



Department initiated Amendment

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

Licence Number	L8796/2013/1
Licence Holder	Bendotti Exporters Pty Ltd
ACN	099 895 904
File Number	2011/004646-1~4
Premises	WA Chips Franklin Street MANJIMUP WA 6258 Legal description – Lot 689 on Deposited Plan 175853 Certificate of Title Volume 1792 Folio 53 Lot 3006 on Deposited Plan 46540 Certificate of Title Volume LR3165 Folio 448 As defined by the Premises maps attached to the Revised Licence
Date of Report	20/07/2023
Decision	Revised licence granted

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1. Decision summary

Licence L8796/2013/1 is held by Bendotti Exporters Pty Ltd (licence holder, Bendotti) for WA Chips (the premises), located at Franklin Street, Manjimup WA, 6258.

This Decision Report documents the assessment of potential risks to the environment and public health from revised assessment of the emissions and discharges during the operation of the premises. As a result of this assessment, revised licence L8796/2013/1 has been granted.

The revised licence issued because of this Chief Executive Officer (CEO) initiated amendment consolidates and supersedes the existing licence previously granted in relation to the premises. The revised licence has been granted in a new format.

2. Purpose and Scope of assessment

Under section 59(1) of the *Environmental Protection Act 1986* (EP Act), the CEO may amend a licence at any time, including varying the conditions which apply to a licence, removing redundant conditions or imposing new conditions and requirements where necessary. The department will undertake any licence amendments resulting from a licence review in accordance with s.59(2) of the EP Act.

This report sets out the delegated officer's assessment of risks arising from a review of emissions and discharges generated by the prescribed activities conducted at the premises, being Category 18: Food processing.

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>. The other guidance statements and documents which inform this assessment are listed in Appendix 1.

2.1 Background

The premises has been operating as a food processing plant since 2002. It is located about 2.5 km south of Manjimup town centre on Franklin Road, Manjimup. The existing prescribed premises consists of:

- Lot 689 on Deposited Plan 175853 (crown allotment owned by Bendotti Exporters Pty Ltd, containing all sheds, ponds, pipes, pumps, and Smith Brook tributary)

The premises was not constructed through a works approval and was first licenced under the EP Act in 2014 as a food processing facility under category 18, with an approved production capacity to process up to 8,000 tonnes of potatoes per annual period.

The department communicated with the licence holder in September 2016 that a production increase would not be approved without an improvement to the existing wastewater treatment plant (WWTP). The licence holder exceeded production limits in 2021 and 2022 (see section 4.2). The licence holder corresponded with the department on 12 September 2022 and 31 October 2022 indicating that they were pursuing improvement options for the WWTP. To date, a works approval has not been submitted to the department for upgrades to the WWTP.

The review was initiated in accordance with section 59(1) of the EP Act to ensure accuracy and adequacy of existing licence conditions in response to concerns raised by the department that the current wastewater treatment and discharge to surface water at the premises may not be fit for purpose due to elevated nutrient levels, and oil and grease that may pose a risk to the environment. The licence holder discharges into Smith Brook which is a proclaimed surface water under the *Rights to Water and Irrigation Act 1914* (RIWI Act). The surface water of Smith

Brook is used for downstream agriculture, potential drinking water and has instream aquatic native fish and riparian vegetation.

3. Infrastructure and operational aspects

3.1 Food processing infrastructure

The food processing structures, associated infrastructure and discharge and monitoring points occupy an area approximately 21.7 hectares and include the following key components.

- Enclosed potato processing shed
- Potato storage sheds
- Gas fired boiler
- Concrete hardstand and shed for solid waste
- Wastewater treatment plant (WWTP) consisting of four wastewater treatment ponds (aeration pond, facultative pond 1, facultative pond 2 and facultative pond 3)
- Discharge point L1 – run off pipe from facultative pond 3
- Smith Brook and Smith Brook Dam (24 ML capacity)
- Transfer tank, pump station, pipes
- Bulk volume fermenter
- Concrete sump
- Four groundwater monitoring bores (MB1, MB2, MB3 and MB4) installed 2018.

3.2 Operational aspects

3.2.1 Potato processing

WA Chips receives whole unwashed potatoes that are stored in sheds. Potatoes are graded and transferred to the processing shed. In the processing shed potatoes are washed, scrubbed, peeled, and then transferred to the processing plant where potatoes are cut, steamed, and or partially cooked with fat/grease coatings added prior to packaging as chips or wedges.

Solid potato waste is stockpiled and stored in a 25-tonne silo container on a concrete hardstand. Approximately 20 tonnes of solid waste are produced each week. The solids are removed weekly offsite to be used as animal feed.

All wastewater from the washing and solids separator, processing plant and clean down are captured within a concrete sump and pumped to the WWTP.

A gas fired boiler generates steam and power used in the potato processing facility. The gas fired boiler operates at a maximum fuel consumption rate of 378 kg/hour and does not undergo any form of filtering or treatment prior to discharge of fuel combustion products to air from a one-metre length chimney positioned at 10.1 metres above ground level known as A1.

Stormwater onsite runs off hardstand into a series of linked pits into a common pipe that routes all stormwater to the northern side of the premises and discharges to land in front of facultative pond 1. Stormwater is not treated and discharges to low lying vegetation.

Stormwater does not enter the wastewater treatment system and is prevented from entering ponds that have raised lips that divert surface water runoff. The solids banded area does however direct all stormwater into the wastewater treatment ponds for treatment.

3.2.2 Wastewater treatment and discharge to surface water

Wastewater and solids from the processing of potatoes are transferred to a solids separator/bulk volume fermenter (BVF) designed to process 34,000 tonnes at any one time. Solids are stored in the BVF and not removed. Wastewater is conveyed from the BVF to the aeration pond using a 10,000 L tank and pump (TTPF). From the aeration pond, wastewater is pumped to facultative ponds 1, then to facultative pond 2, and then facultative pond 3 before being pumped and discharged from point L1, overland into surface water and the Smith Brook Dam. Pumps and pipes have been installed to allow wastewater to be pumped back from the facultative ponds to the TTPF to aid in the management of anaerobic conditions.

