

Before the Independent Commissioner

Under the Resource Management Act 1991

In the matter of an application by Tegel Foods Limited for resource consent for the discharge of contaminants to air at 112 Carmen Road, Hornby, Christchurch

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**Statement of Evidence of Fiona Allison McAlpine**

28 July 2020

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## Introduction

- 1 My name is Fiona Allison McAlpine. I am the National Environmental Health and Safety Manager for Tegel Foods Limited (**Tegel**).
- 2 I hold a BSc (Hons) in Chemistry from Strathclyde University, a Diploma in Health and Safety Management from Caledonian University and Preliminary Certificates in Industrial Hygiene from the British Education Board for Occupational Hygiene. I have been employed in my current position of National Environmental, Health and Safety (**EHS**) Manager in Tegel for 10 years. My responsibilities include leading a national EHS team which supports and advises the business on compliance requirements and risk management.
- 3 Prior to this, my EHS experience has been gained in other manufacturing businesses including semi-conductors, biotechnology and alcoholic beverages.

## Scope of evidence

- 4 In this evidence I address:
  - (a) Environmental management; and
  - (b) Assessment and upgrade of plant and processes.

## Environmental management

- 5 Tegel has a documented National Environment, Health and Safety Management System (**National EHS Management System**). This applies to all sites and includes our Environmental Policy, roles and responsibilities of key leaders, managing risk and communication. National Standards form part of the system and are in place to guide all Tegel sites in managing waste, water, energy and air emissions.
- 6 As per the Environmental Policy in conducting its operations, Tegel is committed to protecting and enhancing the environment by adhering to the following principles:
  - (a) Tegel will identify and control the environmental effects of its operations through the implementation of its Environmental Management System (**EMS**);
  - (b) EMS objectives and targets will be set and reviewed annually to effectively manage identified environmental impacts and drive continuous improvement in environmental performance and manufacturing efficiency;
  - (c) Initiatives to encourage the efficient use of energy, raw materials, water and packaging will be facilitated at all levels of Tegel;

- (d) Tegel will put systems in place to minimize the environmental risks associated with all identified emergency situations;
- (e) Employee awareness of their role in environmental management will be promoted through training, internal communications and employee meetings;
- (f) Where practicable Tegel will work with suppliers and contractors to understand and reduce the environmental effects of their operations; and
- (g) Tegel shall as a minimum comply with all applicable environmental laws and regulations, including National Standards and relevant regional and district plans.

*Key roles and responsibilities*

- 7 The EHS function is represented at the executive level by the Group Technical Services and EHS Manager. The Group Technical Services and EHS Manager is independent of the operations function and is responsible for communicating EHS performance and business risks to the Board.
- 8 Operations at the processing plants are supported by an EHS team consisting of a Regional EHS Manager and EHS Co-ordinator in each region who report to the National EHS Manager. At the regional level, these roles are responsible for providing support and advice to operational managers on EHS compliance and management of risk.
- 9 Compliance to the National EHS Management System is verified by internal audits by the EHS team and departmental self-audits. The EHS team complete a full audit of the management system every two years. In addition to this, there is a prescribed program of department audits which occur on a monthly basis as part of a national annual calendar of EHS activities, which is prescribed and prepared by the EHS team. Requirements for compliance and verification during these audits include reviewing records of compliance, work place inspections and behavioural observations. Operation staff involved in department audits include Team Leaders, Team Co-ordinators, Health and Safety Reps and On Job Trainers.
- 10 Also as part of the EHS Calendar, staff are briefed on the topic of the month. Each department meets on a monthly basis to discuss EHS and the prescribed team briefing is delivered and discussed with the team. For example in April 2020 we focussed on Environmental Management.
- 11 Health and Safety Committees are active at all key Tegel sites, including the Carmen Road site (the **Site**). These groups also provide a forum in which to discuss environmental matters with employee representatives. Agenda items

include changes to policy, procedures and issues that may impact on the environment and community.

#### *Compliance and environmental management*

- 12 All sites have resource consents in place as required. The most recent Council compliance visit for the Site took place in May 2018 and this verified the sites' compliance with the air discharge consent conditions.
- 13 As well as regulation required by conditions of consent, the site also has an Odour Management Plan in place which identifies potential odour sources and documents the controls implemented to mitigate risks. This is discussed further below.

