



Amendment Report

Application for a licence amendment

Division 3, Part V *Environmental Protection Act 1986*

Licence number	L9275/2020/1
Licence holder	Eagle Bay Brewing Co Pty Ltd
ACN	124 209 794
File number	DER2020/000613
Premises	Eagle Bay Brewing Co 236 Eagle Bay Road NATURALISTE WA 6281
Date of report	26 November 2024
Decision	Amendment granted

1. Decision Summary

The Delegated Officer has determined to grant the amendment to include and operate the Wastewater treatment plant (WWTP) under Licence L9275/2020/1.

Of 10 requested amendments, 9 have been granted or partially granted. The Delegated Officer has determined not to grant the amendment allowing the licence holder to irrigate wastewater during winter. Department initiated amendments have been imposed.

All decisions are detailed in Chapter 5 of this report.

2. Purpose and scope of assessment

Eagle Bay Brewing Co Pty Ltd (licence holder) is seeking changes to its existing licence (L9275/2020/1), following the completion of a works approval (W6491/2021/1) for the construction of the brewery WWTP.

This amendment is made pursuant to section 59 of the *Environmental Protection Act 1986* (EP Act) to amend the existing licence issued under the EP Act for a prescribed premises as set out below. This notice of amendment is hereby given under section 59B(9) of the EP Act.

In completing the assessment documented in this report, 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>.

2.1 Background

The licence holder operates a brew house operation on their property situated approximately 4km Northwest of Dunsborough. Since opening in 2010, the production capacity of the premises has increased, with the brewery now significantly exceeding the prescribed threshold for category 25, which is 350 kL or more of alcoholic beverage produced per year.

Initial construction of the premises, and subsequent increases in capacity, were not authorised through works approvals under the EP Act. In December 2020, a works approval was applied for and granted (W6491/2021/1) to construct a new WWTP on site to deal with the increase waste from increased production. This WWTP entered the Time limited operations (TLO) phase and the WWTP operations now need to be reviewed so it can be added to the existing licence. The works approval was completed compliantly, with minor changes to infrastructure occurring and submitted with this amendment.

The WWTP function is to treat the wastewater from brewing effectively so that it can be disposed of on site by irrigating a crop. The excess nutrients in this water are then absorbed via the crop, which can then be harvested and removed off site. The water quality testing results since the WWTP has been in operation have not been consistent, with results regularly exceeding the required nutrient limits set out in the licence. A revised Nutrient Irrigation Management Plan (NIMP) is required to ensure effective management of the wastewater and that it is suitable for irrigation.

2.2 Proposed amendments

On 28 April 2024, the licence holder applied to amend Licence L9275/2020/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The amendments sought are summarised below.

1. The WWTP constructed under Works Approval W6491/2021/1 to be added to the licence
2. The dripper line, leach drains and 20kL poly tank be removed from the WWTP

infrastructure, as they are not a part of the system. The dripper line has not been installed but can be added on if required. The leach drains have been decommissioned and the 20kL poly tank was bypassed when the new WWTP system was installed as wastewater is now pumped directly from the sump to tank 1 of the WWTP.

3. The fermentation and bright tank vessels configuration to be updated. The tanks have been rearranged and repurposed to create the new configuration outlined in the licence.
4. The removal of completed conditions 2,3,4 and 5 regarding the completion of the upgraded WWTP.
5. The removal of completed conditions 6,7 and 8 regarding the installation of monitoring wells.
6. The removal of requirement for irrigation to cease between 1 June and 31 July as the licence holder believes their soil profile to be sandy and no risk for any contamination to occur via run off.
7. The removal of requirement to test for arsenic in ground water. The licence holder states there is no arsenic in the brewing process and there is no potential source for the arsenic to come from.
8. The removal of requirement to test for heavy metals and pesticides in the soil. The licence holder states there is no heavy metals or pesticides in the brewing process and there is no potential source for these to come from.
9. The removal of requirement to install a rain guage on the premise and instead use the data from the Cape Naturaliste Lighthouse weather station.
10. The change of definition for a 'rainfall event' from >2mm to >10mm. The licence holder indicates that the current 2mm restricts them from irrigating. The licence holder considers that rainfall of only a few mm is barely enough to wet the surface of the ground and that the soils of the irrigation area are sandy, and water never pools or runs off the area.

2.3 Department initiated amendments

Under Section 59(2) of the EP act, the department will initiate the following amendments:

1. Annual beverage production limited to 1,000kL.
2. A new Nutrient Irrigation Management Plan (NIMP) must be developed.
3. A requirement for the sodium absorption ratio (SAR) and EC relationship to be within the "stable soil structure" limits.
4. An increase in soil sampling points to ensure a broad overview of the irrigation area occurs.
5. The serial number of the meter must be recorded, and the photographic evidence of meter reads provided.

