

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

Statement of Evidence of Robyn Maree Marshall

28 July 2020

Applicant's solicitors:

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Introduction

- 1 My name is Robyn Maree Marshall. I am the Site Manager for Tegel Foods Limited's (**Tegel**) Christchurch processing plant.
- 2 I have a Diploma in Science from Otago Polytechnic in 2000 and over the past 20 years have predominantly worked in the Food Manufacturing Industry. Having worked at Tegel Foods on the Carmen Road site for the past 15 years I have gained significant experience in a number of roles, initially starting as a Laboratory Technician, moving through two further technical roles, Laboratory Manager and Technical Manager in the business to then move into a Production Manager role in the Further Processing plant. In April 2018 I was appointed as the Site Manager. As the Site Manager I am responsible for site activities including bird delivery to plant, all production operations, engineering operations and providing support to Distribution and Logistics. The Site Manager is responsible for ensuring that site operations meet all business requirements including health and safety, quality and food safety, delivery, productivity.

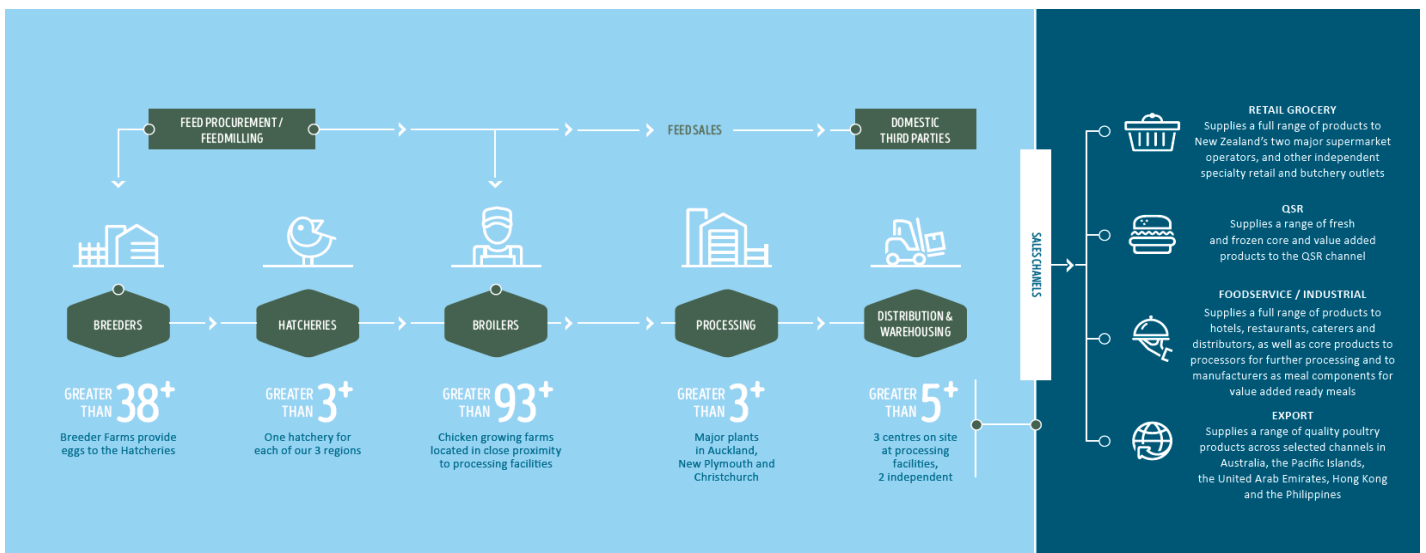
Scope of evidence

- 3 In this evidence I address:
 - (a) An overview of Tegel's business;
 - (b) Contribution of Carmen Road site to production;
 - (c) Site history and investment;
 - (d) Overview of site operations and management; and
 - (e) Response to submissions.

Overview of Tegel's business

- 4 Tegel is a fully integrated poultry producer in the breeding, hatching, growing, and processing of chicken and turkey for the New Zealand market and export markets. Tegel is considered the market leader in the New Zealand poultry industry, processing approximately 55 million birds annually (equating to 100,000 tonnes of finished product) or approximately 20% of New Zealand's total meat protein. Chicken is currently the most consumed meat protein in New Zealand, making up approximately 40% of New Zealand's meat protein consumption.