All ponds have in-situ electric generated paddle wheels that rotate providing aeration. Wastewater is discharged from emission point L1 on facultative pond 3 and travels overland approximately 25 metres where it flows into a first-order stream of Smith Brook into the instream Smith Brook Dam (SB Dam). The SB Dam can either overflow in winter via a concrete spillway into Smith Brook or is scoured through a concrete pipe with a manual valve located near the pump station. Scouring of the dam occurs while the dam overflows and / or when a high rainfall event occurs filling the dam rapidly to control the overflow.

4. Review of compliance

4.1 Site visits and complaints

On 4 February 2017 the department received reports from residents that over the summer there had been offensive odours emitting from the premises. On investigation on 9 February 2017 compliance officers from the department visited the premises and noted that the processing pond was anaerobic, and the odour was 'terrible'. On investigation the licence holder determined that there was a blockage in the pipe causing facultative pond 1 to ferment.

DWER compliance and licensing officers undertook site visits on the 4 December 2014, 27 March 2017 and 28 March 2017. An Environmental Field Report (EFR) 1003 was issued on 28 March 2017 requiring the licence holder to install a suitable device to measure (in m³) wastewater generated from the processing of potatoes by 5 June 2017 (as required for monitoring by Condition 3.6.1 and reporting in Condition 5.2.1). EFR 1004, issued on 28 March 2017, required the licence holder to take steps to ensure that the 300 mm freeboard is maintained in the facultative ponds by 6 June 2017 (noting a breach of condition 1.3.2 (c) observed during the inspection on 27 March 2017).

It was observed during the premises inspections undertaken in March 2017 that the three large facultative ponds were poorly maintained. Including the observed presence of rubbish accumulated alongside several of the pond outer walls, extensive surface scums and the presence of vegetation growing on pond surfaces, damaged/eroded sections of pond walls and the presence of rooted sedges, bullrush and other vegetation growing in the pond walls and adjacent shallows of the ponds (i.e., growing out of accumulated pond sediments / sludge).

The site visits and compliance with their licence informed the risk review of the premises.

Key findings

The delegate officer has reviewed the information gathered from the 2014 and 2017 site inspections and has found the following aspects not to be in accordance with their operating licence.

- The licence holder has been issued with Environmental Field Notices (EFN) 1003 and 1004 in 2017 for alleged contravention to WWTP conditions within the operating licence.

- From site inspection in 2017 the wastewater treatment ponds have an unknown integrity having been observed with degraded pond walls, colonised soil-rooted vegetation and vegetation growing from accumulated pond sludge.

4.2 Annual Environmental Reports (AER)

A department reviewed the licence holders Annual Environmental Review (AER) from the 1 January 2021 to the 31 December for the 2021 and 2022 annual periods reported the following non compliances:

- Exceedance of the assessed 8,000 tonnes per year production throughput for the 2021 and 2022 annual reporting periods.
- Late submission of Annual Audit Compliance Review (AACR) and AER reports for the 2021 and 2022 reporting periods.
- Monitoring reporting conditions were not completed, i.e. standing water levels were not measured or reported for all four monitoring bores, and annual average load calculations for contaminants were not calculated and reported for the 2021 reporting period.
- Monitoring conditions were not undertaken in full, consisting of monthly flow not undertaken in part, water quality parameters from groundwater monitoring bores were not taken and standing water levels not measured, and no laboratory data sheets supplied to validate samples undertaken (2022).
- Licence holder has specified that the WWTP is incapable of treating wastewater and requires replacement (2022) but has not submitted a works approval application for an upgrade.
- It was noted that total nitrogen spiked (3000%) in two down gradient monitoring bores and Smith Brook Dam surface water sample in June 2022. This indicates that a pollution event occurred from the facility. This spike was not explained within their 2022 annual reporting period.

Key findings

The delegate officer has reviewed the information gathered from the 2021 and 2022 AER and has found the following aspects not to be in accordance with their operating licence.

- The licence holder in correspondence to the department has stated that the WWTP in its current state is not capable of treating the volume of wastewater to an acceptable level for discharge to the environment and has not submitted a works approval for upgrades.
- The licence holder has not undertaken all monitoring and reporting requirements within the existing licence.
- The licence holder has exceeded assessed production throughputs.
- Treatment targets for the WWTP have been exceeded ever since the licence was granted

5. Legislative context and other approvals

5.1 Lease agreement with state government

The licence holder currently has a lease agreement with the State Government of Western Australia for Lot 3006 on Plan 46540. This agreement commenced on 1 October 2008 for a

duration of 21 years, ending 30 September 2029.

The department will expand the premises boundary and include Lot 3006 on Deposited Plan 46540 as it contains Smith Brook tributary and Smith Brook Dam where an existing monitoring site occurs, and the dam water is pumped to the premises for use in the food processing facility.

6. Review of monitoring data

The department reviewed the licence holders water quality data for treated wastewater discharge to Smith Brook (L1), surface water of Smith Brook Dam (WQ1) and four groundwater bores (MB1 -4) for the 2021 – 2022 period. In undertaking the review, the department considered that the Australian and New Zealand Environment and Conservation Council (ANZECC (2000)) freshwater and marine water quality guidelines have been superseded by Australian New Zealand Guidelines (ANZG (2018)) for freshwater and marine water quality. However regional water quality guidelines for parameters such as nutrients are being updated by ANZG, but have not yet been released, hence ANZECC (2000) water quality guidelines for upland freshwater streams for the southwest region of Western Australia (for freshwater ecosystem and irrigation) have been referenced for criteria triggers and used to evaluate targets and set limits.

