

IN THE MATTER OF

The Resource Management Act 1991

AND

IN THE MATTER OF

APP-20181437 Application by South Pacific Meats for Resource Consents to discharge meatworks effluent sludges onto land, and to discharge contaminants to air associated with the sludge discharge, at 225 Hamilton Road and 209 and 360 Oreti Plains Road, Oreti

BETWEEN

SOUTH PACIFIC MEATS LIMITED
Applicant

AND

SOUTHLAND REGIONAL COUNCIL
Respondent

REPORT AND DECISION OF HEARINGS COMMISSIONER

Mr David McLernon

7 May 2019

Heard on 18 March 2019 in Council Chambers, Environment Southland, Corner Price Street and North Road, Waikiwi, Invercargill.

Representations and Appearances

Applicant:

Mr H. Lowe, Environmental Scientist (Lowe Environmental Impact Ltd)

Mr K. Hamilton, General Manager (South Pacific Meats Limited)

Submitters in opposition:

- **Catrina-Marie and Richard Breen**
- **Allan and Jennifer Hamilton**
- **Russell and Dawn Laughton**
- **John and Diane Macdonald**
- **Donald Macdonald**
- **Barry Macdonald of Torrisdale Farms Limited**
- **Geoffrey and Marianne Sutton**

Section 42A reporting officer:

Mr S. West, Principal Consents Officer (Southland Regional Council)

It is the decision of the Southland Regional Council, pursuant to sections 104, 104B, 105, 107, and 108, and subject to Part 2 of the Resource Management Act 1991, to GRANT the application by South Pacific Meats Limited for Resource Consents to discharge meatworks effluent sludges (MES) onto land, and to discharge contaminants to air associated with the sludge (MES) discharge, at 225 Hamilton Road and 209 and 360 Oreti Plains Road, Oreti, subject to the consent conditions in Annexure 1.

BACKGROUND AND PROCEDURAL MATTERS

1. This is the decision of independent Hearings Commissioner, Mr David McLernon. I was appointed by the Southland Regional Council (**Environment Southland – ES**) to hear and decide an application by South Pacific Meats Limited (**'SPM'** or **'the Applicant'**), pursuant to the Resource Management Act 1991 (**RMA** or **'the Act'**) for Resource Consents to discharge meatworks effluent sludges (**MES**) onto land, and to discharge contaminants to air associated with the sludge discharge, at 225 Hamilton Road and 209 and 360 Oreti Plains Road, Oreti.
2. The application for the two consents was initially lodged on 26 April 2018 but it was not until further information was provided that the application was accepted on 6 June 2018. It was then 'limited notified' to fourteen parties on 4 July 2018 with a further party being notified on 19 July 2019. At the time submissions closed on 1 August 2018, seven submissions had been received. All seven submitters opposed the application and indicated they wished to be heard at a hearing.
3. A pre-hearing meeting was held under s99 of the RMA on 5 September 2018. Whilst some matters were resolved at the meeting, a number were not which led to the need for this hearing.
4. The application was placed on hold at the request of the applicant under s91A of the RMA to enable further correspondence and discussions with submitters to try and resolve their concerns.
5. As it transpired, this was not successful, and on 25 February 2019, a report was produced pursuant to s42A of the Act by ES's reporting officer, Mr Stephen West. The 's42A report' provided an analysis of the matters requiring consideration and recommended that the consents could be granted, subject to a number of proposed conditions.
6. Minute #1 setting out the timing and requirements for the pre-circulation of evidence was issued on 4 March 2019.
7. The hearing commenced at 9.00am on 18 March 2019 in Council Chambers at Environment Southland in Invercargill. I had undertaken a site visit the previous evening, 17 March 2019, to familiarise myself with the site and the general area prior to the hearing.
8. At the end of proceedings I adjourned the hearing as the Applicant stated that they wished to submit their right of reply in writing. This was received on 25 March 2019 and I closed the hearing on 11 April 2019.