- 5 Tegel has been operating in New Zealand since 1961 and is an iconic New Zealand heritage brand offering a broad range of cage free (barn raised) and free range poultry products. Tegel's products are supplied to major supermarkets, other retail outlets, processors, hotels, restaurants, distributors and fast food operators. Tegel also manufactures a range of free range products under the Rangitikei brand, as well as sausages and processed meats under the Top Hat brand.
- 6 Over the last 59 years of operation in New Zealand, Tegel has consistently broadened its business interests. Tegel currently employs approximately 2,170 people nationwide, with the majority of those persons based in the chicken-processing area of the business.
- 7 Tegel operates a vertically integrated business model to achieve efficiency and control at all stages of production. Tegel's operations include feed procurement and manufacture, breeder farms, hatcheries, broiler (meat growing) farms, processing plants and distribution centres. Each of these facilities plays a critical role in the overall poultry supply chain. As can be seen in the image below, Tegel has a large number of sites spread across New Zealand with each piece of the process fulfilling a critical part in a very complex and long supply chain.



- 8 Tegel's substantial business infrastructure comprises proprietary livestock raising methods, extensive distribution capabilities and high-quality poultry and further processed meat facilities. Tegel leads its own marketing, sales and distribution of poultry products across New Zealand and to selected international markets.
- 9 Tegel's head office is based in Auckland, and its operations include major processing facilities in Auckland, New Plymouth and Christchurch. The highly sophisticated and automated processing facilities are fully accredited and independently audited to meet globally recognised food safety and quality standards. The geographic spread of Tegel's facilities is as follows:

- (a) Auckland: feedmill, breeder farms, hatchery, broiler growing and processing;
- (b) New Plymouth: feedmill, breeder farms, hatchery, broiler growing, processing, small goods and layer operation;
- (c) Levin: pullet rearing;
- (d) Wellington: satellite processing and smallgoods; and
- (e) Christchurch: feedmill, breeder farms, hatchery, broiler growing, processing and small goods.

Contribution of the Carmen Road site to production

- 10 The Carmen Road site is a very important component of the Tegel business, being the only Tegel processing plant located in the South Island. The site is the largest poultry processing site in the South Island and is the main fresh chicken supplier in the South Island. The site also has the only production facilities for producing Ready to Eat chilled products and fresh and frozen Turkey to both the domestic and United Arab Emirates exports markets. The geographic location of the site and diversity in production means the site is critical in the business supply chain and growth strategy.
- 11 The site employs approximately 420 people in working in operational areas and support functions. A significant number of our employees are members of the local community, living in the areas surrounding the site. Within the wider region there is approximately an additional 130 people employed to work in the feed milling and livestock operations. The day to day management of the site is over seen by a team of 10 managers responsible for operational departments and support areas. There are 5 managers dedicated to the operational aspects of the plant on a day to day basis. Each of these managers (Chicken & Turkey Plant Production Manager, Further Processing Production Manager, Engineering Manager, Distribution Manager and Site Manager) have significant experience and a minimum lengths of service of 15 years working on the site individually.
- 12 The supply of birds to the site for processing is undertaken by 32 contracted growers. The growers are all located in Canterbury ranging from Rakaia through to the Cust area. These growers will supply approximately 15.6 million birds to the site in 2020 and are solely dedicated to supplying birds to Tegel.
- 13 A large number of contractors provide goods and services either within or in support of the site's day to day operations. There are approximately 60 employees who are solely employed in cleaning, hospitality and catching. A significant number also support in the areas of plumbing, fabrication, cleaning, transport, consumable supplies, packaging and ingredients, etc. It is estimated that the annual spend by

Tegel for suppliers and contractors in the Canterbury region will be \$70 million in 2020.

- 14 Tegel is a proud supporter of community groups and projects in the Canterbury region. In 2019 and 2020 we have supplied product and/or donations to the following organisations:
- (a) Salvation Army Food Bank;
 - (b) Cancer Society;
 - (c) Compassion Trust;
 - (d) International Mounted Games Association - National Team Championship;
 - (e) West Melton RFC;
 - (f) MND New Zealand; and
 - (g) Cystic Fibrosis NZ Canterbury - Charity Golf Tournament.

