



## Application for Licence Amendment

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

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<b>Licence Number</b>	L6637/1995/15
<b>Licence Holder</b>	Electrical Generation and Retail Corporation
<b>ACN</b>	58 673 830 106
<b>File Number</b>	DER2015/000109
<b>Premises</b>	Collie 'A' Power Station Boys Home Road PALMER WA 6225  Legal description – Being Part of Lot 3001 on Plan 51101  As defined by the coordinates in Schedule 1 of the Revised Licence
<b>Date of Report</b>	2/12/2021
<b>Proposed Decision</b>	Intent to grant revised licence

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## 1. Decision summary

The Delegated Officer has determined to make amendments to Licence L6637/1995/15. The amendments are administrative in nature therefore they do not alter the risk profile of the Premises, providing that activities, emissions and receptors as stated in existing approvals remain unchanged.

This Amendment Report documents the amendments made pursuant to section 59 and 59(B) of the *Environmental Protection Act 1986* (EP Act).

## 2. Scope of assessment

### 2.1 Regulatory framework

In amending the licence, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

### 2.2 Application summary

Licence L6637/1995/15 is held by the Electricity Generation and Retail Corporation T/A Synergy (Licence Holder) for the Collie 'A' Power Station (the Premises), located at Boys Home Road, Palmer.

The Premises relates to the categories and the assessed production/design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in existing Licence L6637/1995/1.

On 12 October 2021, the Licence Holder submitted an application to the department to amend Licence L6637/1995/15 under section 59B of the *Environmental Protection Act 1986* (EP Act). The amendment is limited only to:

1. To allow disposal of up to 40,000 tonnes per annum of fly ash and bottom ash waste from the Muja Power Station into Cell 2C of the Collie A' power Station Ash Storage Dam, if required;
2. To remove the requirement to annually audit the Collie Power Station Ash Dam Environmental Management Plan (GHD, 2017) (the EMP) as this is taken directly from the Collie Power Station Fly Ash Dam and Run-off Dam Operation and Maintenance Manual (GHD, 2021) (the Operation and Maintenance Manual) with the exceptions of Sections 2.2.3, 2.2.4, 5 and 6. which is audited annually as part of Condition 5.1.7.

They are discussed in further detail below.

#### 1. Deposition of Ash from Muja Power Station into Cell 2

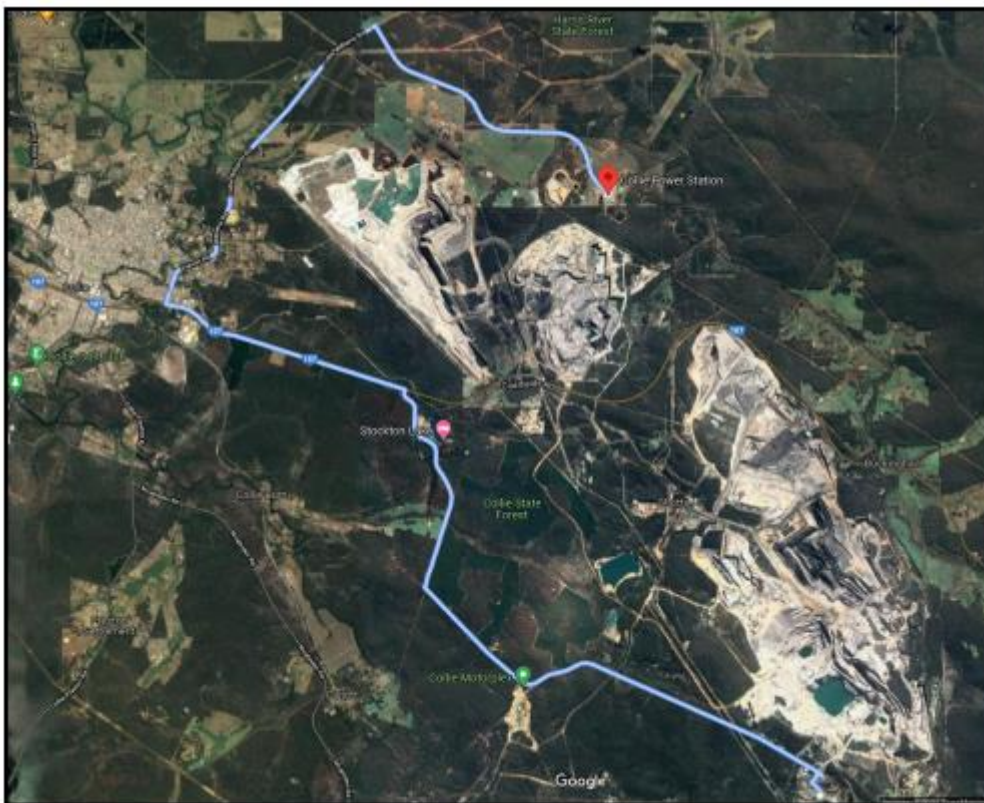
Muja Power Station is a coal-fired thermal power station which operates under EP Act Licence L4706/1972/17 and is located approximately 7km south of the Collie 'A' Power Station. Fly ash and bottom ash is generated at the premises and is usually disposed of within the on-site fly ash dam. A recent geotechnical investigation into embankment stability of the Muja Power Station Fly Ash Dam (FAD) identified that the recently constructed embankment raise for Cell 1B to RL 261m AHD would not meet the minimum required Factor of Safety under post seismic and post static liquefaction loading conditions when the cell reached it's final fill level of RL 260.5 m AHD. The study identified that at the current level of fill the external embankments were not at risk of failure and that limited deposition could be made safe in the short term long enough to allow remedial works (Stage 1) to the embankments to occur. However in order to meet the minimum required Factor of Safety under post seismic and post static liquefaction loading conditions when the cell reached it's final fill level of 260.6m AHD, additional further works will be required (Stage 2).

