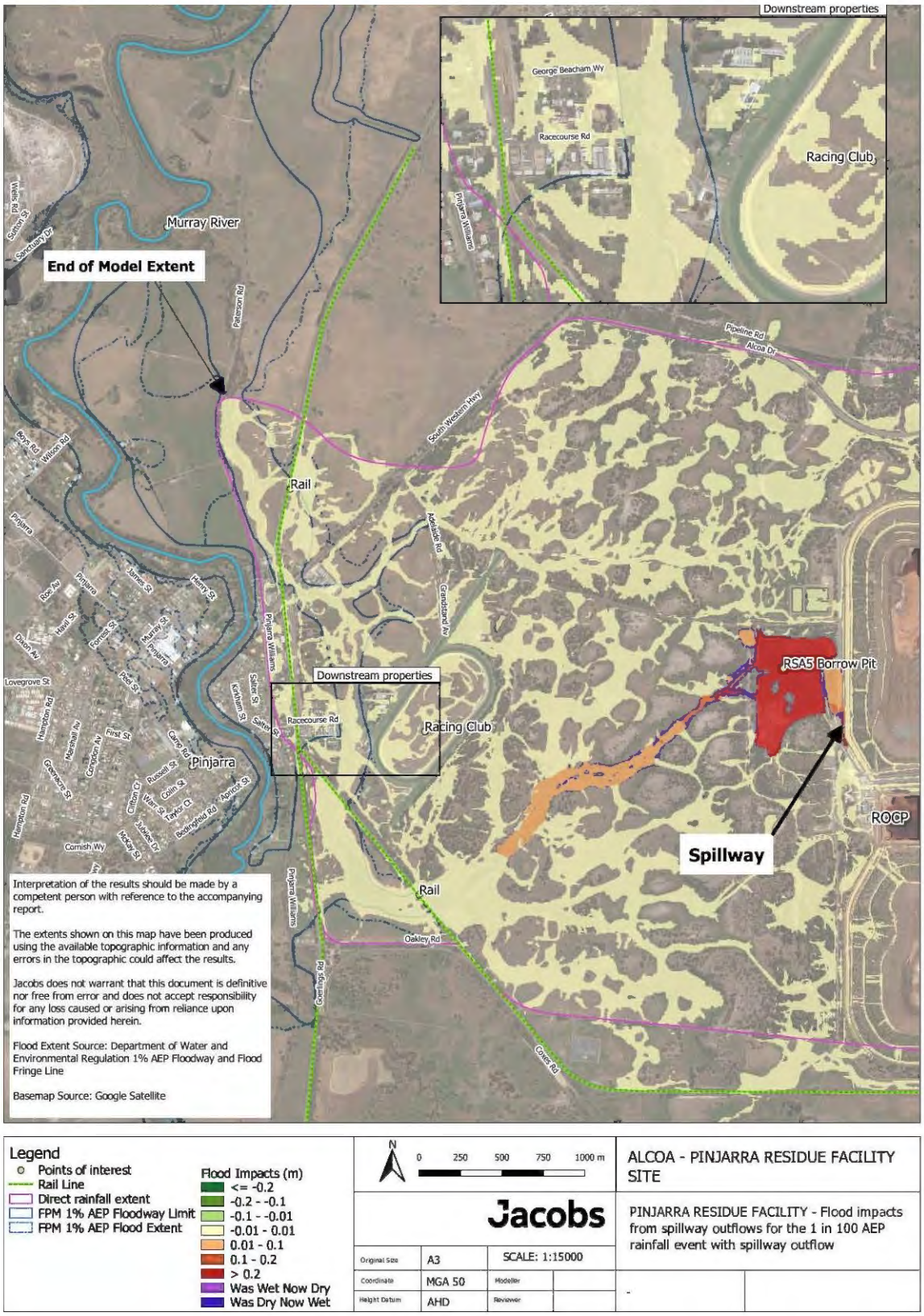


Figure 5: 1:100 AEP wet winter extent, direct impact of spillway discharge

Table 2: Licence Holder controls during construction

Emission	Sources	Potential pathways	Proposed controls
Dust	Earthworks and vehicle movements	None, as nearest sensitive are over 2.5km from the premises	Implementation of a Dust Management Plan if required
Noise	Earthworks and vehicle movements	None, as nearest sensitive are over 2.5km from the premises	Noise management plan if required during construction. Construction activities are proposed for daytime only (7am to 7pm) Monday to Saturday
Spillway discharge	Process contaminated stormwater	Overland flow paths, and seepage through soil.	See Section 3.1.2

The Delegated Officer considers that the potential risks associated with the construction of the spillway are consistent with those from operational activities and will be sufficiently managed through the regulatory controls in the licence. Therefore, regulatory controls associated with dust, noise and spillway discharge during construction have not been included in the Revised Licence.

3.1.2 RSA water management controls

Visual freeboard monitoring

The freeboard levels in the residue storage areas (RSA), water storage ponds and the perimeter drains are monitored by Alcoa personnel (residue operators) as part of their daily checking process. The levels are compared to the target levels that exist as part of the daily residue process management system. The residue operators are required to notify their supervisor if observed levels are close to or exceed nominated targets.

Process control freeboard monitoring

The residue run off pond (ROP) and western perimeter drain (proposed location of the spillway) are hydraulically connected, and level instrumentation exists in the ROP. This level instrument is connected to the refinery process monitoring and control system, which can be monitored in RSA control rooms. This instrumentation will allow automatic monitoring of the level within the perimeter drain and will alert operators if the level nears the spillway activation point.

Refinery water level and storm management

Attenuation surveys, which measure the amount of freeboard in each RSA and the surge capacity of each water storage pond, are undertaken every six months. Attenuation surveys of the perimeter drains are also undertaken. The survey results are used to balance water levels within the RSA.