THE APPLICATION

9. SPM has applied for Resource Consents to discharge meatworks effluent sludges (MES) onto land at the Gladvale Farms Ltd property at Oreti Plains Road, about 4km east of Drummond. The MES will be uplifted from the bottom of the Applicant's anaerobic

treatment pond at their meat processing plant at Awarua and tankered to Gladvale. After arrival, it will then be transferred to a slurry tanker for spreading onto pasture or land that is about to be cultivated. The application is also for consent for the discharge of contaminants to air associated with the sludge discharge. The Applicant is seeking a consent duration of 25 years for each consent.

10. The application included an Assessment of Environmental Effects (AEE) and a set of proposed conditions if consent were to be granted.

NOTIFICATION AND SUBMISSIONS

11. The application was initially lodged on 26 April 2018 but was not accepted by ES under s88 of the RMA. Following the preparation of further information, the application was resubmitted on 6 June 2018. It was 'limited notified' to fourteen parties on 4 July 2018 with a further party being notified on 19 July 2019. Submissions closed on 1 August 2018 at which time seven submissions had been received. All seven submitters opposed the application and indicated they wished to be heard at a hearing.

12. The key issues raised by submitters opposing the application were as follows:

- Concerned about effects on air quality, soil, and sources of drinking water
- Rely on groundwater for drinking water and it is already impacted by high nitrogen concentrations. Members of the household would be vulnerable to elevated nitrate effects
- Do not want air quality to deteriorate
- Concern that sludge discharge will cause offensive odour effects
- Nitrate concentrations in groundwater in the area are already high, so system must be managed to prevent increase in nitrate concentrations
- Concern about amenity value effects associated with traffic, noise and spray issues
- Concern about transfer of Mycoplasma Bovis (M.Bovis). The application does not address the potential for the discharge to spread M.Bovis
- Concern about discharge relative to open drains, high groundwater levels and nitrate concentrations in groundwater
- Discharge area must exclude concurrent applications of other effluents
- Past issues with the landowner.

s99 PRE-HEARING MEETING

13. Given the submissions in opposition, the Applicant requested that a meeting be held and for submitters to attend in an endeavour to resolve their concerns. ES, conducting its function as a consent authority under the RMA, agreed that this was appropriate and invited all submitters to attend by letter dated 15 August 2018. The requested meeting was for the purpose of facilitating resolution of multiple issues and was therefore a pre-hearing meeting held under s99 of the RMA.

14. The meeting agenda, circulated on 4 September 2019 by ES, outlined the issues for resolution as:
 - a) Mycoplasma Bovis
 - b) Odour
 - c) Spray drift
 - d) Groundwater Quality
 - e) Soil Contamination
 - f) Conditions of Discharge: time of day
 - g) Soil moisture/ forecast rainfall
 - h) Other discharges
 - i) Sludge application rate
 - j) Contact for complaints
 - k) Method of Discharge
 - l) Traffic and Noise
 - m) Consent Duration
15. The pre-hearing meeting was held on 5 September 2018 at the Winton RSA Hall, 186 Great North Road, Winton 9720. It was chaired by Mr Kieran O'Connor who at the time was a Consent Officer for ES. The meeting was attended by Mr Kevin Hamilton of South Pacific Meats (SPM) and Mr Hamish Lowe of Lowe Environmental Impact (LEI), an environmental consultant on behalf of SPM. Also present at the meeting were representatives for all the submitters together with Mr John Engel, a consultant for Mr Barry Macdonald, and Ms Frances Wise who was assisting the Suttons.
16. The meeting concluded with the submitters concerns largely unresolved although it was agreed that the Applicant would prepare an effluent management plan for the MES discharge. It was also agreed that there would be no delivery of MES on statutory holidays or between the hours of 5.00pm to 8.00am the following day.
17. The minutes of the pre-hearing meeting were included as an Appendix to the s42A report.

