Kotuku Corporation Ltd.

Operational Management Plan.

Version: 24 August 2018
Table of Contents:

Poultry Management:

1. **Day to day operations**: Farm Management and backup systems
2. **Bedding material**: Type and supply.
3. **Broiler house heating**: Heating source and supply.
4. **Poultry feed**: Supply, storage, and spillages.
5. **Water supply**: Groundwater take and storage.
6. **Pests, rodent and fly control**: Systems used and monitoring.
7. **Catching**: When birds are taken from the broiler houses
8. **Cleaning of Broiler houses**: Litter disposal, dry cleaning, and washing.
9. **Waste water disposal**: Disposal system, washing protocols, and backup systems.
10. **Storm water disposal**: Storm water storage and disposal.
11. **Ventilation**: The system used and dust and odour controls.
12. **Bird health and welfare**: Veterinary inspections, Company Livestock Managers, Staff qualifications and experience, visitor’s policy and mortalities (dead bird disposal).
13. **Free Range**: Range area access and range operations
14. **Backup facilities**: Company owned and operated equipment.
15. **Complaints Register**: Company “good neighbour policy”, reporting systems and follow-up procedures.

Farm site and land management:

1. **Farm Layout**: Building design, roading, and other faculties.
2. **Lawn and Landscaping Maintenance**: Lawn mowing, including grass verges and water table maintenance.
Poultry Management

1. Day to Day Operations:

It is proposed that Kotuku Corporation Ltd (Kotuku) will be contracted to Tegal for the rearing of meat chickens under a growing agreement. The day to day operations inside the broiler houses is controlled by the policies and direction of the processing company. This has been designed to align with poultry industry standards, (PIANZ), the Animal Welfare Code – poultry meat production, MAF, and NZFSA requirements.

Farm management is under the day to day control of a Farm Manager. The Farm Manager is responsible for all matters in relation to the day to day rearing and welfare of poultry on site. They are backed by their employee/s.

The environments of the sheds are controlled with SKOV Broiler Manager Climate Computer system, which are one of the most up to date controllers available. The sheds are alarmed for events, with remote location access to interface with the controller (worldwide), mobile app, text and email alarms to multiple recipients.

The Sheds all have:

- CO₂ sensors to control accurate air quality;
- Humidity sensors to maintain litter moisture levels and air quality;
- Numerous temperature sensors;
- Light sensors to maintain light level to the welfare code (20lux);
- Fully automated back up emergency controller (24volt) takes over should 240v be lost, this opens all vents, all pop holes doors open and all 24v capable fan baffles open.

The farm operates under the latest Broiler Management Controllers which monitor the conditions in the broiler houses, heat, cold, air flow, humidity, feed and water systems, system failures, water storage, power supply and the backup generator. This is monitored on-site and by a security company. The call out system is linked to cell phones for each of the personal involved in the farm operation. There is a priority call out system, so at least one person can respond to the call out.

2. Bedding Material: Type and Supply

Bedding material is clean dry untreated wood shavings which are delivered on site and spread in the broiler houses once they have been cleaned and sterilised. This operation is contracted out to a contractor determined by the processing company. Bedding (wood shavings) are delivered in covered trucks and trailers and is placed inside the broiler houses as soon as possible after delivery. This is to prevent unnecessary material being blown around the site.
Prior to the delivery of the bedding material, cesspit covers are put in place to ensure litter does not enter the waste water system.

3. **Broiler House Heating:** Heating source and supply

When required, the sheds are heated with a LPG heating system. LPG is stored at the site well away from the sheds. The heating system is certified by the supplier with an alarm system to activate when anomalies occur or the controlling system fails.

4. **Poultry Feed:** Storage and spillages

The supply of poultry feed is undertaken by the processor. All poultry feed is designed especially for the use in broiler chickens and has been formulated to ensure good animal health and that growth targets are met.

The poultry feed is stored in three or four feed storage silos per shed which are located at each broiler house. The feed is controlled by each shed’s computer and the appropriate amount of feed is augured in at the appropriate times. These are designed to hold the correct quantity of feed per broiler house. This not only gives sufficient reserves of feed but also reduces the number of deliveries and therefore the number of transport movements to the farm.

All spilt poultry feed must be cleaned up and disposed of as soon as a spillage has been detected or notified. This is also a requirement under the standard agreement with the processor as well as PIANZ. It is also a matter of good stockmanship and farm policy. This reduces the risk of feral birds and rodent activity.