Long term management plans are developed on a regular basis that ensure seasonal surge volumes are adequately managed. These plans take into consideration a range of rainfall

scenarios and alkali and fresh-water inventories.

The refinery has an Emergency Response Plan that outlines actions and escalation procedures that must be taken if water levels within the RSA reach or exceed nominated trigger levels. The plan is designed to reduce the likelihood of any events that may result in impacts to people's safety or environmental harm.

Equipment/Storage Management

All liquor transfer pumps at the ROP are listed as critical equipment and preventative maintenance is carried out accordingly to ensure residual life. The preventative maintenance program is undertaken to maintain a high level of pump availability and maximize the transfer of liquor from the ROP (and perimeter drain) to other storage ponds and the refinery system. Dredging of the ROP and perimeter drains is carried out regularly to ensure adequate storage capacity.

3.1.3 Receptors

In accordance with the *Guidance Statement: Risk Assessment* (DER 2017), the Delegated Officer has excluded employees, visitors and contractors of the Licence Holder's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 3 below provides a summary of potential human and environmental receptors that may be impacted as a result of spillway discharges from the prescribed premises *(Guidance Statement: Environmental Siting* (DER 2016).

Table 3: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	**Distance from prescribed activity**
Closest residential receptor	2.7km to the west of the proposed spillway location
Environmental receptors	**Distance from prescribed activity**
Native vegetation	Within Premises boundary
Murray River	3.0km to the west of the proposed spillway location
Groundwater	The depth to groundwater in the upper superficial aquifer ranges from between 10 to 14mAHD close to the RSA, and 5 to 6mAHD closer to the Murray River.

Figure 6: Distance to sensitive receptors

Licence: L5271/1983/14

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guidance Statement: Risk Assessments* (DER 2017) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment, e.g. where there is no pathway.

Where the Licence Holder has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the Licence Holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the Licence Holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 4.

The Revised Licence L5271/1983/14 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises i.e. discharges of process water from the spillway.