#### *Site and odour assessments*

- 14 Potential odour sources are identified as part of regular checks on-site. These checks are carried out by staff members who do not work in operational areas that may contribute to odour. Recently the methodology for these checks has been reviewed and records are now kept in line with the Ministry for the Environment Good Practice Guide for Assessing and Managing Odour. The section 42A report has recommended a condition requiring daily odour assessments at the Site, and Mr Pene recommends some amendments to this condition. His evidence also provides a draft procedure for the odour assessments. The Odour Management Plan (discussed further below) will be updated to include a new methodology for these odour assessments to align with consent condition requirements.
- 15 All complaints (internal and external) relating to odour are investigated to identify root cause and corrective actions. A log is kept and where possible feedback is given to complainants. In the last five years the main contributing sources have been:
  - (a) rendering cooking vents when simultaneously discharged;
  - (b) occasional breakdowns associated with the protein recovery plant; and
  - (c) recirculating water to rendering.
- 16 Corrective actions to address odours identified (either through complaints or internal environmental management procedures) have included improvements to site management processes and upgrades to plant infrastructure. Notable improvements have been made over the years to mitigate odours including:
  - (a) Commissioning an olfactory study by Lincoln University in 2009 which resulted in raising the height of the scalding stacks;
  - (b) Automating the recirculated water flush at the protein recovery plant;

- (c) Enclosing the contrashear at the protein recovery plant;
- (d) Automation of cook controls to prevent simultaneous venting of cooks; and
- (e) Aeration of the waste water holding tank to prevent odours due to anaerobic activity.

### **Assessment and upgrade of plant and processes**

- 17 As part of the consent renewal process, a team was established to review the known odour sources i.e. the protein recovery plant and waste water holding tank. The conclusion of the review was that improvements could be made by reducing fugitive emissions from the protein recovery plant and eliminating the potential risk of odour associated with the waste water holding tank. In order to support the planned upgrades, the biofilter required the ability to deal with increased air volumes. In re-designing the biofilter the engineering team reviewed recent biofilter installation at another site, reviewed overseas design concepts, and sought external specialist advice. The biofilter upgrade design process is discussed in more detail in the evidence of Tony Atkinson.
- 18 Within the last 10 months Tegel has undertaken the improvements identified through the review discussed above, namely it has:
- (a) installed a lid and extraction to enclose the effluent tank;
  - (b) upgraded the air extraction of the protein recovery plant; and
  - (c) redesigned and replaced the biofilter.
- 19 Further detail regarding these improvements is provided in the evidence of Robyn Marshall.
- 20 In addition to the upgrades listed above, the Odour Management Plan has been updated as part of Tegel's review of odour management at the Site. It will be further updated as necessary to ensure consistency with the conditions of the consent currently being sought, and is subject to review every year with a view to continuous improvement. The plan addresses roles and responsibilities for odour management, identification of odour sources and mitigation measures, monitoring effectiveness of controls and managing complaints and incidents. The current version of the Odour Management Plan is attached as **Appendix 1**. Additional departmental responsibilities are documented in the relevant operational manuals.

### **Conclusion**

- 21 In summary, Tegel has an Environmental Policy and National EHS Management System which provides direction and a framework to ensure compliance and risk

management at operational sites. Compliance is verified by a system of internal audits.

- 22 Potential for odour is proactively monitored and a system of logging and investigation of issues identified and any complaints received is in place. Where an odour issue is identified corrective actions are put in place to address the odour source. These actions include improvements to site management processes and upgrades to plant infrastructure. Tegel has recently implemented improvements to physical controls on odour, by way of a lid and extraction to enclose the wastewater tank, increased extraction of air from the protein recovery plant, and redesign and replacement of the biofilter. The Odour Management Plan has also been reviewed, and provides detailed documentation of the procedural controls in place to manage odour.

**Fiona McAlpine**

28 July 2020

**Appendix 1 – Odour Management Plan (as at July 2020)**

**Tegel Foods Ltd**  
**Carmen Road Processing Site**  
**Odour Management Plan**

**Date:** 14 July 2020

**Version:** Draft

**Prepared by:** Fiona McAlpine – National EHS Manager

**Note: Draft document to be updated following completion of consent hearing process, and confirmation of the specific requirements of any consent conditions**

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# 1 Introduction

## 1.1 Background

Tegel Foods Ltd operates the Carmen Road Processing Site located in Hornby, Christchurch. Previously the site has been granted two resource consents by Environment Canterbury (ECan) to discharge combustion products from the operation of six boilers and a smokehouse, and to discharge odorous compounds from protein recovery (rendering) at the site (CRC971639.1).

The air discharge consent CRC971639.1 is available in BraveGen and on the ECan website. It is not appended to this management plan to ensure the latest version is viewed at all times.

Currently the site is in the process of renewing the air discharge consent and this plan does not reflect consent conditions as these are not yet available.

## 1.2 Purpose

Condition 2 of resource consent CRC971639.1 (for the smokehouse and protein recovery plant discharges) requires that the discharge *shall not cause odour that is offensive or objectionable, to the extent that it causes an adverse effect at or beyond the boundary of 112-120 Carmen Road Hornby.*

The purpose of this Odour Management Plan is to describe the management and operational procedures that will be implemented at the Carmen Road site to minimise odour and achieve compliance with the above consent condition.