6.1 Monitoring of wastewater discharges (to surface water)

The previous licence required the licence holder to record flow meter readings weekly at discharge point L1, and monthly parameters sampled when discharging. Appendix 2, Table 6 outlines the water quality results taken by the licence holder from 1 January 2021 to 31 December 2022 compared to licence targets and ANZECC triggers for freshwater ecosystems (2000).

All parameters consistently exceeded licence targets and trigger values for upland freshwater streams for the southwest region of Western Australia (ANZECC 2000). It is noted that wastewater is not being sufficiently treated before discharging to surface water. Nutrient levels, oils and grease and metals exceed trigger criteria that could accumulate downstream and result in harm to environmental values within the waterway and are likely to affect downstream users of the waterway.

The high levels of oil and grease within the discharge indicate that the wastewater treatment system is unable to treat wastewater sufficiently before discharge. This is concerning downstream as oil and grease is harmful to aquatic life through clogging up fish gills, reducing oxygen within the water and disrupting food chains.

6.2 Monitoring of surface water

The licence holder is currently required to sample water quality in Smith Brook Dam (WQ1) quarterly and water quality data was provided by the licence holder in the months of March, June, September, and December. Appendix 2 Table 7 outlines the water quality data provided by the licence holder within the submitted AERs for 2021 and 2022, against licence targets and ANZECC triggers for freshwater ecosystems (2000).

It was observed that oil and grease, and metals were consistently above trigger values for upland streams and accumulating within the dam. It is noted that within standing water bodies such as dams, the oil is likely to settle within sediments which can disrupt breeding and feeding cycles of organisms effecting the higher chain food cycles. Oil and grease within the water column can be toxic to frogs, fish, reptiles, that live within the water. The accumulation of metals within the dam can be released to the downstream agriculture users. Metals above ANZECC 2000 irrigation trigger levels can have serious health implications if used to irrigate food crops. A composite of trigger levels based on toxicity levels of freshwater ecosystems

and irrigation users is recommended to manage the risk to the environment and human health.

Furthermore, June 2022 water quality data indicated a spike in nutrients reflective of a first flush slug of nutrients arising from the premises, indicating that stormwater management from the premises lacks sufficient treatment before it is released to the environment.

6.3 Monitoring of groundwater

Groundwater water quality triggers have not been designed for the southwest region of Western Australia. Water Quality Australia (2013) indicate that conservative water quality guideline should be selected for water quality parameters, so the intrinsic value of the groundwater is protected in accordance with the management objectives. The ANZECC (2000) guidelines have been considered to provide numerical water quality guidelines for drinking, recreation, and primary industries. The groundwater of the Smith Brook area feeds Smith Brook which has been assessed by the department to have ecological values and downstream agriculture users for irrigation and potentially drinking water. Therefore, the upland stream water quality triggers (for freshwater ecosystem) have been used as a guide for water quality integrity.

The licence holder submitted basic bore log descriptions for the four monitoring bores (existing licence condition 4.3) but did not provide standing water levels (conditions 4.3 and 5 (3.8.1)). It was determined upon reviewing the bore logs, that there were unspecified groundwater levels and that screens were placed 3 to 6 metres below the unspecified groundwater level within each bore. The suitability of the four existing bores is considered unsatisfactory for detecting leaks from pond containments. If the bores are too deep and the seepage less dense than the ambient groundwater, the screens of the current bores may be at too greater depth to intersect all contamination parameters from the treatment wastewater ponds.

Appendix 2 Table 8 outlines the licence holder supplied groundwater data from 2021 to 2022 assessed against the trigger values for freshwater ecosystem from the ANZECC (2000) upland stream water quality data. TDS is consistently high across all four bores, electrical conductivity exceeds DPIRDs recommended irrigation levels and ANZECC 2000 water quality criteria at MB1, MB2 and MB4. June 2022 total nitrogen groundwater data from MB3 and MB4 spiked more than 3000%, indicating a pollution event from the facility.

The delegate officer reviewed the water quality data and found:

- Where relevant, the parameters measured at the treated wastewater discharged point L1, in Smith Brook Dam and groundwater bores far exceed those specified in ANZECC (2000) guideline trigger values. The discharge from the premises is likely to affect instream ecosystem and potentially other downstream water users.
- The following groundwater bore details have not been provided, standing water levels, bore logs demonstrating the water level and screening areas, and surveyed Australian height datum (AHD) references. The bore screens have been placed 3 to 6 metres below an unknown groundwater level, therefore the relevance and integrity of the bores and data is questionable.
- There have been no requirements for monitoring surface water within Smith Brook up or downstream of the facility. As such, the delegated officer has determined that groundwater monitoring for water quality of receiving waters to Smith Brook below the facility and groundwater monitoring bores above and below the facility will be added to the revised licence to enable potential groundwater and surface water impacts to be determined.
- The licence holder has not demonstrated compliance to target water quality conditions. The delegated officer considers that the existing wastewater treatment

plant is incapable of treating wastewater discharge to an acceptable level to reduce risk to ecosystems and downstream users.

7. 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.

7.1 Source-pathways and receptors

7.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this Amendment Report are detailed in Table 1 below. Table 1 also details the proposed control measures the licence holder has proposed to assist in controlling these emissions, where necessary.