THE HEARING

Applicant's case

18. **Mr Kevin Hamilton** is the manager of SPM's meat processing plant at Awarua. In his evidence, he stated:
 - a) Wastewater generated at the plant is treated via a pond system in which biological processes produce organic sludges (referred to as meatworks effluent sludges – MES) which accumulates on the floor of the pond. This needs to be removed to maintain the pond treatment capacity and performance. The treated liquid effluent is discharged into the Invercargill sewerage system.
 - b) The plant at Awarua produces approx 4000m³ of MES annually which it is proposed will be transported by road tanker to Gladvale Farms and then transferred to a slurry tanker

for spreading/land application onto pasture. The alternative to this beneficial use would be to dump the MES to waste.

- c) Mr Hamilton confirmed the application rate would not exceed 150kg N/ha/year which equated to approximately 10mm depth annually. He also confirmed this would not occur when soil moisture was at or above field capacity which limited the risk of run-off or leaching.
 - d) Mr Hamilton noted that utilising the MES was a beneficial use as it enabled the recycling of nutrients rather than it being dumped to waste.
 - e) Mr Hamilton also noted the efforts SPM had gone to in the months following the pre-hearing meeting in September 2018 to try and meet the submitters' concerns.
 - f) He stated that SPM has utilised/is currently utilising three other farms onto which they spread MES:
 - McMillan property near Garston – consented in 2013 and was the first property to receive MES for SPM; five year term
 - Tayler Property – two blocks in the Kingston and Garston areas; consent granted in 2013 with 10 year term. Last used in 2018/19 when soil moisture levels were too high at other properties
 - Cairns property at Otapiri Gorge near Winton – main property utilised by SPM since 2016 (because closer to Awarua than the others).
 - g) SPM's application was for a fourth farm, the Lindsay property (Gladvale Farms) to be consented for the spreading of MES.
 - h) In response to questions, Mr Hamilton confirmed that there had been no complaints in respect to any of the other farms onto which they spread MES.
19. **Mr Hamish Lowe** is an Environmental Scientist with Lowe Environmental Impact Ltd (**LEI**). His evidence addressed the proposed submitters concerns, the s42A report, proposed conditions, term of consent and conclusions. In summary, he made the following main points:
- a) He confirmed his qualifications and experience and that he had read the Code of Conduct for expert witnesses and that his evidence was given in compliance with that Code.
 - b) He confirmed that the characteristics of MES were similar to that of Farm Dairy Effluent (**FDE**) and that the MES is an aged anaerobic sludge which was likely to be 3-4 years old at the time of extraction.
 - c) He noted that MES would only be applied to a portion of Mr Lindsay's Gladvale Farms property - 346ha out of the total farm area of 627ha.
 - d) He confirmed that MES would only be delivered on an as-needed basis Monday – Friday (excluding weekends and public holidays), and normally during spring to mid-summer (1 October to 30 March).