The OMP has been prepared with reference to Appendix 1 of the Ministry for the Environment's *Good Practice Guide for Assessing and Managing Odour* (2016).

The procedures for the management of discharges to air of contaminants, other than odour, are not described in this OMP.

## 1.3 Overview of the Site

### 1.4 Site description

The subject site is a large industrial property covering 4.27ha in Hornby, Christchurch. The site is owned and operated by Tegel and has functioned as a poultry processing facility since the 1950s. It contains a large amount of buildings on site to house the various aspects of the poultry processing facility. The facility operates as further detailed below.

#### 1.4.1 Live bird area

The live birds are brought to Hornby in catching modules loaded on flat deck trucks and trailers. The trucks and trailers are open sided for animal welfare reasons. The modules are unloaded and stored in the enclosed Live Bird Reception and Storage area until required for processing.

The ventilation in the Live Bird area is limited to natural flows induced by static roof vents and slow moving fans designed to keep the air moving past the birds without causing cold spots. When required for processing, the birds are loaded onto a hanging line that transports them through the plant.

The area is cleaned every day between deliveries and there is a more comprehensive clean once a month.

The Live Bird reception area is fully roofed with walls on all sides. Gaps have been left between the external wall and roof to facilitate air movement around the birds. The first birds are currently received at the site around 12am, with live birds delivered until around 1pm. These hours are typical hours rather than fixed hours.

#### **1.4.2 Primary processing**

The birds pass from the hanging bay to the kill room on a continuous overhead conveyor system, and are humanely slaughtered. The kill room houses the stunner and auto kill, the blood collection area, the scalding (aerated hot water bath) and the plucker.

The transfer machine then passes the birds through the eviscerator room where internal organs are removed and the birds are washed. Air extracted from the scalers is via extraction hoods and discharged from two stacks of 18m in height located above the processing plant. All other ventilation occurs via horizontal fans located on the north wall.

After the offal is removed the birds are transported to the spinchiller room containing large chlorinated ice/water baths. Here the birds are passed through the baths and are chilled to 6°C. They then enter an Acidified Sodium Chlorite (ASC) bath for final sanitisation. The ASC system is held under negative pressure and has an associated exhaust extraction fan.

The main source of odour from the primary processing area is from the scalding. This is an aerated hot water bath (58°C) through which the birds pass prior to plucking. It helps to loosen the feathers but also washes off much of the dust and faecal matter from their plumage. The odour generated is therefore a hot, wet and dirty feather smell sometimes described as 'wet dog'.

The scalding has an extraction hood over it which draws all air and steam from the facility and discharges it via the two 18m scalding stacks on the primary processing roof.

Primary processing usually occurs from 5am to 4pm (approximately) Monday to Friday.

#### **1.4.3 Secondary processing**

The secondary processing areas are used for the processing and packing of whole birds and the cutting of birds into portions. The packed cartons are then chilled or frozen and then dispatched to the holding warehouse via a conveyor system. Ventilation of the area occurs via horizontal extraction fans. As the secondary processing occurs at chilled temperatures and does not involve the application of heat, little odour is generated from this part of the process.

Typically the secondary processing area operates between 6am to 3pm (approximately) Monday to Friday with occasional Saturday processing.

#### **1.4.4 Smoke house**

The Christchurch plant contains the only smoke house operated by Tegel and is used to create smoked poultry products. The smokehouse consists of five steam ovens, smoked product has approximately 30 minutes of wood generated smoke applied prior to cooking. Discharging from relatively short chimney stacks. The smokehouse operates currently for up to 16 hours per day, 5 and a half days a week. Non-smoked batches (cooks) take on average just under 1.5 hours to complete. Smoking batches take longer, taking approximately 3.5 hours with the smoking phase taking 44 minutes on average. Smoking therefore occurs intermittently over the day. The smokehouse can emit a low level smokey odour and small quantities of white smoke.

### **1.4.5 Turkey processing**

The site also contains the only turkey processing plant for Tegel in New Zealand. The turkey plant operates in the same manner as the main chicken processing plant, but is much smaller to accommodate the reduced bird numbers. It is located on the rear half of the site adjacent to the protein recovery plant. The current operating hours of the turkey plant are up to 8 hours per day, 5 days a week. Turkey processing varies seasonally, with up to six days a week in advance of the Christmas period.

### **1.4.6 Offal handling/ protein recovery**

All soft meat by-products are transferred to the protein recovery plant. The protein and oil content of these by-products are recovered by the application of heat (rendering). By-product material is also received from the Brinks Chicken processing facility.

Offal, blood and feathers do not generate odour when they are fresh. However if they start to become rancid, decay or to dry on equipment they can produce a 'rotten meat' odour.