Table 1: Licence holder controls

Emission	Sources	Potential pathways	controls
Odour	WWTP - wastewater treatment ponds	Air/windborne pathway	Paddle wheels for aeration in aeration and facultative ponds 1-3.
	WWTP -bulk volume fermenter		Wastewater can be re-circulated from facultative ponds back to TTPF to manage anerobic conditions
	Solid waste stockpile		Stockpiles of solid potato waste is stored within silo container. Solids are removed every week
Nutrient rich wastewater	WWTP – discharge point L1	Direct discharge to Smith Brook tributary and Smith Brook Dam	All wastewater directed to BVF Att wastewater is treated through the WWTP
		Groundwater seepage	BVF and aerobic pond lined with HDPE plastic liner. Facultative ponds have clay liners
Spills, leaks, overtopping and leachate from wastewater containments	Solid waste / sludge storage in the bulk volume fermenter	Surface flow or groundwater infiltration through soil into groundwater or surface water bodies.	Bulk volume fermenter and aeration ponds are lined with a HDPE plastic liner. Pumps to recirculate wastewater from facultative ponds to the TTPF. 300 m freeboard maintained on all ponds.
	Wastewater treatment ponds		Concrete gravity overflow pipe set at 300mm freeboard on facultative pond 3

Emission	Sources	Potential pathways	controls
			for discharge point L1.

7.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), 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 2 below provides a summary of potential human and environmental receptors that may be impacted because 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 residential dwellings	Closest approximately 470 m northwest and 25 dwellings within 1.5km of the boundary of the premises. The majority are southwest of the premises.
Residential area	Nearest residential dwelling (suburb) is approximately 800m north from the boundary of the premises.
Manjimup Airfield	Approximately 100m south of the premises
Industrial zone	Industrial zone north and northeast of the premises. Businesses range from 80m to 1000m from the boundary of the premises.
General agriculture zoned dwelling	Approximately 510m west of the boundary of the premises.
Kingsley Motel and Cabernet Restaurant	Approximately 750m north of the boundary of the premises
Environmental receptors	Distance from prescribed activity
<i>Rights to Water and Irrigation Act 1914, (RIWI Act) proclaimed surface water areas. Warren Rivers and Tributaries Surface Water Area</i> <ul style="list-style-type: none"> • Subarea – Smith Brook • Subarea – Lefroy Brook • Donnelly River Water Reserve 	<ul style="list-style-type: none"> • Within the premises and immediately downstream • 470 from the premises boundary • 640m from premises boundary
Priority agricultural zoned land	250 m from premises boundary
Surficial groundwater	Groundwater depth estimated to be at 1-22mbgl
Smith Brook associated riparian vegetation	Within premises boundary

Smith Brook Dam associated riparian vegetation	Approximately 670 m from existing premises boundary
Soil type - Bevan subsystem (Manjimup) (254MpBE) Broad, gently sloping (3-15%) divides on laterite, soils are sandy gravels and loamy gravels.	WWTP including all ponds located within soil type.

7.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for those emission sources which are proposed to change and considers potential source-pathway and receptor linkages as identified in Section 7.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the licence holder has proposed mitigation measures/controls (as detailed in Section 7.1), 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 3.

The revised licence L8796/2013/1 that accompanies this Amendment Report authorises emissions associated with the operation of the premises i.e. for food processing activities.

The conditions in the Revised Licence 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 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				
Operations								
Operation and discharge of the wastewater treatment plant (WWTP)	Overtopping, spills and leaks from the solid waste stored in the bulk volume fermenter (BVF) and four treatment ponds	Seepage of leachate and overtopping of containments contaminating soil, groundwater and surface water.	Groundwater interacting with surface water affecting instream ecosystems and surface water users immediately downstream in a proclaimed surface water area (Smith Brook) under the RIWI Act	BVF and aeration ponds lined with HDPE 300 m freeboard on ponds Recirculation of wastewater ponds. <i>Refer to Section 5.1</i>	Mid-level onsite impact, low level local scale impacts Consequence = Moderate The risk event could occur at some time L=Possible Medium Risk	No	The following existing controls have been deemed essential to maintain the wastewater pond integrity they are: Condition 1 <ul style="list-style-type: none"> The BVF and aeration pond must be lined with HDPE liner. 300 m freeboard must be maintained on all ponds. The following regulatory controls have been deemed essential to maintain the wastewater pond integrity: Condition 1 Operational conditions <ul style="list-style-type: none"> The BVF and aeration pond liners must be maintained and free of rips, tears, or holes. All ponds must be kept free of vegetation and surface scum. All WWTP ponds and BVF must be de-sludged. Condition 4, 5, 6 Works conditions Three bores must be installed by a driller capable of constructing monitoring bores to DSTM D5092/D509M-16 (Australian Standards) with bore details submitted to the department.	The delegated officer considers that the food processing plant is located and sited within a high-risk environment (high rainfall, proclaimed surface water area) that requires a commensurate level of design and infrastructure controls and performance measures to minimise the potential for impacts to public health and the environment. To ensure the protection of water resources as a minimum all ponds should have a minimum permeability of 10 ⁻⁹ m/s, maintain a freeboard of 300mm and be maintained free of vegetation and built-up of organic sludges. Due to the lack of design information on the permeability of pond liners, the unknown depth to water and screening depths off existing monitoring bores, the licence holders past non compliances for management of the ponds, and that groundwater data from June 2022 indicated a pollution event arising from the premises (spike in total nitrogen). The delegated officer determined that the licence holder controls were insufficient to minimise the impacts to ground and surface waters and potential impacts to downstream users of the proclaimed Smith Brook and its instream environments. The delegated officer determined that the risk to the environmental and public health was medium. Therefore, the delegated officer determined that controls would be conditioned for WWTP pond management and new bores to determine leaching through containments would be imposed.
	Odour	Air/windborne pathway causing impacts to health and amenity	Residential area 800 m north, rural residence 470 m northwest, airfield 100 m south and industrial premises 80 m north to northeast of the premises boundary.	Paddle wheels in ponds. Wastewater can be recirculated in ponds to manage anaerobic conditions. <i>Refer to Section 5.1</i>	Minimal impact to amenity at local scale C=Slight The risk event could occur at sometime. L= Possible Low Risk	Yes	The following licence holder controls have been deemed essential to maintain the wastewater pond integrity they are: Condition 1 <ul style="list-style-type: none"> Paddle wheels in all ponds must be kept operational to reduce odour Pipes and pumps must be kept in working condition to allow recirculation of wastewater between wastewater ponds. 	The delegated officer has considered that there has been one odour event reported in February 2017 from a blocked pipe in the WWTP, the distance to the nearest residential and rural receptors and that paddle wheels aerate wastewater in the aeration ponds and facultative ponds 1-3 and that wastewater can be recirculated to manage anaerobic conditions in the WWTP. The delegated officer determined to condition the licence holder's controls to maintain the existing risk level.
	Direct discharge of nutrient and contaminant-laden wastewater from L1	Overland flow potentially causing ecosystem disturbance or impacting surface water quality	Smith Brook downstream water users and ecosystem (flora and fauna) within stream.	All wastewater goes through the WWTP <i>Refer to Section 5.1</i>	Onsite impacts major, mid-level local scale impacts, specific consequence criteria are exceeded C = Major The risk event will probably occur in most circumstances. L = Likely High Risk	No	Infrastructure requirements Condition 1, Condition 1 Works Conditions 2, 3, 4, 5, 6 and 7 Emission triggers Condition 8, Conditions 9, 10 and 11 Monitoring Condition 12, 13 and 14, 15 16 Reporting	The food processing plant is located in a highly sensitive area with all wastewaters directed through the WWTP and discharged into Smith Brook that is a proclaimed surface water under the RIWI Act. Smith Brook water is used by downstream agriculture, potential drinking water and has valuable instream ecosystems. Treated wastewater discharge should not elevate water quality levels downstream or accumulate within the downstream Smith Brook Dam. It is noted from surface water discharge and surface water data that parameters (oil and grease and metals) are accumulating downstream and the existing discharge levels exceed the ANZECC 2000 trigger values for upland freshwater streams in southwest Western Australia. The delegated officer considered that the licence holder has been issued with two EFN for the management and operation of the WWTP and that the WWTP is not fit for purpose for the