- e) He calculated that, if the full annual volume of 4,000m³ was delivered to one farm in road tankers of 30m³ capacity, 133 truckloads would be required. If there were three deliveries per day then there would be 44 days of tanker deliveries (out of 6 months/ 180 days). He considered this to be minimal when compared to other farming activities in the area such as milk tanker visits, whey spreading, silage trucks and supplementary feed deliveries.
- f) He stated that vehicle movements were not part of the application.
- g) He further calculated that, if all deliveries went to one property and were applied at the rate of 10mm pa, then only 40ha would be required annually out of the 346ha available. If the application rate was 5mm/pass, 80ha would be required.
- h) He stated that the nitrogen loading rate proposed of 150kgN/ha/yr was comparable to other effluent application practices in the Southland region – whey spreading and FDE application.
- i) He commented on the considerable efforts made by SPM over the 4-5 months following the September 2018 pre-hearing meeting to try and reach agreement with submitters.
- j) This included an offer to reduce the term of the consent sought from 25 years but, in the event, agreement could not be reached and SPM reverted to seeking 25 years as originally applied for.
- k) He referred to historical land management issues that were unrelated to this application but kept re-surfacing which meant submitters were not willing to agree to the revised consent conditions.
- l) Mr Lowe then commented on the following issues from the s42A report prepared by Mr West:
- Odour – given that the MES will be spread by a low pressure spray system, he considered that odour and aerosol impacts would be less than minor
 - Soils and Preferential Flow – given that each application will be less than 5mm, he stated that in his view normal farming operations and urine impacts would likely be significantly greater to the point that the effects of MES application would be ‘de minimis’.
 - Loading Rate – whilst commenting that an effluent and sludge limit of 150kg N/ha/year was common in Southland, Mr Lowe stated that this did not take into account the form of applied nitrogen in MES which released nitrogen gradually over time. In his opinion, the 150kg/N/ha/year would be indistinguishable from other farming activities on the property.
 - Bare Soil Application – Mr West in his report expressed concern about the application of MES to bare soil and associated risk of increased nitrogen leaching. Mr Lowe noted that the Guidelines for the Safe Application of Biosolids to Land recommended ploughing it in to mitigate odour. He suggested that with the minimal volume being applied (5mm/pass), the risk of leaching would be further reduced by limiting application when the soil was wet or if there was heavy rainfall pending.

- Leaching to groundwater – he considered the potential for leaching to groundwater to be minimal and no different to other farming operations (both consented and permitted activities).
 - Risk of disease-causing Organisms – Mr Lowe referred to Mr West’s statement (page 14 of s42A report) that *“the sludge is likely to contain disease-causing organisms but has not been analysed for E.coli or faecal coliforms”*. Mr Lowe stated that this was incorrect and misleading as E.coli was not of itself disease-causing although its presence meant there was potential for disease-causing organisms to be present. He stated that there had been historical analysis associated with the McMillan consent at Garston which had shown that, while E.coli was present, no actual disease-causing organisms were detected.
 - In relation to Mycoplasma Bovis, Mr Lowe stated that this was not a concern as SPM’s plant at Awarua was predominately a sheep-processing plant and that bobby calves were from farms where there was no M.Bovis detected. He also noted later in his evidence that M.Bovis was more likely to be spread by bodily secretions of infected bovine animals and it was therefore unlikely that MES will contain the bacteria.
- m) Mr Lowe confirmed agreement to all the conditions proposed for the Air Discharge consent.
- n) Mr Lowe then addressed the concerns raised by the submitters;
- Buffers – he confirmed the generous buffers proposed by the Applicant to manage potential odour, including 20m from all boundaries and 200m from any residential dwelling.
 - Application Depth – he noted the minimal application rate of 5mm per pass and stated that MES would only be applied if there was a soil moisture deficit less than the volume of MES to be applied. He noted too the 100m restriction (buffer zone) from the high nitrate zone within Gladvale Farms.
 - Surface water – he noted the 20m buffer to all surface water bodies and that application would not take place when field capacity had been reached or there was >20mm of rainfall forecast within the next 24 hours.
 - Land Owner – whilst the land-owner will be accountable for any compliance issues, SPM will be working closely with him to make sure compliance is achieved. The Effluent Management Plan outlines the procedures to be followed for the land owner to be compliant.
 - Consent Term – a proposal by SPM to reduce the consent term to 15 years was not accepted by the submitters and SPM reverted to the originally sought 25 years to provide certainty for their operations.
 - Amenity Value – Mr Lowe stated that it was unlikely there would be a dramatic increase in road traffic and the impact on amenity values would be minimal and no more noticeable than current farm traffic around Gladvale Farms. He commented that there would be multiple points on the farm where the MES would be transferred from the road tanker to the slurry spreader.
- o) Mr Lowe then addressed what he considered to be the single biggest issue – the term of the consent. He referred to an existing consent for the application of FDE onto Gladvale Farms which had a term of 35 years (expiring on 31 July 2049) and noted that, whilst each consent had to be considered on a case by case basis, he believed there needed to be a

degree of equity. He noted the proposed conditions for the MES consent including requirements for a detailed management plan to be provided and that best management practices be reviewed every 5 years in relation to technology advances. For these reasons, he considered it appropriate for consent to be granted with a 25 year term subject to conditions.