Within the plant itself there are measures in place to contain, extract and treat odorous air. This utilises equipment such as vacuum fans, extraction fans, containment, and the biofilter.

## **1.5 Overview of Site Resource Consents**

### **1.6 Existing resource consents**

The site holds existing resource consents for the following:

- M35/8902, M35/3662 and M35/7227 - bore/well consents
- CRC010188 –take of groundwater
- CRC011017 –take of groundwater
- CRC054334.2 –discharge of contaminants into air (boilers)
- CRC052405 discharge of contaminant to land and water
- CRC971639.1 –discharge of contaminants into air (smokehouse and protein recovery plant)

### **1.7 Other consents and approvals required**

No other consents are required.

## 2 Responsibilities

### 2.1 Roles and Responsibilities

Tegel Foods Ltd is the holder of Consent CRC971639.1 and has the ultimate responsibility to ensure that conditions of the consent are complied with and the operational processes are carried out in accordance with the OMP.

Roles and responsibilities of relevant managers are as follows.

Position	Responsibilities
Chief Executive Officer	Accountable for the Company environmental performance, including ensuring adequate budget and resourcing so that the performance standards noted in all resource consents are complied with.
Site Manager	Accountable for the site's environmental performance, including application for budget and resourcing so that the performance standards noted in the resource consents are complied with. Point of contact for enquiries or complaints from the community.
Engineering Manager	Operation and maintenance of PRP and associated infrastructure e.g. piping, sumps, biofilter. Maintenance of plant associated with odour mitigation i.e. stacks, fans, bag filters Development and implementation of documented Standard Operating Procedures (SOP's) that and are understood by those in positions that influence the potential of odours from the site operations.
Production Manager	Operation and maintenance of live bird reception areas (turkey and chicken), primary and secondary processing Development and implementation of documented Standard Operating Procedures (SOP's) that and are understood by those in positions that influence the potential of odours from the site operations including waste management.
Production Manager - Smokehouse and Further Processing	Operation and maintenance of smokehouse and further processing department Development and implementation of documented Standard Operating Procedures (SOP's) that and are understood by those in positions that influence the potential of odours from the site operations including waste management.
Distribution Manager	Development and implementation of documented Standard Operating Procedures (SOP's) that and are understood by those in positions that influence the potential of odours from the site operations. The main aspect being product dumps and waste management to ensure no odour issues arise.
Regional EHS Manager	Support the development and implementation of site environmental management plans, including this odour management plan. Support the site to meet the requirements of the environmental consents, permits and other agreements held by the site. Monitor to ensure resourcing, responsibilities, systems and procedures are in place and are understood. These procedures include investigating and closing-out audit corrective actions, performance standards, non-compliances and complaints. Point of contact with environmental regulators.

## 2.2 Staff and Contractors

All Tegel staff and contractors working on the site are responsible for ensuring that their activities comply with the relevant resource consents and the directions of their Manager or Tegel contact.

## 2.3 Training and Competencies

The EHS function are responsible for developing and delivering environmental training and this is generally delivered as part of the EHS Calendar. This includes general site induction information which is found in the National Environment, Health And Safety Manual Appendix 06.

It is the responsibility of the relevant department manager to implement relevant environmental training and induction programme for all contractors and staff.

The purpose of this programme is to make all personnel working on site aware of and understand the purpose and requirements of the resource consent conditions and the ramifications of a failure to comply with these requirements.

The induction training programme for all contractors and staff will include at least the following aspects:

- The permit to work requirements that requires the identification of any aspects of the proposed activity/work to be undertaken that has the potential to impact the environment and inclusion of control plans to be implemented to avoid/minimise odours and any other environmental effects;
- Are aware of the responsibilities of all staff and contractors to carry out work on site in a manner that does not result in adverse effects on the environment and in accordance with resource consent conditions.

### 3 Activity Description

#### 3.1 Description of the Surrounding Area

The site is located at 112 Carmen Road in Hornby, Christchurch, approximately 7 km from the Christchurch CBD. The site and the immediate surrounding area is zoned a mixture of General Industrial or Heavy Industrial, with Residential zoning across SH1 to the west and across Buchanans Road to the north. Hornby High School and St Bernadette’s School are located approximately 350 m to the south-west and west, respectively. Other activities in the area include a petrol station, mechanical workshops, storage facilities, offices and recreational facilities.



Figure 3.1 Location plan

Source: Canterbury Maps Viewer, 2016

Whilst Tegel’s activities are consistent with the expectations of the Industrial zone there are some existing potentially sensitive activities including a trampoline park, schools and recreational facilities. Residential areas where sensitivity to odour will be high are also located west of Carmen Road and north of Buchanans Road. Of particular relevance is the proximity of these sensitive activities to the protein recovery plant on the site, which has the potential for the greatest impacts on amenity.