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				
							<p>Conditions 17, 18, 19, 20, 21.</p> <p>The delegated officer has imposed the following regulatory controls:</p> <ul style="list-style-type: none"> • Six months to submit a works approval application for WWTP upgrade <p>Operational and monitoring</p> <ul style="list-style-type: none"> • Revised licence wastewater discharge targets that are aligned to the ANZECC 2000 trigger values with reporting requirements for breaches. • Ambient water quality monitoring with ANZECC 2000 targets with reporting requirements. • New monitoring bore locations with specified screening. • Installation of a flow meter on the discharge pipe. • Additional surface monitoring site to be added with all samples taken by a qualified professional and electrical conductivity parameter added for monitoring. 	<p>volume or contaminate levels of the wastewater.</p> <p>The delegated officer considered that the licence holder controls were insufficient to minimise the impacts to surface waters and potential impacts to downstream users of the proclaimed Smith Brook.</p> <p>Based on the available information, it appears that the WWTP is insufficiently sized and designed to treat wastewater. That the WWTP discharge is required to be treated to an acceptable level to ensure the protection of proclaimed surface water resources to downstream users and instream ecosystems. The delegated officer determined that the risk to be high. The delegated officer determined that regulatory controls were required to improve the WWTP infrastructure, installation of a flow meter, improve monitoring locations and parameters, set trigger values for treated wastewater discharge and ambient water levels with reporting management actions to reduce impacts to the waterway.</p>
Operation of processing plant solid waste including BVF and storage sheds	Odour	Air/windborne pathway causing impacts to amenity	Residential area 800 m north, rural residence 470 m northwest, airfield 100 m south and industrial premises 80 m north to northeast of the premises boundary.	Solid potato waste is stored within a silo container and removed weekly from the premises Refer to Section 5.1	Minimal impact to amenity at local scale C=Slight The risk event could occur at sometime. L= Possible Low Risk	Yes	<p>The following licence holder controls have been deemed essential to maintain solid waste odours they are:</p> <p>Condition 1</p> <p>All solid waste must be stored within the silo container.</p> <p>Silo container must be emptied each week with the contents removed from the premises.</p>	<p>The delegated officer has considered that there have been no odour complaints for solid storage since operating in 2014 and that the existing licence controls are sufficient for managing the risk of odour from the BVF and storage silo container.</p>

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

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

Note 3: Conditions 17 to 21 are all department-imposed conditions required for reporting and general complaint and record keeping requirements.

8. Decision

The delegated officer has reviewed the existing licence and has determined that significant changes are required to ensure that ongoing operations at the premises do not pose an unacceptable risk of impacts to public health and the environment. This determination is based on the following:

- the licence holder has a history of licence non compliances (EFN 1003 and 1004 and AER annual reporting);
- the licence holder has corresponded stating that that the WWTP in its current state is not capable of treating the volume of wastewater to an acceptable level for discharge to the Smith Brook;
- a review of the existing water quality parameters taken from the treated wastewater discharged point L1, in Smith Brook Dam and groundwater bores far exceed those specified in ANZECC (2000) guideline trigger values for freshwater streams in the southwest;
- the licence holder has not provided monitoring details of standing water levels within bores, bore logs that indicate standing water levels and screening depths, and surveying of the four existing groundwater monitoring bores, therefore the relevance of the bores and appropriate screening for measuring seepage is questionable, and
- there are no requirements for monitoring of surface/ground water within Smith Brook up or down stream of the facility.

To address the above issues, the delegated officer has determined to require preparation of the following through the revised licence:

- change of premises boundary to include Lot 3006 on Deposited Plan 46540
- requirement to submit a works approval application for WWTP upgrades;
- new water quality targets for treated wastewater discharge and ambient water quality monitoring with reporting requirements; and
- new surface water and groundwater monitoring requirements.

The delegated officer is satisfied that the above controls, once implemented, will lower the overall risk profile of the premises, and ensure the food processing facility can operate in a manner that does not pose an unacceptable risk of impacts to public health and the environment.

9. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

Table 4: Consultation

Consultation method	Comments received	Department response
Licence holder was provided with a draft amended licence and amendment report on 16/06/2023	The licence holder provided comments on the 10 July and 17 2023. Refer to Appendix 1	Refer to Appendix 1

10. 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.

10.1 Summary of amendments

Table 5 provides a summary of the proposed amendments and a conversion map for reformatted conditions and will act as record of implemented changes.

Table 5: Summary of licence amendments

Existing condition	Condition summary	Revised licence condition	Conversion notes
Front page	Premises details	Added Lot 3006 on Deposited Plan 46540	Included leased property as part of the premises.
1.1.1 1.1.2	Interpretation and definitions	N/A Interpretation section, definitions in Table 10	Redundant condition. Revised to current licensing format.
1.2(1.2.1 – 1.2.5)	General condition	N/A	Redundant conditions
1.3.1	Approved production capacity	Front page	Revised to current licensing format.
1.3.2 and 1.3.3	Wastewater treatment and solid wastes operation	Condition 1 Table	Revised to current licensing format.
2.5.1 Table 2.2 and Table 3	Emissions to air and emission to land	Condition 1 Table 1	Updated to new licence format emission authorised in infrastructure and equipment table.
Table 2.5.2	Emission targets to land	Authorised emission targets Condition 8 and Table 4,	Updated to new licence format
3.1.1 3.1.2	General monitoring	Conditions 15 and 16	Updated to new format and clarifying need to record all data and sampling requirements
3.5.1 Table 3.5.1	Monitoring of emissions to land	Condition 12 Table 6	Updated to new licence format with electrical conductivity parameter added and analysis detection level requirements.
3.6.1 Table 3.6.1	Monitoring of inputs and outputs	Condition 1 Table 1	Updated to new licence format and removed redundant conditions
Table 3.8.1	Monitoring of ambient groundwater quality	Condition 13 Table 7	Updated to new licence format with electrical conductivity parameter added, additional monitoring sites and analysis detection level requirements.
Table 3.8.5	Monitoring of ambient surface water monitoring	Condition 14 Table 8	Updated to new licence format with electrical conductivity parameter added, additional water monitoring site and analysis detection level requirements.

Existing condition	Condition summary	Revised licence condition	Conversion notes
4.1 – 4.3	Works requirement for installation of bores	Condition 4, Table 3 Infrastructure requirements – groundwater monitoring wells Condition 5 and 6	Update to new licence format and modified condition to include new bore requirements
5.1.1 and 5.1.2	Records and person left in charge	n/a	Redundant conditions removed from licence
5.1.3	Annual Audit Compliance Report	Condition 18	Updated to new format.
5.1.4	Complaints	Condition 17	Updated to new format.
5.2.1	Annual Environmental Report	Condition 21 Table 9	Update to new format added additional reporting requirements for all variables requiring measuring.
New		Condition 1, Table 1 Infrastructure and equipment requirements	Pollution control infrastructure and operations have been conditioned in line with new format
New		Conditions 2 and 3 Works	Requirement for the installation of a flow meter
New		Infrastructure Condition 7	Requirement for a works approval to be submitted for the WWTP.
New		Discharge trigger reporting requirements Condition 9	Requirement of authorised discharge to water to meet targets and reporting requirements
New		Ambient water quality trigger values and reporting requirements Condition 10 and 11	Requirement of ambient water quality to meet triggers and reporting requirements
New		Conditions 21	New format standard reporting conditions for AER
Schedule 1: Premises Map	Premises map	Schedule 1: Figure 1 Premises map	Updated map to included new premises extension to include Lot 3006 on Deposited Plan 46540
	Process map	Schedule 1 Figure 3 Map of monitoring points	Update map to reflect monitoring points on one map
	Groundwater monitoring bores	Schedule 1 Figure 3 Map of monitoring points	
New		Schedule 1 Figure 2 Site layout	New map to show site layout

References

1. ANZECC (& ARMCANZ) 2000, *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand, Canberra. <https://www.waterquality.gov.au/anz-guidelines/resources/previous-guidelines/anzecc-armcanz-2000>
NB the 2000 guidelines have been superseded by ANZG (2018), Regional water quality guidelines for parameters such as nutrients are being updated but have not yet been released, hence reference to the 2000 documents.
2. ANZG (2018). *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia. Available at www.waterquality.gov.au/anz-guidelines
3. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
4. Department of Primary Industries and Regional Development (DPIRD) 2022 *Water salinity and plant irrigation* (last edited 2019), [Water salinity and plant irrigation | Agriculture and Food](#)
5. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
6. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
7. Water Quality Australia, 2013, *Guidelines for groundwater quality protection in Australia: National Water quality Management Strategy*, Canberra, Australia

Appendix 1: Summary of licence holder's comments on risk assessment and draft conditions

Condition	Summary of licence holder's comment	Department's response
Decision Report		
General	The licence holder has indicated that they are in the process of engaging with an operator to develop an appropriate wastewater treatment plant.	The department notes this information.
Section 3.2.1 potato processing	The licence holder provided information on how stormwater does not enter the WWTP.	The delegated officer notes this information and has updated the decision report.
Section 3.2.2 Wastewater treatment and discharge to surface water	The licence holder provided the following information: <ul style="list-style-type: none"> • Paddle wheels are generated by electricity. • Smith Brook Dam has a scour valve that is used to reduce levels of overflow on the spillway. 	The delegated officer notes this information and has updated the decision report.
Table 1 Licence holders controls	The licence holder provided information that all facultative ponds have 300mm freeboards. Facultative pond 3, 300 mm freeboard is controlled by a concrete overflow pipe L3 discharge point.	The delegated officer notes this information and has updated the table.
Revised licence		
Condition 1 Table 1	The licence holder indicated that Smith Brook Dam had a spillway and scour valve. The scour valve was used to regulated water levels in Smith Brook Dam.	The delegated officer notes this information and has updated the table.
Figure 3 Surface and groundwater monitoring points and Tables 7 and 8	The licence holder indicated that proposed sampling sites MW3 and WQ2 were in areas that were inaccessible. Licence holder indicated that they would be upgrading their WWTP and that would reduce contaminates.	The delegated officer noted this information and after further investigation agreed that MW3 and WQ2 would be inaccessible and cause unnecessary vegetation clearing. The delegated agreed to remove the downstream sampling sites on the basis that the licence holder would be submitting a works approval for a new wastewater treatment plant. Figure 3 and monitoring Tables 7 and 8 have been updated.