Carmen Road site history and development

- 15 The site is a large industrial property covering 4.27ha in Hornby, Christchurch. The site is leased and operated by Tegel and has functioned as a poultry processing facility since the 1950s. The Carmen Road site holds the facilities for the primary and secondary production for chickens and turkeys, further processed small goods plant, distribution centre and protein recovery plant.
- 16 Significant investment has been made in the Carmen Road site in the years it has been established. Typically on an annual basis Tegel would spend between \$3-5 million to towards site upgrades. It is estimated that if we were to build a new processing facility on a greenfield site with all existing capabilities of the current site it would cost upwards of \$100 million. If we proposed to build a new state of the art rendering plant only it is estimated to cost \$15-20 million. I am advised that neither of these options are economically viable for Tegel. Recent investment in upgrades is discussed further in my evidence below.

The Canterbury Region production process

- 17 Within the Canterbury region, Tegel has the following production processes:
- (a) The feedmill: this is the sole supplier of feed to Tegel broiler, breeder and turkey farms within the region;
 - (b) The hatchery: hatches eggs from chicken and turkey breeder farms for supply to the broiler farms within the region;

- (c) 7 breeder farms: these provide eggs to the Hatchery, supply to other regions and for export; and
 - (d) 31 broiler chicken and 4 turkey farms: these farms can currently provide up to 400,000 birds to the processing plant per week. Birds are housed on farm until they have reached the required weight they are removed from the sheds and transported to the processing plant for processing.
- 18 The catching process is undertaken by a contractor who employs approximately 25 people in the region solely for this purpose. Catching of the chickens generally takes place during night time. The birds are loaded into modules for transport to the processing plant.

Processing at the Carmen Road site

- 19 A summary of the process undertaken at the site is provided below, and a site map showing the location of key process areas is attached as **Appendix 1**. Further detail can be found in the Application document.
- 20 Live birds are delivered to site from approximately 12 am and will continue typically one truck every hour until approximately 1pm of that day. Processing of the birds starts from 5am and finishes at approximately 4pm. The time taken to process the birds will vary according to the bird size. Typically birds are held 4-6 hours in the lairage before processing, and all birds are processed on the day that they are transported from far to site. To manage odour sources within the live bird area there are a number of requirements around operational processes, bird quality, storage, and cleaning. The controls in this area are comprehensive, being driven not only by requirements to manage environmental effects but also MPI animal welfare and processing controls. In the event of a breakdown an escalation process is initiated and a list of potential actions that can be taken are documented. This procedure is referenced in the site Odour Management Plan provided with the evidence of Fiona McAlpine and documented in a Tegel manual.
- 21 Primary processing comprises of the conversion of live birds into carcasses. The numbers of birds processed is typically at is higher in the period from late October to late February to cover public holiday long weekends, the Christmas period and summer demand. During these times the numbers of chickens processed can be in the range of 75 000 per day. The winter period from June to August typically sees a reduction in bird numbers by approximately 10 000 chickens per day. Primary processing of chicken is mostly automated and includes recovery of offal, ensuring as much of the bird is utilised as possible. The process begins with the slaughter of the birds before moving to the scalding process. The scalding is a bath of hot agitating water that the carcasses are passed through to allow for feather removal. The steam rising from the scalding tank is extracted by a fan and exhausted via an 18m stack directly above the plant. Waste water from this

process drains to a pump sump and is discharged to trade waste. After scalding the carcasses progress through the plucking and evisceration process before entering into large water chilling baths.