2.4 Compliance

Table 1. Compliance inspections and compliance history

Instrument	Event	Findings
L9275/2020/1	Annual Audit Compliance Report (AACR) for period 1 April 2021 to 30 March 2022	Condition 12: No wastewater quality samples were taken during the reporting period.
L9275/2020/1	AACR for period 1 April 2022 to 30 March 2023	Condition 9: - Irrigation of wastewater occurred during June and July 2022. - There was no harvested biomass from the irrigation area L2. - Healthy vegetation was not maintained within the irrigation area. Condition 12: - Wastewater samples were not analysed for pH, total suspended solids, sodium ion, calcium ion, magnesium ion and sodium adsorption ratio. - Monthly wastewater samples were not supplied for March 2023, November 2022 and April 2022. Condition 13: - Groundwater quality parameters were not analysed for pH, electrical conductivity, and arsenic. - Only three of the four quarterly sample events were taken for MB1 - MB4 and MB5 was sampled only once in August 2022. Monthly standing water levels were not provided.
L9275/2020/1	AACR for period 1 April 2023 to 30 March 2024	Condition 9: - Irrigation of wastewater occurred during June and July 2022. - There was no harvested biomass from the irrigation area. - Healthy vegetation was not maintained within the irrigation area - Irrigated in the months of June and July - Irrigated on rainfall events. - Irrigated over 5,350L/day. Condition 10/12: - Flowmeter readings not recorded daily. Condition 13: - Arsenic not sampled for Condition 14: - No soil monitoring was undertaken during the reporting period

3. Other approvals

3.1 Planning approval

The licence amendment application was referred to the City of Busselton. The City of Busselton advised the licence holder would need to seek development approval for the WWTP and disposal system (irrigation) and have received an application (DA21/0151).

3.2 Department of Health

The licence holder is required to gain approval for the WWTP and disposal system from the Department of Health, via the City of Busselton. As of July, no *'application to construct or install an apparatus for the treatment of sewage'* had been received by the City of Busselton.

3.3 Rights in Water and Irrigation Act 1914 (RIWI Act)

There is currently no licence issued under the RIWI act 1914 to Eagle Bay Brewing Company or held on the property. Beer is brewed using rainwater collected on site with scheme water used as wash down water, when required.

If the licence holder intends to use water from the on-site dam, soaks or a bore, a licence granted under the RIWI Act would need to be obtained from DWER.

4. Consultation

4.1 City of Busselton

DWER wrote to the City of Busselton on 14 May 2024 advising them of the amendments being sought by the licence holder. On 7 August the City of Busselton advised that a development application for the WWTP has been received.

4.2 Licence Holder

The licence holder was provided a draft licence and amendment report on 2 September 2024. There were no further comments on the draft conditions from the licence holder.

5. Decision

5.1 Licence holder-initiated amendments

The delegated officer has determined to grant some amendments to licence L9275/2020/1.

1. The Delegated Officer has determined to **grant the amendment** for the operation of the WWTP constructed under W6491/2021/1 and update the fermentation vessels.
2. The Delegated Officer **grants the amendment** to remove the non-installed infrastructure that was listed on the current licence.

With the removal of the requested infrastructure from the licence, it is now an offence to be using this infrastructure for any purposes of wastewater or alcoholic production. The 20kL poly tank has now been bypassed, the leach drains have been decommissioned and the dripper line was never installed. The delegated officer notes that there is an outlet installed should the dripper line be needed in the future and advises that if the line is installed, a new licence amendment must be submitted.

3. The Delegated Officer **grants the amendment** to update the fermentation vessels.
This amendment has increased the capacity of fermentation from 51,600L to 55,200L. The delegated officer will condition the assessed design capacity, which is 1000kl of alcohol (beer and cider) per annual period.
4. The Delegated Officer **grants the amendment** to remove the conditions relating to the

installation of the WWTP.

5. The Delegated Officer **grants the amendment** to remove the conditions 6,7 & 8 relating to the construction and reporting of monitoring bore MB05.

MB05 was installed on the 3/9/2021 and the required information was submitted to the department on 12/10/2021 by Enpoint consultants.

6. The delegated officer **does not grant** the amendment to allow for winter irrigation. In making this determination the delegated officer considered the monthly rainfall, daily pan evaporation rates, plant irrigation requirements, the baseline soil report (2019) and the close proximity of groundwater to the surface.