20. Mr Lowe tabled a copy of the Gladvale Farms Effluent Management Plan dated November 2018 which had been prepared as a result of the s99 pre-hearing meeting but which had inadvertently not been provided to me.

Submitters in Opposition

21. When submissions closed, seven submissions had been received, all in opposition with all submitters wishing to be heard.
22. **Mr Geoff Sutton and Marianne Sutton** gave evidence in opposition to the application. They live and farm sheep and beef on a property adjoining the Gladvale Oreti property, generally to the south of the proposed MES application area. The Suttons were assisted prior to and at the hearing by Ms Frances Wise who presented the submission on their behalf. In summary, they acknowledged the changes since the original application and made the following key points:
 - a) Clear definition of the MES source was needed
 - b) Appropriate designated transfer locations to be specified
 - c) Detail of the records to be kept was needed
 - d) ES to be notified in the event of any spill
 - e) Consent term – strongly opposed 25 years and seek closer to 5 years
 - f) ES monitored a groundwater bore on their property for NO₃-N and it was already at elevated levels (average 10.9g/m³). They were concerned this would increase as a result of MES application although it may take a long time to show up
 - g) They sought that the application be declined or have a reduced term.
23. **Mr Donald Macdonald and Joanne Macdonald** gave a submission opposing the application. They farm Taki View Farm and live in McFetridge Road, SW of Gladvale Farms. In summary, they made the following points:
 - a) Traffic – they were concerned that one of the main access gates was outside their house and this will be the primary access point as it was off a tar sealed road
 - b) Smell – FDE is already spread on Gladvale Farms and they were concerned MES would mean additional odour
 - c) Nitrates – they expressed concern that there was already many other things being put onto Gladvale Farms land including FDE and whey as well as irrigation.
 - d) Term of Consent – they considered 25 years too long and requested 5-10 years
 - e) They stated that they had no issue with the product itself but were concerned whether Gladvale Farms was an appropriate site for its application.
24. **Mr Barry Macdonald**, a director of Torrisdale Farms Ltd, is a stud Murray Grey cattle breeder. He is a neighbour of Gladvale Farms and made a submission in opposition to the application. He stated that this was also being made on behalf of **John and Diane**

Macdonald. In summary, he made the following main points in opposition to the application and, whilst he felt progress was being made, he still had concerns about the following:

- a) Nutrient loading – he was concerned that the cumulative total loading from all sources should not exceed 150kgN/ha/year
- b) Timing of MES application in relation to rainfall and to a new recently installed irrigation system and its impact on run-off
- c) Location for transfer of sludge – whilst discussed at the pre-hearing meeting, this still had not been defined
- d) Consent duration – he opposed 25 years and sought a maximum of 10 years.

25. No formal evidence was presented in person at the hearing by the other three submitters.

Section 42A Report

26. **Mr Stephen West**, Principal Consents Officer for ES, spoke to his s42A report and addressed the key issues which he saw as:

- Potential for the discharge to increase contaminant losses to water
- Management of the discharge to Braxton and associated soils that have a tendency to crack in dry conditions
- The effects of the discharge to bare soil or areas being cultivated
- Management of other discharges in the same area
- The potential for adverse effects due to odour.