<b>Sensitive activity</b>	<b>Address</b>	<b>Approximate distance from protein recovery plant</b>
Mega Air Trampoline Arena	106 Carmen Road	150m
Safari Meats and SA Shop	100 Carmen Road	300m
Inflatable World Hornby	81 Buchanans Road	240m
Action Indoor Sports Stadiums	81 Buchanans Road	240m
Coupland's Bakeries	140 Carmen Road	311m
Residential dwellings across SH1	Bella Rosa Drive, Tirangi Street	316m
Residential dwellings across Buchanans Road	Cicada Place	326m

### 3.2 Meteorology

The closest meteorological station is the Kyle Street, Riccarton station which is located approximately 6km from the site. The weather station is operated by NIWA as part of their air quality monitoring programme. A wind rose based on data from the weather station for Kyle Street is presented in Figure 1. This is expected to be broadly representative of weather conditions at the subject site. The predominant wind direction is from the northeast, with the next predominant wind direction from the southwest. This is similar to wind patterns throughout the Canterbury Plains.

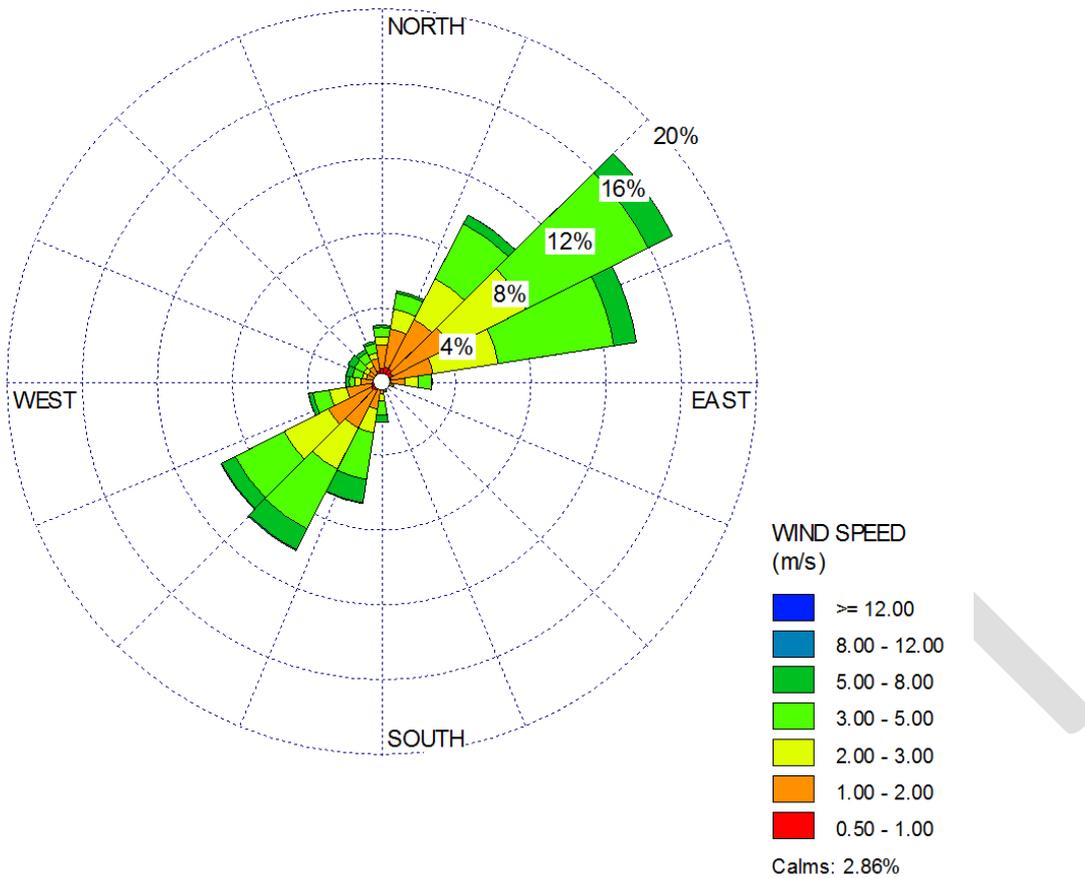


Figure 1: Frequency of wind speeds and directions measured at Kyle Street, Riccarton 2008-2017 (1-hour average data)

## 4 Odour Sources and Mitigation Procedures

### 4.1 Objective

To minimise the emission of odours from the site and to ensure site emissions do not generate objectionable odour outside the site boundary.

### 4.2 Consent Requirements

Consent CRC971639.1 requires that there shall be no discharge to air that results in odour that is objectionable, to the extent that it causes an adverse effect at or beyond the boundary of the site. *[Note: to update consent requirements at the conclusion of the consent hearing process]*

### 4.3 Sources of Odour Emissions

The following table sets out those processes and activities on site which may lead to discharges and establishes the controls and responsibilities for the ongoing management of these risks.