The conditions in the Revised Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 4. Risk assessment of potential emissions and discharges from the Premises operation

Risk Event					Risk rating[1] C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Licence Holder's controls**				
Operation								
Activation of RSA5 spillway	Alkaline process water, containing elevated levels of aluminium and other elements	Overland runoff potentially causing flooding, ecosystem disturbance, and impacts to surface water.	Residences 2.7km to the west of the proposed spillway location	Refer to Section 3.1.1	C = Moderate L = Rare **Medium Risk**	N	**Condition WKS1, WKS2, WKS3, G3, W5 and W6**	There is a risk of the RSA overtopping during a wet winter which could impact the integrity of the embankment wall potentially causing uncontrolled release of alkaline process water to the surrounding environment. The spillway is only to be activated when rainfall exceeds the defined Wet Winter event. Activation of the spillway will allow for controlled release of alkaline process water which will be diluted by a large volume of rainwater before entering the Murray River. .
			Native vegetation, and Murray River	Refer to Section 3.1.1	C = Moderate L = Rare **Medium Risk**	N	**Condition WKS1, WKS2, WKS3, G3, W5 and W6**	
		Infiltration through the soil profile potentially impacting groundwater quality	Groundwater	Refer to Section 3.1.1	C = Moderate L = Rare **Medium Risk**	N	**Condition WKS1, WKS2, WKS3, G3, W5 and W6**	

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guidance Statement: Risk Assessments* (DER 2017).

Note 2: Proposed Licence Holder's controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

4. Consultation

Table 5 provides a summary of the consultation undertaken by the department.

Table 5: Consultation

Consultation method	Comments received	Department response
Shire of Murray advised of proposal (1 October 2020)	No comments received.	N/A
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal (1 October 2020)	DMIRS replied on 5 November 2020 advising how the proposal aligns with the DMIRS Tailings Storage Facility (TSF) Code of Practice and Guidelines.	Noted.
Department of Jobs, Tourism, Science and Innovation (DJTSI) advised of proposal (1 October 2020)	No comments received	N/A

5. Decision

The Delegated Officer has assessed the proposed construction and operation of a spillway in accordance with the departments Guidance Statement: Risk Assessment and determined to amend licence L5271/1983/14.

The Licence Holder proposes to construct a spillway on the perimeter drain adjacent to RSA5 for controlled discharge of process water from the ROCP in the event of a Wet Winter (in excess of 814 mm of rainfall between 1 May and 30 September in a calendar year). The use of a spillway to manage water discharge from 'no spill' designed dam facilities as a result of extreme weather events is consistent with ANCOLD and ICOLD guidelines. These guidelines are considered best practice management for all dams. The controlled discharge of alkaline process water reduces the risk of embankment wall failure and a major uncontrolled loss of containment. The spillway is only to be activated in the event of 814mm or greater rainfall between 1 May and 30 September, and not after 15 December in each calendar based on water balance modelling provided by the Licence Holder.

Impacts from a spillway discharge have been assessed with reference to ANCOLD guidelines and the departments risk-based Regulatory Framework.

The Delegated Officer has amended licence L5271/1983/14 in accordance with section 59(1) of the EP Act. The amendments to the licence are described in Section 7.1.

6. Licence Holder's comments

The Licence Holder was provided with a draft Amendment Report and draft Amended Licence on 26 November 2020 which included assessment and conditions relating to the proposed spillway. The Licence Holder provided comments on 7 December 2020 and 15 December 2020 which are also summarised, along with DWER's response, in Appendix 1.

7. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined

that a Revised Licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

7.1 Summary of amendments

Table 6 provides a summary of the proposed amendments as a result of the inclusion of the spillway and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

Table 6: Summary of licence amendments

Condition no.	Proposed amendments
WKS1 to WKS3	To authorise the construction of the spillway
G3	To require the commencement and cessation of spillway discharges to be reported to the CEO
W5	To authorise a discharge to the environment from the RSA5 spillway
W6	To ensure that spillway discharges only occurs during wet winter event and the period of discharge does not extend beyond 15 December in each calendar year.