Through this amendment Synergy requests approval to allow the short deposition of ash from Muja

Power Station into the Collie 'A' Power Station FAD in case the Muja Power Station remedial works program for Stage 2 as detailed above, is subject to unforeseen delays. The transport and deposition of ash between the two premises may not be required if the works program is implemented as proposed. This amendment provides a contingency option should there be additional unexpected delays to the implementation of Stage 2 works.

No change to the deposition throughput is sought by the Licence Holder for the Collie 'A' Power Station and any ash that is received from Muja Power Station will be entirely accommodated within the currently approved annual maximum deposition volume of 120,000 tonnes per annual period. It should be noted that the fly ash deposition volume at Collie 'A' Power Station for the 2020-2021 annual reporting period was under 45,000 tonnes. The anticipated deposition volumes for the Collie 'A' Power Station FAD are 60,000 tonnes per annum from Collie 'A' Power Station; 20,000 tonnes per annum from Bluewaters Power Station and 40,000 tonnes per annum from Muja Power Station.

The anticipated transport route between Muja Power Station and Collie 'A' Power Station is highlighted in Figure 1 below.



**Figure 1: Proposed Ash Transport Route from Muja Power Station to Collie 'A' Power Station**

## **2. Annual review of the Collie Power Station Ash Dam Environmental Management Plan**

Currently the EMP is required to be updated and reviewed annually in accordance with Condition 4.2.1 of Licence L6637/1995/15. The Licence Holder has requested an amendment to this condition as the EMP is substantially audited annually under the requirement to annually audit the Operation and Maintenance Manual under Licence condition 5.1.7. Sections 2.2.3, 2.2.4, 5 and 6 of the EMP are not included within the Operation and Maintenance Manual and contain monitoring, risk assessment, specify trigger levels and management actions required to be undertaken in the event of an incident or trigger level exceedance. These requirements are covered by a combination of other Licence conditions, the results of which are subject to annual review through assessment of the Annual Environmental Report and Annual Audit Compliance Report for the premises; notification

requirements under the general provisions of the EP Act and the recommendations provided in the Guidelines on Tailings Dams – Planning, Design, Construction, Operation and Closure – Revision 1 (ANCOLD, 2019).

### 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 *Guideline: Risk Assessments* (DWER 2020).

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 premises operation which have been considered in this decision report are detailed in Table 1 below. Table 1 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

**Table 1: Proposed applicant controls**

Emission	Sources	Potential pathways	Proposed controls
<b>Operation</b>			
Dust from flyash: containing SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , CaO and metal particulates	Transportation, deposition and spreading of flyash and bottom ash	Air: Transport and dispersion of particulates	<p><u>Option 1: Dry ash</u></p> <p>Ash transported using existing sealed tankers and trucks that are currently used when dry ash is transported off site for use in concrete manufacturing</p> <p>Existing fly ash truck loading facility to be used and is fitted with a dedicated dust extraction system located on sealed ground</p> <p>Dry ash deposition will be combined with ash generated on site at the existing ash conveyor.</p> <p>The coupling between the tanker and the onsite ash conveyor system will be sealed to ensure dust emissions are contained during transfer.</p> <p>Ash will be slurried and discharged via the existing spigot distribution system.</p> <p>Ash can also be deposited directly at the FAD using a hydro-vac station where ash will not be exposed to the atmosphere but will be fed into the slurry unit and discharged directly into the FAD in accordance with the FAD Operating manual (at no less than 15% v/w).</p> <p><u>Option 2: Wet ash</u></p> <p>Pumped directly into tankers for transport in slurry form</p>

Emission	Sources	Potential pathways	Proposed controls
			<p>Transportation of ash in a slurry</p> <p>Deposition directly to FAD surface using the existing purpose-built access ramp. Additional access ramps may be constructed if required.</p> <p>Ash to be deposited in accordance with the FAD Operating manual (at no less than 20% v/w).</p> <p>Surface ash profiling will be undertaken as necessary using earth moving equipment</p>

### 3.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020), the Delegated Officer has excluded the applicant's employees, visitors, and contractors from its assessment. Protection of these parties often involves different exposure risks and prevention strategies and is provided for under other state legislation. It should be noted that sensitive receptors along the route of transportation are not considered within this assessment as they are covered by the *Road Traffic Act (WA) 1974*.