27. In summary he made the following key points:

- a) Gladvale Farm has existing consents for the application of Farm Dairy Effluent (**FDE**) from their own dairy operations and for the spreading of whey sourced from Fonterra.
- b) The application states that the total nitrogen loading rules for fertiliser, sludge (MES), whey, and FDE to any area where sludge will be discharged will not exceed 150kg N/ha/year.
- c) The application is considered to be a **Discretionary activity**.
- d) A s99 pre-hearing meeting between the Applicant and submitters was facilitated by ES on 5 September 2018 and he had included a copy of the minutes of that meeting as an Appendix to his s42A report.
- e) ES had also provided information about groundwater quality monitoring in the vicinity of the site and confirmed that this had been circulated to the Applicant and submitters as agreed at the pre-hearing meeting. A copy of this information was also included as an appendix to his report.
- f) His report outlined the statutory considerations under the RMA in relation to the application with comment in relation to the Regional Water Plan for Southland, the Proposed Southland Water and Land Plan and the Regional Air Plan.
- g) He referenced Te Tangi a Tauria, the Iwi Management Plan for Southland.
- h) He provided a description of the affected environment and described the actual and potential effects in relation to:
 - Odour
 - Ground water quality

- Soil
 - Surface water quality effects
 - Cultural/ spiritual effects.
- i) In relation to M.Bovis, he noted the Applicant's statement at the pre-hearing meeting that the plant does not receive calves from affected farms and that the retention time in the wastewater treatment ponds would further reduce any risk.
 - j) He also stated that the Ministry for Primary Industries is the controlling authority for M.Bovis and can impose restrictions that would over-ride the resource consent (if granted.)
 - k) He considered s105 matters in relation to discharge or coastal permits. He noted that the applicant believed the discharge of MES to land was an appropriate method of disposal that would have a no more than minor impact on the environment and be beneficial to the land owner.
 - l) In conclusion he recommended that the application be granted for a term of 25 years, subject to proposed conditions which he included as an Appendix.

Further evidence and revised conditions

28. Towards the end of the hearing and before adjourning, I facilitated a discussion regarding the proposed conditions in an endeavour to meet submitters' concerns. This was by way of Mr Lowe using a "PowerPoint" projector to show amendments to the consent conditions as a set of "tracked changes" in the conditions. After the hearing was adjourned, these were circulated to the parties later the same day (18 March 2019).
29. During these discussions, the question was raised as to whether the ES soil monitoring station at Heddon Bush was the most appropriate against which to measure soil capacity at Gladvale Farms or whether there was another site which would provide a more conservative comparison. Mr West was to consider this and advise.
30. I also requested Mr West to provide me, and to circulate to all parties, a copy of the irrigation resource consent recently granted to Gladvale Farms as referred to by Mr Barry Macdonald in his presentation.
31. On 19 March 2019, I was provided with a copy of ES Water Permit Groundwater AUTH-20181737 dated 7 November 2018 together with the associated plan. This consent allows Gladvale Farms to irrigate 57.4ha each year with a maximum annual volume "take" of 129,555m³ which equates to 226mm per year.
32. At the end of these discussions, Mr Lowe confirmed that he wished to make his right of reply and closing statement in writing after which I adjourned the hearing.

Applicant's Right of Reply

33. I received Mr Lowe's written right of reply and closing statement on behalf of the Applicant on 27 March 2019. This included a revised set of proposed conditions together with a plan

of Gladvale Farms indicating seven proposed transfer sites within the property. In summary he noted the following:

- a) Source of material – the MES comes from a specific point at the plant. Historic monitoring over the last six years has shown very limited variation in the MES composition.
- b) Nutrient effects – with the consistent composition, the nutrient loading when applied to land will also be consistent. An application of 10mm will result in approximately 150kg N/ha/year being applied which is typical of many other wastes being applied to land.
- c) Being an organic material, the MES breaks down (mineralises) gradually to release the nitrogen in more soluble forms for plant uptake. This mineralised nitrogen is also more readily leached but the consequence of gradual release means that not all of the nitrogen applied is immediately available. He stated that potentially only about 30% (or 50kg N/ha/year) is released in Year 1 with lesser amounts in subsequent years. Consequently, in his view, the potential effects of nitrogen leaching would be no more than minor, and potentially less than fertiliser applied to surrounding land.
- d) Cumulative Nutrient Loading – if application was limited to just MES at not more than 150kg N/ha/year, with only one application of less than 5mm the nitrogen available would be insufficient to sustain targeted crop growth. Consequently, the cumulative amount of nitrogen should be 150kg N/ha/year meaning that other material and synthetic fertiliser could be applied up to the limit of 150kg N/ha/year.
- e) Hydraulic Effects – Mr Lowe noted that the hydraulic effects of a 5mm application of MES were very minor – if the soil was wet, the low volume meant run-off would be limited; on the other hand, if the soil was dry or cracked, the risk of run-through (leaching) would be similarly low. He contrasted this with “permitted baseline” activities such as grazing of paddocks where cows may deposit as much as 1500kg N/ha in one urine spot.
- f) Management of cracking soils – despite the assessment above with its very minor risks, he acknowledged the increase in risk if the soil was cracked regardless of soil type (it was just that Braxton soil was more prone to cracking). Accordingly, he had proposed a revised condition to reduce the chances of run-through when soils have cracked.
- g) Irrigation trigger – to provide certainty in assessing field capacity, Mr Lowe proposed using ES’s criteria/ categories as set out in the Irrigation/ FDE application guide on the ES website (Home/ Environment/ Monitoring/ Soil monitoring map (Beacon)/ Soil moisture) and proposed a condition to reflect this.
- h) Spill management and transfers – SPM have the view that, based on operational experience, spills do not happen. They also consider that the transfer does not generate odours, primarily as it is a suction process that does not expose the transferred material to air.
- i) With the proposed conditions accompanying the closing statement, he included a plan identifying seven locations for the transfer of MES from the road tanker to slurry spreader. These comprised sections of farm races where it was proposed that the transfer can occur.

- j) Land Intensifications – primary production is putting pressure on water quality and, in Mr Lowe’s view, the submitters have concerns about land intensifications. He stated that the controlling of farm activities and intensification is beyond the scope of this consent application. SPM is of the view that the substitution of MES for other forms of nitrogen which would have been applied anyway is beneficial through the slower release of nitrogen and as such will not contribute to additional land intensification.
 - k) Elevated Groundwater Nitrates – there is an area of elevated levels of groundwater Nitrates adjacent to Gladvale Farms although this existed prior to the MES application being lodged. With the cap on the application rates (with limits on both nitrogen and hydraulic loading) and other restrictions on applying MES proposed in the application, including soil cracking and soil moisture conditions, the contribution to increases in groundwater nitrates should be no greater than that which currently occurs and may be less.
 - l) Certainty of Effects – the low hydraulic loading and gradual release of a relatively low nitrogen application rate give certainty with regard to effects – the effects are less than minor. The biggest impact of uncertainty is the management of the system which is the area of concern to most submitters. SPM’s past operational experience on other sites has resulted in a high level of management certainty. Therefore there is no reason, in his view, why this consent should have any less certainty than previous or current consents for MES application.
 - m) Term – the term or duration of consent sought is largely a reflection of the certainty of the operation, both with regard to effects and the ability of management to achieve those effects. SPM considers there is certainty with regard to both. Thus there is no need to adopt less than the 25 years applied for, especially as management at other sites has demonstrated a high level of compliance. He also noted that the term of 25 years was supported by ES’s Reporting Officer.
 - n) Revised Conditions – SPM submitted a further set of revised conditions with his closing statement which was based on the discussions and the “tracked changes” worked through with submitters at the hearing together with a map showing the seven proposed transfer locations.
34. The following day, 28 March 2019, I received an email through ES in which the Applicant sought a minor amendment to Condition 6, being the addition of the word “organic” such that the proposed condition would read “..... cumulative loading of all forms of organic nitrogen over the nominated period”.
35. I have not accepted this amendment as Mr Lowe’s closing statement (Para 7) states that *“the cumulative amount of N applied in SPM’s view should be 150kg N/ha/year irrespective of the source, meaning that other material and synthetic fertiliser could be applied up to the limit of 150kg N/ha/year”*.