5. **Water supply:** Groundwater take

Water supply is via a groundwater bore which pumps to a storage tanks. There will be six 25m³ tanks (or an equivalent volume) to supply the sheds, plus a 25m³ tank for the utility building. This gives a total water storage capacity of 175m³.

Water is used in the broiler houses in a closed watering system. Water is also used for washing down the broiler houses. Water usage is based on chickens using approx 300mls each per day at peak production. This will equate to up to 500,000 birds x 300mls each per day equals approximately 150 cubic metres per day. There is total storage for 175m³. Peak production will be over the 30-42 day period and after the first catch bird numbers will be reduced by $\frac{1}{3}$ to $\frac{1}{2}$. 
6. **Pests, rodent and fly control:**

The rodent baiting and fly control is undertaken on site. It is also a requirement that the bait stations are monitored by Farm Staff and additional baiting or other actions carried out as required.

General pests such as feral birds, feral cats etc are monitored and if necessary will be controlled as required.

7. **Catching**

There is a first cut of birds taken from the sheds between 28-33 days. The rest are generally taken through to approximately 42 days, however this is subject to the processors requirements. During catching:

- The birds are locked away in the house for catching.
- The weather and atmospheric conditions are recorded on a catchers' report.
- The state of the litter is reported. The footpad quality of the bird is also reported.
- This whole procedure creates minimal dust and odour.

8. **Cleaning of broiler houses**

The cleaning out of the poultry litter is carried out either by contract cleaning staff. The clean out staff clean out the broiler houses removing all poultry litter as soon as possible, once the broiler houses have been depopulated. All spilt poultry litter on the concrete pad areas must be cleaned up and disposed of as soon as practicable during this process.

The broiler house cleaning removes the poultry litter and following this the broiler houses are dry cleaned by blowing the houses down with air to remove dust from the equipment and fixtures. This process ensures that most of the dust and any litter left after cleaning is collected and disposed of with the poultry litter. This leaves the broiler houses in a very clean state. All litter is transported off-site in covered trucks and trailers.

The broiler houses are power washed once the first stage of cleaning is completed. This involves the use of power washers which wash the internal areas and equipment inside the broiler houses.

9. **Wastewater disposal**

The amount of wastewater generated per shed is low due to the sheds being relatively clean after the litter removal. Wastewater from the sheds during wash down is drained to the sumps where it is then irrigated to pasture as a permitted activity under the
Waikato Regional Plan (Farm Effluent Discharges Section 3.5.5.1). The wastewater disposal area is monitored to ensure it is efficient and does not become over saturated during this operation.

As a general rule, only one broiler house is washed per day. This is to ensure that disposal of wastewater to land is controlled. It may be necessary to wash more than one broiler house per day because of operational requirements, this additional water will be controlled and monitored by directing all wastewater to the sumps for disposal to land.

Approximately once a year following the internal areas of the broiler houses being washed the exterior of the broiler houses are also washed to keep the external areas of the broiler houses clean and presentable. This includes the broiler houses, feed silos, concrete service pads and service rooms.

In any event of a spillage of any waste water to any fresh water system, the WRC will be advised as soon as practicable of the event and given details of what has happened and what action is taken to rectify the problem.

10. Stormwater disposal:

Stormwater runoff from the shed roof is collected into storage tanks and used for washdown water. There are stormwater drains around the sheds that collects any overland flow and provides further drainage. Maintenance of the storm water systems and drains is important and is covered in the Farm Site and Land Management section of this report.

11. Ventilation Systems:

The broiler houses will operate with a chiller fan system, which involves only two fan units on each end of the sheds, as well as chimney fans on the roof line. This is the latest Skov design. The purpose of the chimney fans is to extract hot air from within the sheds in the warmer months to allow cooler fresh air to gain entry inside the shed through vents which control air speed and air direction. The chiller fans lower inside the shed to close to floor level and allow a more consistent dispersion of cooler air throughout the whole shed. Under normal running, the ventilation fans comply with the requirements of noise levels. In extreme weather events during the summer it may be required that all fans operate at the same time. This may increase noise levels but it would only be for short periods. There are no residential homes close enough to be affected by the noise and such the situation will be managed very closely.

Winter management is different. The cold outdoor weather can bring the indoor temperature down to levels that are not acceptable e.g. a cold foggy day. The general rule of thumb is that single digit weather temperatures would require the shed to stay
in indoor mode. It is a management decision for welfare reasons whether the birds may range; extreme weather, very windy weather and heavy rain can preclude ranging.