- 22 Secondary processing involves the conversion of carcasses from primary processing into meat cuts, whole birds ready for sale or for further value added production. Tegel operates automated machinery, in combination with a skilled workforce to efficiently process and package finished products.
- 23 The further processing facility has a fully cooked batch process, producing cooked and shredded chicken, smoked whole chicken and breast fillets and a range of small goods including bacon, sliced meats and precooked sausages. Products are prepared using various methods of size reduction, reformation and marination followed by the cooking process. Selected products have a hot smoking process applied during the initial stage of the cook cycle. A short application of smoke gives products a characteristic golden colour, mild smoke flavours and aromas are imparted into the meat. Following the smoking process the smoke is evacuated from the oven via a stack directly above the oven. The ovens and smoke generators is specialised equipment whereby after initial set up by trained operators the process is fully automated and controlled for optimal performance.
- 24 Turkey is produced in a dedicated separate production facility located at the in the rear part of the site. This process covers conversion of the live birds into carcasses and through to finished products of whole birds, portions and boneless cuts of meat for further processing. This is Tegel's only turkey processing facility and it supplies the largest amount of New Zealand grown and produced turkey into the domestic market. Turkey processing varies seasonally, with an increase in production in advance of the Christmas period where typically 4500 to 5000 birds per day are processed over a 2 week period prior to meet seasonal demand for products.
- 25 The chicken and turkey products produced on the site are then either stored or distributed from a chilled and frozen storage facility. Product is delivered locally directly to customers via Tegel's company drivers and domestically via contract drivers
- 26 Waste material including 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 for processing within the same day.

Site Investment

- 27 In order to develop a plan for improving the odour discharges from the site a team was established to review the known odour sources i.e. the protein recovery plant and waste water holding tank (as discussed further in the evidence of Fiona

McAlpine). The conclusion of the review was that improvement 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. A three phase work plan of interlinked improvements was presented and accepted by the business via the company's capital expenditure request system. The total investment in these three projects is \$1,150,000.

- 28 Recently completed and currently underway site improvements are described below.

Effluent tank lid

- 29 This improvement involved installation of a large lid to enclose the effluent holding tank (1 million litres capacity) which is ventilated to the biofilter. This eliminates the effluent holding tank as a source of odour. The lid and extraction fan was installed November 2019 and ducting linked to the existing biofilter in January 2020.



Figure 1: Effluent tank with lid installed

Protein Recovery Plant ventilation upgrade

In January 2020 we upgraded the extraction system to enable increase the air volume being removed from the protein recovery plant building. This reduces the likelihood of fugitive emissions from the building due to improved capture.



Figure 2: Upgraded ventilation / extraction system

Redesign of the biofilter

- 30 The biofilter design review resulted in a replacement biofilter that has improved airflow through the bark medium, and is fitted with permanent misting sprinklers and monitoring devices to verify optimal operating parameters. The new design improves the efficiency of the biofilter to remove odorous compounds. Work commenced in January 2020 and the bio filter was operational in May 2020.



Figure 3: replacement bio filter

Response to submissions

- 31 Tegel representatives (including myself) and advisors met with representatives of the Ministry of the Education and their consultants on 15 July 2020 to discuss the Application, site upgrades, and the Ministry's submission. As part of that engagement, Tegel has provided information in response to the specific questions raised in the Ministry's submission. The information provided is also contained in the various statements of evidence provided on behalf of Tegel, with the majority of information related to procedures that are contained in the Odour Management Plan attached to Fiona McAlpine's evidence.
- 32 The recent submissions have highlighted some odour events that have occurred in the past that we have not been aware of. In this case it is difficult to identify possible sources, especially if an investigation is not initiated promptly. Tegel is committed to managing odour to avoid nuisance effects in the surrounding area. We proactively respond to any complaints that are raised with us from neighbouring businesses, local residents or from within the business. Tegel also believes (based on the technical advice we have received, together with the experience of those working on the site) that the upgrades we have implemented have already and will continue to assist in the minimisation of odours that have been experienced on occasion in the past.

Conclusion

- 33 The Carmen Road site is a critical component of Tegel's business and is the primary supplier of chicken meat to the South Island market (in addition to other markets supplied). It is a significant employer for the local community, both directly and through contracts with supporting industries.

- 34 The site has operated in this location since the 1950s and contains substantial investment which would cost in the order of \$100 million to replicate on a new site. I am advised that this option is not viable for Tegel.
- 35 The site has an experienced long serving management team, well maintained and monitored equipment, robust management processes and a genuine desire to be a responsible member within our community. I believe the recently installed improvements will have a noticeable positive effect to odour discharges. The fact that these three projects have been completed demonstrates our intent to manage possible odour sources. We will continue to actively identify and respond to any odour issues if they were to arise in the future.

Robyn Marshall

28 July 2020

Appendix 1 – Carmen Road Site Plan