The delegated officer notes the provided Enpoint consultants review of runoff and soil penetration of water through the soils, but still determines that the licence holder has not provided alternative or sufficient controls to manage the hydraulic and nutrient loadings to land via irrigation through Winter, as they have not considered the water requirement of the crop. The water requirement of the crop must be considered when determining irrigation rates. The action of irrigating wastewater to a crop, is so that the crop itself can help absorb excess nutrients. During Winter, it is highly unlikely that the crop would need any additional water to that of rainfall given the soils during May to August, particularly June and July, are likely to be saturated (Table 2) as rainfall exceeds the pan evaporation rate.

An initial soil report provided by ENPOINT consulting concluded that *“the potential limitation for the use of the proposed irrigation area is the inability of the soils to retain nutrients for plant health and sorb phosphorous which may lead to groundwater impacts. These limitations, in conjunction with the other soil parameter results, wastewater loadings/characteristics and potential for groundwater to discharge to a sensitive surface water body should be consideration further when designing and operating the irrigation area.”* Irrigating wastewater during Winter could lead to the wastewater infiltrating past any crop root zone, which already has soil that may not hold nutrients. This is contradictory to the purpose of irrigating a crop with wastewater. The delegated officer previously assessed the hydraulic and nutrient loading as medium and high risk (see existing licence decision report Risk assessment Table 5) and determined that irrigation during June and July would cause an unacceptable impact on environmental receptors and still considers this assessment relevant.

Table 2. Average monthly rainfall and pan evaporation

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall (mm)	10	9	24	39	103	128	142	112	74	36	25	11
Mean monthly pan evaporation (mm)	267	206	163	100	73	55	61	74	106	151	186	249

Rainfall data: BOM Station 9519, 1991-2023

Evaporation data: DPIRD, Wilyabrup (MR001), 2020-2023

7. The delegated officer **grants the amendment** to remove the requirement to test for arsenic in groundwater samples.
8. The delegated officer **grants the amendment** to remove the requirement to test for heavy metals and pesticides in soil samples.
9. The Delegated Officer **grants the amendment** to use the Cape Naturaliste Lighthouse weather station for rainfall data instead of installing a rain gauge on the premise.

The Cape Naturaliste Lighthouse (station 9519) is 6km from the premises and is appropriate.

- The delegated officer **grants the amendment in part** and determines the definition of a *rainfall event* can be increased to 5mm.

The initial 2mm rainfall limit was established using the average daily pan evaporation rate for Winter to ensure soils are not saturated and nutrient absorption from a crop is efficient. As the licence holder cannot irrigate during June and July the Delegated Officer considers changing the rainfall event definition to the average of the pan evaporation rate of the remaining months (Table 3).

Table 3. Average daily pan evaporation

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average (Excluding Jun/Jul)
Mean daily pan Evaporation (mm)	8.6	7.7	5.4	3.3	2.3	1.7	2.0	2.4	3.6	4.7	6.6	8.0	5.0

Evaporation data: DPIRD, Wilyabrup (MR001), 2021-2023

5.2 Department initiated amendments

Based on the risk assessments completed for the works approval W6491/2021/1, the current licence and compliance history of the licence, the delegated officer has determined to initiate department amendments to licence L9275/2020/1.

- The delegated officer initiates the amendment to limit alcoholic beverage production capacity to 1,000kL or less as that is what the environmental impacts of the licence are assessed on and the brewery has the capacity to produce more than 1,000kL.
- The delegated officer initiates the amendment to provide a new and relevant NIMP so that the management of irrigating wastewater to land can be managed effectively and the information within the NIMP is relevant to the current operations and infrastructure. The current NIMP is insufficient in providing evidence that the licence holder can successfully maintain a crop, manage nutrient loadings or store any wastewater when required. The revised NIMP must provide a water balance for the operations and provide contingency plans for when the licence holder cannot irrigate during rain fall events and June and July.
- The delegated officer initiates the amendment to place the requirement that SAR and EC levels fall within the 'stable soil structure' shown in Figure 4 of the licence. When wastewater contains high levels of sodium, it can affect the quality of soil and water. High SAR in wastewater can lead to soil structure problems, impacting water infiltration and plant growth productivity. From the reported wastewater sampling results for the 2023/2024 reporting period, SAR levels averaged 47 from June 2023 to May 2024. Results this high indicate the water would be having an adverse effect on the soils in the irrigation area.
- The delegated officer initiates the amendment to increase soil sampling requirements whilst decreasing the frequency the testing is required. Dividing the irrigation area into halves and ensuring a sample from each half is taken from a specific location will provide better consistency, soil analysis and ensure a more accurate overview of the irrigation area. Sampling requirements currently could be done anywhere within the irrigation area, meaning that if irrigation has not occurred on the area that is sampled, it would not reflect the actual soil parameters. As this will increase the amount of sampling that needs to occur, the delegated officer has reduced the frequency of sampling to every 2 years, instead of annually.
- The delegated officer initiates the amendment to record the serial number of the wastewater irrigation flow meter and a requirement for a photograph of the reading at the end of each month is taken. This is to help verify any given meter reads to the department and to ensure consistency through years.