Table 2 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental Siting* (DWER 2020)).

**Table 2: Sensitive human and environmental receptors and distance from prescribed activity**

Human receptors	Distance from prescribed activity
Rural residences	Approximately 4.6 km northwest; .3.5 km northeast; .4.0 km northeast and .6.6 km southeast
Semi-Rural residential area	Approximately 5.2 km west
Collie Hills Village Accommodation	Approximately 5.2 km west
Environmental receptors	Distance from prescribed activity
Rivers	<p>The Collie River East Branch runs north and east of the premises boundary. The river is approximately 100 m north of the premises boundary and 1.1 km northeast of the FAD.</p> <p>The Bingham River intersects the Collie River East and is the closest major river to the premises. At its closest, the Bingham River is approximately 500 m northeast of the premises boundary and 2.2 km northeast of the FAD.</p>
Other	A wetland lies 100 m west of FAD Cell 2A and 2B. The wetland is not considered as a specified ecosystem; however, it is likely to have value to local wildlife.

## 3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source 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.

Where the applicant 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 applicant'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 applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

Licence L6637/1995/15 that accompanies this decision report authorises emissions associated with the operation of the premises

The conditions in the issued licence, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).



**Table 3: Risk assessment of potential emissions and discharges from the premises during operation**

Risk events					Risk rating <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of licence	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
<b>Operation</b>								
Mixing, slurry deposition and spreading of flyash and bottom ash	<b>Dust</b> from flyash: containing SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , CaO and metal particulates	Air / windborne pathway causing impacts to health and amenity	Single rural dwelling, closest being 3.5km northeast of FAD  Soil, native vegetation and wetland approximately 100m from the FAD  The Collie River East approximately 100 m north of premises	Refer to Section 3.1.1	C = Moderate L = Unlikely <b>Medium Risk</b>	Y	<i>Condition 1.3.7 updated</i>	Ash from Muja Power Station is required to be included in the Waste acceptance Condition 1.3.7 and Table 1.3.7  Existing conditions
Change to reporting conditions requiring an annual review of the Environmental Management Plan (EMP)	No change to emissions and discharges,, potential pathways or impacts on receptors					Y	Alteration to Condition 4.2.1 to remove the requirement to undertaken an annual audit of the EMP	The majority of the EMP is subject to annual review under existing Condition 5.1.7.

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk Assessments* (DWER 2020)..



## 4. Decision

### Deposition of Ash from Muja Power Station into Cell 2

The Delegated Officer considers that the interim deposition of ash from Muja Power Station into the Collie 'A' Power Station to be acceptable. There will be no change to emissions and discharges associated with an annual ash deposition volume throughput of 120,000 tonnes per annum was assessed under Amendment Notice 2 on the 26 October 2017. In addition, since this a date the site has also been subject to a High Impact Function (HIF) Tailings Dam Audit and a Geotechnical stability audit in accordance with the ANCOLD Guidelines 2019 and Guidelines on Tailings Dams – Planning, Design, Construction, Operation and Closure (department of Mines and Petroleum (2013)). These results further indicate the FAD is suitable for the long-term acceptance of the approved amount of ash into the deposition into the FAD, regardless of its origin.

The Delegated Officer has determined the Licence Holders proposed controls to manage dust emissions from the transport, mixing, slurry and deposition of ash into the FAD to be sufficient as the system is closed prior to the addition of water and therefore will not cause impacts to off-site sensitive receptors.

### Annual review of the Collie Power Station Ash Dam Environmental Management Plan

The Delegated Officer considers the requirement to review the annual review of the EMP to be unnecessary as the change is a duplication of the annual review of the Operation and Maintenance Manual and/or captured by other means, such as review of the AACR and AER and the general provisions of the EP Act such as the notification requirements under Section 272 of the EP Act. The existing provisions are considered sufficient to manage changes required as a result of incidents or trigger value exceedences.

## 5. Consultation

The Licence Holder was provided with the draft Amendment Report on 23 November 2021. Comments received from the Licence Holder on 30 November 2021 have been considered by the Delegated Officer and include a request to remove reference to Cell 2C so that Cell 2A and Cell 2B may be used if desired. Two other minor request to alter text within this Amendment Report were made and related to the specification of the contingency timeframe of six months and the conveyance of wet slurry for transportation (Table 1) was requested.

## 6. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that an amended licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

### 6.1 Summary of amendments

Table 4 below provides a summary of the proposed amendments and will act as a record of implemented changes. All proposed changes have been incorporated into the Revised licence as part of the amendment process.

**Table 4: Summary of Licence amendments**

<b>Condition no.</b>	<b>Proposed amendments</b>
1.3.7	<i>Addition of waste, quantity limit and process requirement to allow for up to 40,000 tonnes per annum of ash from Muja Power Station to be disposed of within the Collie Power Station Fly Ash Dam</i>
4.2.1	<i>Removal of the requirement for the Annual Environment Report to include an internal compliance audit of the Collie Power Station Ash Dam Environmental Management Plan</i>