Should there be a fan failure it is imperative to follow these steps:

- Check power source i.e. is generator running or mains power.
- Check the main switchboard for fuses supplying each shed.
- Check each shed's individual switchboard.
- Check all overload switches.
- Change to manual operation.
- Call an Electrician

Dust and odour are normally not a problem with the modern broiler house designs and operations. If the broiler house environment is monitored and kept within operational boundaries then dust and odour are kept to a minimum. Current management systems are within the industry standards.

The main change with regards to odour, can be with changes in the feed formulation for which the farming operation has no control. At times feed formulas have to be changed to meet available feed supplies. Liaison with feed suppliers is maintained and any such changes should be notified to the Farm Manager when they occur so that he can monitor and react to any changes.

12. Bird health and welfare:

The broiler farm is subject to Veterinary inspections by qualified Avian Veterinarians. These inspections are carried out from time to time at the discretion of the processor. The processor will also have a Livestock Manager who visits the farm as required to carry out checks on the farm operation and chicken health and welfare.

All staff associated with the broiler operation will have required training to run the site. Staff will be chosen for their experience and stockmanship abilities.

The Farm has a closed gate policy. No visitors are permitted on site unless prior approval has been given.

All mortalities are collected daily. Mortality figures are kept on the flock record register belonging to each flock or broiler house. All mortalities are kept frozen on site in a chiller room and are collected weekly after the first two weeks.

13. Free Range:

Birds have access to outdoors from day 19 in winter and day 14 in warmer seasons. Prior to this, they are brooded indoors exactly as any other meat chicken operation, except there are fewer birds in the house.
Free range mode can be automatic or manual. The doors stay open 24 hours in good weather. In cooler evenings, the birds are locked back in the house. As soon as the doors open, this triggers the ventilation controller into free range/natural ventilation mode.

14. Backup facilities:

The broiler farm has several backup systems to ensure the ongoing operation of the farm. The operation has access to a bobcat, mower, tractor, truck and digger (via a contractor). These are available should there be a problem with dealing with chicken litter. There are locations on site that in the event of an emergency, is available for the disposal of the poultry litter as fertiliser. This also includes any wet litter caused by a breakdown in any poultry watering system. All current watering systems are the latest design and specifications to reduce this risk and are also monitored for unexpected water flow.

There is a backup power generator on site that is monitored by a security system. This is serviced annually, and test run monthly.

There is sufficient storage of feed for least 10 days. There is sufficient water storage for two days operation as required.

15. Complaints Register:

Kotuku Corporation Ltd is very proactive with neighbours to ensure they are informed of the farm activities and endeavours to be a “good neighbour”. By having a good dialogue with members of the local community, and Kotuku Corporation Ltd operating to the highest standard possible, notwithstanding some farm operations such as litter removal and broiler house cleaning could be considered offensive in terms of the smell during the clean out operations, there should be little chance of complaints. Neighbours are encouraged to raise issues with Kotuku Corporation Ltd first so that any possible problems can be dealt with effectively and expeditiously.

A complaints register is kept in the farm office and has provision for recording any complaints associated with the broiler farm operation. The form being used records the date, name of complainant, the details of the complaint, action or remedies taken and the result of inquiries of the incident and any changes or action taken to prevent a reoccurrence of the event.

16. Farm site and land maintenance

Farm layout: Building design, internal roading, and other facilities.
The farm layout has been designed to allow for the day to day farm operations to be carried out with roadways and building designed to ensure the site is easy to maintain, the access is not hindered, and farm operation can be carried out in accordance with this management plan.

Farm roadways are designed for heavy traffic and are maintained by grading and re-metalling as required. Internal farm roads have been designed to facilitate the use of trucks and trailers using the site.

The buildings are designed and built with modern materials that are easily kept clean and have low maintenance features. All buildings are kept clean, are washed and maintained to a high standard.

**Lawns and landscaping maintenance:**

Where possible as much of the land around the broiler houses as possible has been prepared as lawn area to provide a clear area close to the broiler houses and farm buildings. This includes farm entrances drains and road verges. These areas will be mowed and kept as tidy as required (this is at the farm managers discretion). This then gives the farm a nice visual appearance but also reduces areas for rodents, pests and feral animals to breed or inhabit.