Appendix 2: Water quality data and comparison to trigger values

Table 6: Discharge data (L1) for 2021 and 2022 (supplied by the licence holder)

Month	Parameters with trigger values and limits									
	pH (≥6.0 and ≤8.5) ²	Total Dissolved Solids (<1000mg/L) ²	Biochemical Oxygen Demand (<40mg/L) ²	Oil and Grease (<5mg/L) ²	Total Phosphorous (<2mg/L) ²	Total Nitrogen (<10mg/L) ²	Electrical Conductivity (>2226 µS/cm) ³	Aluminum >0.055 (mg/L) ¹	Copper ⁴ (>0.0014mg/L) ¹	Zinc (>0.008mg/L) ¹
Jan -2021	10.5	1270	20.8	84	16.2	5.00	2200	0.031	0.006	0.002
Feb-2021	9.0	1240	24.1	49	10.6	15.10	2408	0.170	0.006	0.002
Mar-2021	9.6	1470	36.7	82	13.4	45.39	2220	0.108	0.006	0.002
Apr-2021	8.7	1240	59.1	6	33.2	35.29	2022	0.216	0.006	0.008
May-2021	9.3	1030	46.5	6	2.06	31.09	1673	0.061	0.006	0.018
June-2021	8.5	1020	83.8	193	26.25	20.87	1787	0.184	0.010	0.028
July-2021	8.6	870	50.2	30	20.45	15.87	1886	0.428	0.027	0.012
Aug-2021	8.4	1030	48.0	49	20.70	16.48	1856	0.006	0.006	0.002
Sep-2021	8.4	1020	51.2	16	22.01	20.43	1714	0.019	0.019	0.042
Oct-2021	8.5	940	41.0	28	6.5	52.0	1382	0.011	0.011	0.029
Nov-2021	8.5	1140	23.9	53	7.51	61.40	1719	0.014	0.014	0.020
Dec-2021	8.3	1320	27.6	32	17.00	34.3	1993	0.016	0.016	0.058
Jan -2022	8.9	1200	21.5	18	1.13	22	1970	0.32	0.04	3.41
Feb-2022	9.4	1500	29.8	14	1.16	0.02	2051	0.86	0.37	16.4
Mar-2022	9.1	1630	23.7	158	1.61	4	2205	0.14	0.006	0.25

Month	Parameters with trigger values and limits									
	pH (≥6.0 and ≤8.5) ²	Total Dissolved Solids (<1000mg/L) ²	Biochemical Oxygen Demand (<40mg/L) ²	Oil and Grease (<5mg/L) ²	Total Phosphorous (<2mg/L) ²	Total Nitrogen (<10mg/L) ²	Electrical Conductivity (>2226 µS/cm) ³	Aluminum >0.055 (mg/L) ¹	Copper ⁴ (>0.0014mg/L) ¹	Zinc (>0.008mg/L) ¹
Apr-2022	8.2	1120	27.2	16	8.97	18	1944	0.09	0.014	0.023
May-2022	8.3	1650	51.4	31	13.48	29	2259	0.092	0.015	0.027
June-2022	8.3	1130	14.5	6	12.06	10	2061	0.078	0.01	0.005
July-2022	8.9	1070	84.3	32	2.88	34	1796	0.21	0.006	0.244
Aug-2022	8.3	780	20.4	62	0.73	26	1148	0.093	0.006	0.01
Sep-2022	8.1	840	59.6	24	0.2	2	1455	1.188	0.034	0.059
Oct-2022	8	1340	45.2	-	8.64	10	1999	0.051	0.006	0.047
Nov-2022	8.2	1360	11.9	23	8.5	13	2047	0.04	0.006	0.007
Dec-2022	9.1	1400	12.1	18	5.18	7	1957	0.04	0.006	0.002

Notes:

Red highlight indicates licence or ANZECC trigger values exceeded

1 = Guideline / trigger levels for upland rivers in South West, Western Australia (ANZECC/AMRCANZ, 2000) (freshwater ecosystems)

2 = Licence trigger values (L8796/2013/1)

3 = DPIRD value for irrigation of salt to crops yield losses (DPIRD 2022)

4 = The detection limit of the analysis is used, licence holder should use an analysis detection equal to or below ANZECC (2000) trigger level.

Table 7: Smith Brook Dam (WQ1) water quality data 2001 – 2022 (licence holder supplied)

Quarterly period	Parameters with trigger values and limits									
	pH (≥6.0 and ≤8.5) ^{1,2,4}	Total Dissolved Solids (<1000mg/L) ² (>2400 mg/L) ⁴	Biochemical Oxygen Demand (<40mg/L) ²	Oil and Grease (<5mg/L) ²	Total Phosphorous (<2mg/L) ² (>0.05 mg/L) ⁴	Total Nitrogen (<10mg/L) ² (>5 mg/L) ⁴	³ Electrical Conductivity (>2226 µS/cm) ³	Aluminum (>0.055 (mg/L) ¹ (>5 mg/L) ⁴	Copper ⁴ (>0.0014mg/L) ¹ (>0.2 mg/L) ⁴	Zinc (>0.008mg/L) ¹ (>2 mg/L) ⁴
Mar-2021	8.9	700	8.7	95	0.53	4.21		0.080	0.006	0.002
June-2021	7.6	940	2.0	14	1.21	1.89		0.306	0.006	0.012
Sep-2021	8.2	630	2.7	171	0.93	2.45		0.336	0.007	0.054
Dec-2021	9.2	840	2.0	8	0.14	1.51		0.040	0.008	0.002
Mar-2022	8.9	790	6.7	146	1.52	0.38	1180	0.3	0.006	0.03
June-2022	7.7	660	2	10	2.39	17.13	1342	0.07	0.012	0.006
Sep-2022	7.2	540	2	66	1.35	1.91	1035	0.04	0.006	0.004
Dec-2022	8.3	700	6	25	1.25	2.48	1143	0.112	0.006	0.028