References

1. Amendment Notice 2 (28 July 2016): Licence L5271/1983/14 – Pinjarra Refinery, DWER Ref. A1803658
2. Amendment Notice 3 (28 July 2017): Licence L5271/1983/14 – Pinjarra Refinery, DWER Ref. A1803659
3. Amendment Notice 4 (28 August 2018):Licence L5271/1983/14 – Pinjarra Refinery, DWER Ref. A1803662
4. Department of Environment Regulation (DER) 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
5. DER 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
6. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
7. DER 2015, *Guidance Statement: Regulatory Principles.* Department of Environment Regulation, Perth, Western Australia
8. Department of Environment Regulation (DWER) 2019, *Guidance Statement: Decision Making*, Perth, Western Australia.
9. Licence: L5271/1983/14 – Pinjarra Refinery, DWER Ref. A1803663
10. Talis 2020, Spillways Project – Pinjarra, Hydrological and Ecological Review, Prepared for Alcoa of Australia, Project Number: TE18077
11. Alcoa – Pinjarra Alumina Refinery Spillway Installation Project: Licence Amendment Applciation for L5271/1983/14 – Attachments 2, 3A, 3B and 7 (April 2020)
12. Alcoa response to DWER Request for Further Information dated 6 July 2020 DWERDT334333

Appendix 1: Summary of Licence Holder's comments on draft amendment report and licence

Condition	Summary of Licence Holder's comment	Department's response
Consolidation of Amendment Notices		
Instrument log table	It is noted several amendments have been made to W4661/2010/1.	Works approvals removed from licence instrument log.
G4 – Annual Audit Compliance Report (AACR)	Request to align the submission date of the AACR with the Annual Environmental Report (AER).	Condition amended to include new submission date of 31 March in each year.
Table 5: Surface and Groundwater Monitoring Program	Five additional monitoring bores (not previously included in the licence) have been included in Table 5, however these were decommissioned in 2013. Request the removal of the decommissioned bores	The relevant groundwater monitoring bores have been removed from Table 5.
S1(a) – Waste acceptance	Reference to the 'Alcoa Discovery Centre' is to be removed as the Licence Holder no longer operates it.	Reference has been removed from the condition.
S1(b)(i) – Waste acceptance	Request to remove reference to 'Version 4, Last updated 22/07/2014'from document stated in condition. The document 'Alcoa Controlled Document No. AUACDS-2048-1498 *Use of Waste Oil As A Dust Suppressant On Roads Within The Residue Storage Area* (PIN), Version 4, Last updated 22/07/2014' undergoes regular reviews and updates in which version numbers and dates change.	Reference to document has been removed from condition S1(b)(i) and replaced with *'waste oil must only be applied to limestone, sand or gravel roads within the confines of the Residue Storage Area'.*
Schedule 2: Calciner exemption events	Word 'exemption incorrectly spelt.	Noted and corrected.
Installation and operation of a spillway		
Definition for 'Wet winter'	Data from the Alcoa Pinjarra Meteorological Station, located at Oakley South, was utilised to determine the wet winter rainfall. It is therefore requested the reference in the Wet winter definition be changes from Bureau of Meteorology Pinjarra meteorological weather station to Pinjarra Refinery Station.	The definition has been amended to refer to the Alcoa Pinjarra Meteorological Station to align with the weather station which was used for the assessment.