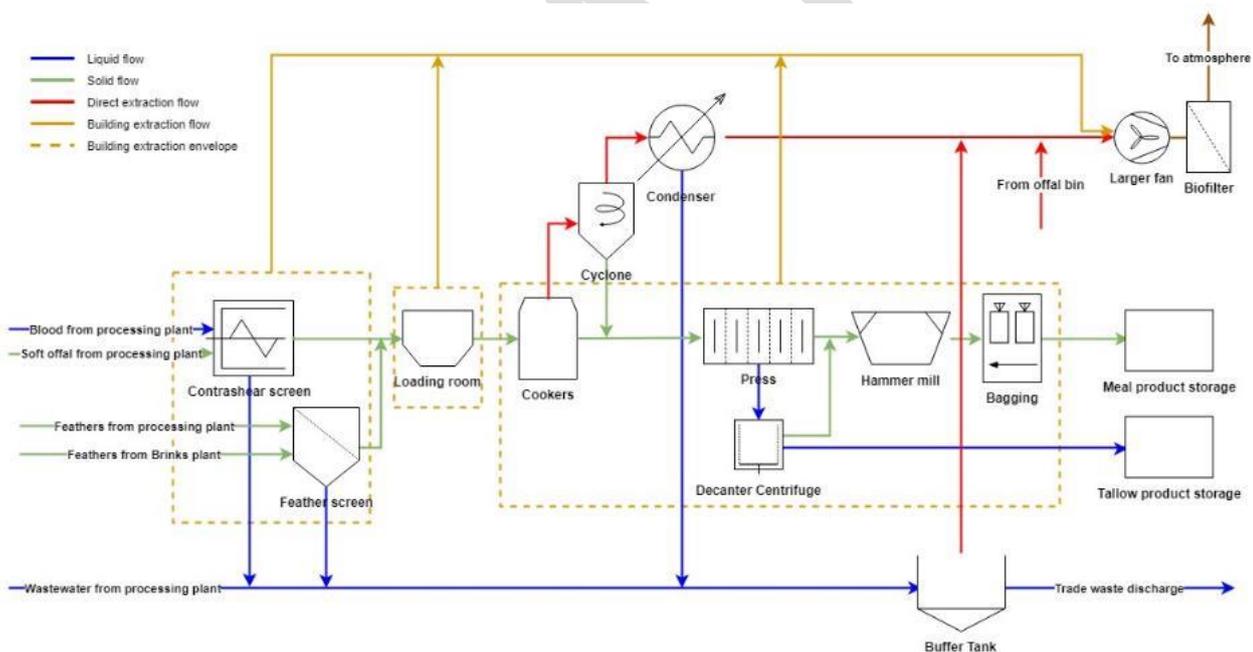
#### 4.3.1 PRP Emissions

Odorous compounds may be generated through the decomposition of organic material during the treatment, storage and transfer of offal, feathers and wastewater.

Odour sources are :

- Cooker venting
- Sumps
- Offal reception – augers, contrashear, brinks bin
- Biofilter

Figure 4-1: Process flow diagram for by-products rendering, air extraction and wastewater conveyance activities at the PRP (current configuration)



The wastewater, feathers and offal generated from the manufacturing processes generally have a relatively low odour risk when “fresh” and aerobic conditions are maintained. However, the odour risk of the waste material increases over time if anaerobic conditions develop. Therefore, avoiding extended retention times of the waste, routine cleaning of sumps, tanks and handling plant, and other associated good housekeeping practices are also required. A thorough preventive plant maintenance programme, including ensuring identified critical spares are available at all times, help ensure the plant can satisfy performance expectations. Monitoring procedures are in place and these enable tracking of performance of which odours forms part.

Objectionable odours should not be generated from PRP during normal operating conditions, however due to the open nature of wastewater sumps and holding bins, there can at times be localised odour.

Higher odour emission rates may occur during abnormal operating conditions. Possible upset events when higher odour emission rates could occur include the following:

- Extended offal holding periods;
- Simultaneous venting of cooks;
- Loss of electrical power;
- Mechanical failure; and
- Spills which are not cleaned promptly.

Steps to avoid these events occurring (or mitigate effects if they do occur) are described throughout this document.

### 4.3.2 Scalding Emissions

Some odour is also emitted from the scalding process which occurs in Primary processing. The height of the scalding extraction stacks ensures that odour is well dispersed.

## 4.4 Emission Control Procedures

### 4.4.1 Operational Controls

The various operations are undertaken in accordance with documents procedures and standard operating procedures.

The environmental management framework is included in the National EHS Manual. Appendix 33 deals with the management of air discharges.