Notes:

Red highlight indicates licence or ANZECC trigger *freshwater ecosystems) values exceeded

1 = Guideline / trigger levels for upland rivers in South West, Western Australia (ANZECC/AMRCANZ, 2000) (freshwater ecosystems)

2 = Licence trigger values (L8796/2013/1)

3 = DPIRD value for irrigation of salt to crops yield losses (DPIRD 2022)

4 = Guideline / trigger levels for upland rivers in South West, Western Australia (ANZECC/AMRCANZ, 2000) (long term - irrigation)

Table 8: Groundwater monitoring bores (MB1, MB2, MB3 and MB4) water quality data 2001 – 2022 (licence holder supplied)

Monitoring Bore	Quarterly period	Parameters with trigger values and limits								
		pH (≥6.0 and ≤8.5) ²	Total Dissolved Solids (<1000mg/L) ²	Total Nitrogen (<10mg/L) ²	Nitrate -N (mg/L)	Ammonia -N (mg/L)	Total Phosphorous (<2mg/L) ²	Reactive Phosphorus	Electrical Conductivity (>2226 µS/cm) ³	Total Suspended Solids (mg/L)
MB 1	Mar-2021	6.1	2450	0.18	0.01	0.02	0.01	0.01		
	June-2021	6.2	690	0.71	0.01	0.02	0.09	0.01		
	Sep-2021	6.0	1890	1.06	0.47	0.02	0.07	0.07		
	Dec-2021	5.9	1990	0.13	0.02	0.02	0.01	0.01		
	Mar-2022	6.5	1890	0.02	0.01	0.02	0.01	0.01	2891	190
	June-2022	6.4	1780	0.54	0.9	0.11	0.01	0.01	1890	69
	Sep-2022	5.6	2010	0.54	0.02	0.02	0.14	0.06	2624	55
	Dec-2022	6.8	2390	01.24	0.69	0.02	0.57	0.37	2869	45
MB 2	Mar-2021	5.9	1400	0.72	0.01	0.02	0.01	0.01		
	June-2021	5.8	2090	0.46	0.01	0.02	0.11	0.01		
	Sep-2021	6.0	1380	0.91	0.07	0.03	0.01	0.01		
	Dec-2021	7.6	1680	0.98	0.46	0.02	0.01	0.01		
	Mar-2022	6.1	1040	0.9	0.06	0.02	0.01	0.01	2448	46
	June-2022	6.1	1740	0.11	0.06	0.16	0.05	0.02	2573	41
	Sep-2022	5.9	1870	0.74	0.01	0.03	0.06	0.02	2408	38
	Dec-2022	7.5	2220	0.01	0.51	0.02	0.01	0.01	2761	29

Monitoring Bore	Quarterly period	Parameters with trigger values and limits								
		pH (≥6.0 and ≤8.5) ²	Total Dissolved Solids (<1000mg/L) ²	Total Nitrogen (<10mg/L) ²	Nitrate -N (mg/L)	Ammonia -N (mg/L)	Total Phosphorous (<2mg/L) ²	Reactive Phosphorus	Electrical Conductivity (>2226 µS/cm) ³	Total Suspended Solids (mg/L)
MB 3	Mar-2021	5.8	1330	0.4	0.1	0.02	0.01	0.01		
	June-2021	5.7	1500	0.46	0.1	0.02	0.11	0.01		
	Sep-2021	5.8	1250	1.22	0.48	0.02	0.09	0.05		
	Dec-2021	6.0	820	0.5	0.05	0.02	0.01	0.01		
	Mar-2022	6.1	1280	0.01	0.01	0.02	0.01	0.01	1712	37
	June-2022	5.9	800	16.62	0.02	0.12	0.03	0.02	1959	21
	Sep-2022	5.8	1000	0.12	0.01	0.02	0.02	0.02	1587	17
	Dec-2022	6.9	1180	0.64	0.25	0.02	0.01	0.01	1734	14
MB 4	Mar-2021	5.8	1020	0.27	0.01	0.02	0.05	0.01		
	June-2021	5.5	1550	0.41	0.01	0.02	0.1	0.02		
	Sep-2021	5.7	1670	0.12	0.06	0.02	0.01	0.01		
	Dec-2021	7.8	1360	0.47	0.05	0.02	0.01	0.01		
	Mar-2022	5.9	1190	0.02	0.01	0.02	0.01	0.01	2393	13
	June-2022	5.7	1660	11.7	0.01	0.09	0.07	0.03	2409	17
	Sep-2022	5.6	1700	0.53	0.02	0.02	0.12	0.12	2161	20
	Dec-2022	6.7	2010	0.65	0.19	0.02	0.01	0.01	2332	9

Notes:

Red highlight indicates licence or ANZECC trigger values exceeded

Licence: L8796/2013/1

- 1 = Guideline / trigger levels for upland rivers in South West, Western Australia (ANZECC/AMRCANZ, 2000)) (freshwater ecosystems)
- 2 = Licence trigger values (L8796/2013/1)
- 3 = DPIRD value for irrigation of salt to crops yield losses (DPIRD 2022)
- 4 = The detection limit of the analysis is used, licence holder should use an analysis detection equal to or below ANZECC (2000) trigger level.