Condition	Summary of Licence Holder's comment	Department's response
Table 1: Infrastructure location	Reference to Schedule 1: Figure 2 is incorrect and should reference Figures 3 and 4.	Noted and corrected.
Conditions WKS2(i), WKS(3), WKS(3)(i), WKS(3)(ii)	Reference to conditions are incorrect.	Noted and corrected.
Conditions W4(a) – W4(d)	Request to remove conditions relating to Liquid Chemical Storage as the Licence Holder holds a current Dangerous Goods licence and has the appropriate controls in place to manage dangerous goods.	DWER advised the Licence Holder on 9 December 2020 that further information is required to demonstrate safe storage of dangerous goods to determine whether the removal of the conditions is justified. The Licence Holder advised on 15 December 2020 that they intend to retain the conditions and revert to Australian Standards (AS1940:2004) reference as stated in the existing licence. The Licence Holder will consider the potential removal of these conditions when seeking future licence amendments. Noted and conditions retained.
Condition W6 – Table 6 Infrastructure location	Reference to infrastructure location is incorrect.	Noted and corrected.
Conditions W6 and S1(a)	Both conditions refer to Table 6.	Noted and corrected.
Schedule 1 – Table 9 Premises infrastructure location	Request the references to RDA be changed to RSA.	Noted and corrected.

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)					
Application type					
Works approval	☐				
Licence	☐	Relevant works approval number:		None	☐
		Has the works approval been complied with?		Yes ☐ No ☐	
		Has time limited operations under the works approval demonstrated acceptable operations?		Yes ☐ No ☐ N/A ☐	
		Environmental Compliance Report / Critical Containment Infrastructure Report submitted?		Yes ☐ No ☐	
		Date Report received:			
Renewal	☐	Current licence number:			
Amendment to works approval	☐	Current works approval number:			
Amendment to licence	☒	Current licence number:	L5271/1983/14		
		Relevant works approval number:		N/A	☒
Registration	☐	Current works approval number:		None	☐
Date application received		1 May 2020			
Applicant and Premises details					
Applicant name/s (full legal name/s)		Alcoa of Australia Limited			
Premises name		Pinjarra Alumina Refinery			
Premises location		Pinjarra			
Local Government Authority		Shire of Murry			
Application documents					
HPCM file reference number:		FA250648			
Key application documents (additional to application form):		*Application form* *Supporting Document* *Response to request for further information*			

Scope of application/assessment	
Summary of proposed activities or changes to existing operations.	*Licence amendment* Operation of a spillway, resulting in a surface water discharge point

Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Assessed production or design capacity	Proposed changes to the production or design capacity
Category 46	No change	No Change

Legislative context and other approvals		
Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes ☐ No ☒	Referral decision No: Managed under Part V ☐ Assessed under Part IV ☐
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes ☒ No ☐	Ministerial statement No: 646 EPA Report No:
Has the proposal been referred and/or assessed under the EPBC Act?	Yes ☐ No ☒	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes ☒ No ☐	Certificate of title ☐ General lease ☐ Expiry: Mining lease / tenement ☐ Expiry: Other evidence ☒ Expiry:
Has the applicant obtained all relevant planning approvals?	Yes ☐ No ☐ N/A ☒	Approval: Expiry date: If N/A explain why?
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes ☐ No ☒	CPS No: N/A
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes ☐ No ☒	Application reference No: N/A Licence/permit No: N/A
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes ☐ No ☒	Application reference No: Licence/permit No: Licence / permit not required.

Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes ☐ No ☐	Name: Type: Has Regulatory Services (Water) been consulted? Yes ☐ No ☐ N/A ☒ Regional office:
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes ☐ No ☒	Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes ☐ No ☐ N/A ☐
Is the Premises subject to any other Acts or subsidiary regulations (e.g. *Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Acts*)	Yes ☒ No ☐	State Agreement Acts
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes ☒ No ☐	Peel Inlet-Harvey Estuary
Is the Premises subject to any EPP requirements?	Yes ☐ No ☒	
Is the Premises a known or suspected contaminated site under the *Contaminated Sites Act 2003*?	Yes ☒ No ☐	Classification: possibly contaminated – investigation required (PC–IR) Date of classification: 17/08/2012