6. Summary of amendments

Table 3 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 works approval as part of the amendment process.

Table 3. Summary of amendments

Previous Condition no.	New condition no.	Amendments
Addition of condition	Condition 1	Addition of beverage production limit condition.
Condition 1 – Table 1: Infrastructure and equipment requirements	Condition 2 – Table 2	1. Updated Brewery production and shed hardstand area infrastructure
		2. Updated Wastewater treatment System infrastructure - Addition of clause 4(G) requirement to ensure leach drains are not being used
		3. Added Wastewater Storage section - Meter serial number to be recorded.
		4.. Updated solids management
		5. Updated Wastewater irrigation area
N/A	Condition 3	Addition of condition that an updated NIMP be provided within 90 days of this amendment approval date.
Condition 2	-	Removal of completed condition
Condition 3	-	Removal of completed condition
Condition 4	-	Removal of completed condition
Condition 5	-	Removal of completed condition
Condition 6	-	Removal of completed condition
Condition 7	-	Removal of completed condition
Condition 8	-	Removal of completed condition
Condition 9 – Table 4	Condition 2 - Table 2	Merged with Table 1.
Condition 10– Table 5	Condition 4 – Table 3	1. Removal of leach drains (L1) as a discharge point 2. Adjustment of BOD limits to monthly limits 3. Addition of SAR limit
Condition 11 – Table 6	-	Removal of condition and table – Merged into Table 2.
Condition 12 – Table 7	Condition 5 – Table 4	Removal of leach drains (L1) Removal of “averaging period” column
Addition of condition	Condition 6	Addition of condition requiring photographic evidence of meter reads
Condition 13 – Table 8	Condition 7 – Table 5	1. Removal of “once installed” in relation to MB05

		2. Removal of Arsenic from testing from parameters.
Condition 14 – Table 9	Condition 8 – Table 6	1. Removal of heavy metals and pesticides. 2. Addition of Sampling locations 3. Removal of deep soil analysis for 20-40cm and 70-100cm
Condition 16 – Table 10	Condition 9 – Table 7	Change monitoring location to Cape Naturalist Lighthouse weather station (station 9519).
Condition 17	Condition 10	Removal requirement of sampling to be undertaken by an accredited person
Addition of condition	Condition 12	Requirement to report malfunctioning site infrastructure
Condition 23 – Table 11	Condition 17 – Table 10	1. Date listed as 30 April 2. Removal of Leach drains reference 3. Inclusion on meter read photographs 4. Inclusion of summary of any malfunctioning infrastructure
Definitions	NA	1. Removal of redundant definitions 2. Addition of 'malfunction' and 'environmental incident'.
Schedule 1 - maps		Updated infrastructure map
NA	Schedule 1 – Figure 3	Addition of soil sampling site map
NA	Schedule 1 – Figure 4	Addition of soil structure graph
Formatting		Updated condition numbers
Formatting		Updated numbering and lettering of tables

Caron Goodbourn
MANAGER, PROCESS INDUSTRIES
INDUSTRY REGULATION

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

References

1. Aquasol 2021, Nutrient and Irrigation management plan, Eagle Bay Brewery. February 2021
2. Department of Environment Regulation (DER) 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
3. Department of Water and Environmental Regulation (DWER) 2019, *Guideline: Decision Making*, Perth, Western Australia.
4. Department of Water and Environmental Regulation, 2021, Decision Report: L9275/2020/1, August 2021
5. Department of Water and Environmental Regulation, 2021, Licence: L9275/2020/1, August 2021
6. Department of Water and Environmental Regulation, 2021, Works Approval: W4691/2021/1, August 2021

7. Eagle Bay Brewing 2024, 2023 Annual Audit Compliance Report. June 2024
8. Eagle Bay Brewing 2023, 2022 Annual Audit Compliance Report. July 2023
9. Eagle Bay Brewing 2022, 2021 Annual Audit Compliance Report. December 2022
10. Eagle Bay Brewing 2024, Application for amendment and supporting document. April 2024
11. Eagle Bay Brewing 2023, Time Limited operations report. August 2023
12. Enpoint 2023, W12018_02, Review of the effect of irrigation of treated wastewater during periods of rainfall. June 2023
13. Enpoint 2021, W21039_01LTR, Monitoring Well Network. September 2021
14. Enpoint 2019, Soil Assessment, proposed WWTP irrigation area – Eagle Bay Brewing Company. November 2019