Department	Potential source of contamination	Key Potential Risks	Controls		Contingency	Responsibility	Monitoring
			Physical	Procedural			
Primary	<b>Bird delivery and storage.</b> Crates of chickens are delivered to the site by trucks and placed into designated storage areas within the lairage.	Potential discharge of odour, dust and feathers. Bird odour has not been associated with strong intensity in odour observations	Storage areas are covered and partly enclosed with ventilation for animal welfare purposes. Ventilation fans direct air onto site. Feed withdrawal reduce	Regular housekeeping in lairage.		Primary Team Leader	Pre-op checks include hygiene

Department	Potential source of contamination	Key Potential Risks	Controls		Contingency	Responsibility	Monitoring
			Physical	Procedural			
			faecal load. Birds are protected from rain. Staggered delivery with limited time to kill. Truck wash with every delivery.				
	<b>Kill Room</b> (blood collection, scalders, pluckers)	Potential discharge of odour from this area.	Discharged via stacks on roof designed to disperse any odour above ground level. Continuous flow of water through the scalders and cleaning at the end of each shift to avoid build-up of organic matter.	Full clean following production shift.		Primary Team Leader	Pre-op checks include hygiene.
	<b>Offal, blood and feather waste</b> transported via pipework to rendering	Sump overflow or spillage	Covered collection area for offal, feathers and blood.  High level alarm in sump.	Cleaned by factory wash water.  Rendering within 24 hours		Primary Team Leader	EHS/Quality Snapshot Audits.

Department	Potential source of contamination	Key Potential Risks	Controls		Contingency	Responsibility	Monitoring
			Physical	Procedural			
	<p><b>Rendering bins</b></p> <p>Reject carcasses and chicken parts, plus dumped product are collected in bins for daily pick up by PRP staff.</p>	Potential odours from unclean bins or aged product.	Lidded bins.	<p>Training and Awareness.</p> <p>Rendering within 24 hours.</p> <p>Keep bins enclosed.</p>	<p>Use sodium metabisulphate as needed.</p> <p>Disposal via licensed waste contractor</p>	PRP Team Leader	
	<b>Rendering</b>	Offal cooking odour.	<p>Enclosed building which is extracted via the biofilter.</p> <p>Direct extraction of cookers and other sources to the biofilter.</p> <p>Electronic controls to ensure that simultaneous venting of cookers does not occur.</p> <p>Pre-planned maintenance schedule on BWM</p>	<p>Regular housekeeping, Management of cooking process to avoid excessive load on odour control system, processing within 24 hours. Use of sodium metabisulphate for stabilization of material if required.</p>	Disposal via licensed waste contractor	PRP Team Leader	SCADA monitors biofilter moisture, pH and back pressure

Department	Potential source of contamination	Key Potential Risks	Controls		Contingency	Responsibility	Monitoring
			Physical	Procedural			
	<b>Offal tower and Brinks bin</b>	Fresh offal does not pose an odour risk however aging offal does	Enclosed contra shear and feather screen	Product rendered within 24 hours. Daily post production cleaning and regular housekeeping throughout the shift. Use of sodium metabisulphate if required.	Disposal via licensed waste contractor	PRP Team Leader	
	<b>Waste water storage</b>		Enclosed tank with extraction to biofilter	Waste water is discharged when the tank is full which typically is in the early afternoon, within 24 hours of production		PRP Team Leader	
	<b>Smokehouse ovens</b> Wood smoke discharge	Smokehouse odour has not been identified in off-site odour observations or noted in complaints	Kiln dried wood is used for smoking so as to minimise steam production. Limited emissions due to production cycle.	Daily oven clean. 6 monthly flue clean.			

#### 4.4.2 Maintenance Procedures

- Maintenance and servicing of rendering, wastewater storage and reticulation equipment is to be carried out in accordance to with BWM schedules, good practice guides and manufacturer's specifications to ensure that equipment remains in service.

- Maintenance is undertaken in accordance with the work plan which includes the potential for odour emissions resulting from a maintenance or job task, are considered as part of both routine and non-routine work plans.
- A record of all maintenance undertaken will be maintained within BWM.
- A critical parts register, and spare critical parts are also maintained at site to minimise the duration of any replacement period. The critical parts register is maintained within BWM.

#### **4.4.3 Personnel**

- A PRP operator is available 24 hours per day, six days per week when the plant is operating to respond to odour complaints and any emission incidents.
- PRP operators are trained to respond to any odour incidents.

#### **4.4.4 Acceptance Criteria for Brink's Offal**

- Tegel accepts offal from the Brink's site which is located at 1308 Main South Road, Templeton. The offal must be from the same days production and is generally received between 1-4pm
- A record of all loads, noting their acceptance or rejection, will be retained for the previous 12-month monitoring period.

#### **4.4.5 Changes to the Manufacturing Process that might affect emission of odour**

Changes to the site's operations and processes that could impact of the discharges of odour into the air must be assessed as part of the Management of Change process. (National Business Manual)

## **5 Monitoring**

### **5.1 System Monitoring**

Critical performance indicators are managed through SCADA and alarms are in place to notify Engineering of operational issues.

Operator checks are documented in relevant site procedures.

### **5.2 Site Inspections**

EHS complete daily odour checks and records are kept on the shared drive. See Appendix 1.

Any odour issues are reported to the relevant plant operator who is required to instigate appropriate remedial action; confirming the source and then eliminating, isolating or mitigating the cause. The relevant manager is also notified, so that the matter can be escalated, depending on its severity.

## **6 Odour Complaint Procedures**

### **6.1 Consent Requirements**

To be added.

## 6.2 Complaint Response Procedures

Complaints may be referred by a regulatory authority, a member of the public or a Tegel employee or contractor.

All complaints shall be treated as serious and shall be recorded in the complaints log, and any complaint received will be escalated to the Site Manager and EHS Manager via completion of an EHS Incident Investigation Form (“green form”).

### The Complaint:

For all complaints the following details shall be recorded in the daily odour log:

- (i) time and type of complaint including details of the incident, e.g. duration, location and any effects noted;
- (ii) name, address and contact phone number of the complainant (if provided);
- (iii) the weather conditions at the time of incident (as described by the complainant)
- (iv) the frequency (intermittent or constant) and the duration over which the odour was experienced
- (v) confirmation if the complaint has been referred to the Regional Council

### Complaint Investigation:

- Record wind direction, wind speed and temperature (recorded at the site meteorological station). (to verify against the wind details provided by the complainant)
- If the location of the complainant is known, visit the location as a priority and as soon as possible to assess and confirm the validity of the odour complaint. Odour complaints will require the investigator to remain and observe at the location for a minimum of ten minutes. Note however the wind conditions at the time of complaint may vary considerably from the wind conditions when visiting the property (for example: calm/still versus moderate wind and direction) therefore a return visit when the condition most resemble those observed by the complaint should be undertaken.
- If it becomes obvious that there may be another source of odour causing the nuisance it is important to verify this. To do this, the person undertaking the investigation should conduct a 360° sweep around the suspected source to eliminate any other possible sources of odour. Record any observations of recognisable odour at other locations surrounding the suspected source, including times of observations at each location.
- After the initial investigation has been completed, contact the person who made the complaint (if possible) to explain any problems found and remedial actions taken.
- If necessary, update any relevant procedures to prevent any recurrence of problems.
- Complete an EHS Incident Investigation Form and update the daily odour log.

## 6.3 Follow-up Actions

- Advise the Site Manager and EHS Manager.
- Advise staff and contractors where relevant that a complaint has been received and what the findings of the investigations were, and any remedial actions taken.

## **7 Communication of odour incidents**

### **7.1 To the Complainant**

It is important that the findings of an investigation into an odour complaint, and the actions taken to prevent a recurrence, are communicated to the complainant. This is an opportunity to thank them for helping Tegel continuously improve and to apologise for the incident.

### **7.2 To Staff and Contractors**

The Site Manager shall report any odour complaints received, and remedial actions taken, to the relevant operators and contractors. Where the incident has required a change to operational procedure(s), these changes shall be reflected in a revised SOP and in having staff and contractors confirm they understand the change and any aspects of their work in the future.

## **8 Management Plan Review Procedure**

This OMP will be reviewed at least every year by the EHS Manager and updated, as necessary to reflect changes in operational activities or the site environment.

The review will take into consideration the following:

- Any significant changes to operational activities or methods;
- A review of the adequacy of odour control measures;
- Any additional areas that were not considered in the previous OMP;
- Key changes to roles and responsibilities within the organisation;
- Changes in industry best practice standards;
- Changes in legal or other requirements (social and environmental legal requirements, consent conditions, relevant policies, plans, standards, specifications and guidelines etc);
- Results of inspection and maintenance programmes, logs of incidents, corrective actions, internal or external assessments; and
- The outcome of investigations into discharges of odour causing nuisance effects, or breaching any conditions of consent relating to odour.

The review of the OMP shall be undertaken in accordance with Tegel's document control procedures.

## **9 List of Relevant Site Documents**

### **9.1 South Island Engineering Protein Recovery Manual**

00-01 Boiler Operation and Management

05-08 Rendering Odour Management

04-04 Receiving Brinks Offal Procedure

07-01 Rendering Plant Cleaning Procedures Cleaning

08-03 Design, Maintenance and construction

11-01 Biofilter Operation and Management

## **9.2 Christchurch Poultry Processing quality Manual**

01-14 Livebird Management

## **9.3 South Island Value Added Manual**

04-02 Smoke Generator Operation and Management

## **9.4 Complaints & Odour Log**

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