ASSESSMENT

36. In assessing the application, I have considered the application documentation and assessment of environmental effects (AEE), the s42A report, all submissions received and the evidence provided during and after the hearing.
37. Given the nature of the application, the number of parties involved and the protracted nature of the overall process, I have included a reasonably detailed summary of the evidence presented. This approach has enabled me to avoid repeating who said what throughout my assessment. While my assessment does not specifically address all the points raised, I confirm I have considered all of the matters raised in making my determination.
38. In making my assessment, I am required to consider the actual and potential effects of the application on the existing environment, which includes existing activities, permitted activities and activities authorised by existing resource consents.
39. An accurate description of the affected existing environment was provided in SPM's Consent Application and section 3.3 of the s42A report, which I adopt and will not repeat here.

Status of the Application

40. The starting point for my assessment of the application is to determine the status of the activity under the Regional Planning Framework. As per the s42A report, Resource Consents for the proposed activity are required under the following:
 - Regional Water Plan – assessed as a discretionary activity under Rule 16D
 - Proposed Southland Water and Land Plan – assessed as a discretionary activity under Rule 34(a)
 - Regional Air Plan – assessed as a discretionary activity under Rule 5.5.5.
41. Overall, the application is assessed as being a **discretionary activity**.

Statutory Considerations

42. In terms of my responsibilities for giving consideration to the application, I am required to have regard to the matters listed in sections 104, 104B, and 105 of the Act.
43. In terms of section 104(1), and subject to Part 2 of the Act, which contains the Act's purpose and principles, I must to have regard to-
 - (a) *Any actual and potential effects on the environment of allowing the activity;*
 - (b) *Any relevant provisions of a national environmental standard, other regulations, a national policy statement, a New Zealand coastal policy statement, a regional policy statement or a proposed regional policy statement, a plan or proposed plan; and*

- (c) *Any other matters the consent authority considers relevant and reasonably necessary to determine the application.*
44. In terms of section 104B, I may grant or refuse the application, and if granted I may impose conditions under section 108.
45. In terms of section 105, when considering a section 15 (discharge) matter, I must, in addition to section 104(1), have regard to-
- a) *The nature of the discharge and the sensitivity of the receiving environment to adverse effects; and*
 - b) *The applicant's reason for the proposed choice; and*
 - c) *Any possible alternative methods of discharge, including discharge to any other receiving environment.*

Actual and potential effects on the environment

46. The potential adverse effects of the discharge include effects on:
- Odour
 - Groundwater quality
 - Soil
 - Surface water quality effects
 - Cultural/ spiritual effects.

Odour effects

47. The MES will be spread by a low-pressure spray system from a slurry spreader and, as such, it is not expected to generate aerosols. The Applicant considers that MES has similar odour to FDE, and that odour from the MES would not be regarded as offensive, particularly given the 200m buffer distances from dwellings.
48. I note the Applicant's statement that no odour complaints have been received when MES has been spread on their other consented sites.

Groundwater quality

49. The discharge has the potential to cause contaminants to leach to groundwater if it is applied too heavily, or if the nutrient loading rate is excessive. The site is sensitive to such effects, as there are already issues with elevated nitrate concentrations in groundwater at many of the bores around the site.
50. The Applicant proposes that the maximum rate of discharge will be 5mm per pass and only when there is field capacity and >20mm rainfall is not forecast. They have also proposed in the conditions accompanying their closing statement that the definition of field capacity be

aligned with ES's on-line irrigation guides to provide a more objective measure. The Applicant considers the risks of leaching are very low in this situation.

51. Similarly, when the soils are very dry and prone to cracking, there is a risk of run through. It is proposed that this is managed by the very low application of 5mm/pass and a condition that MES not be applied when soil cracking is visible.
52. The application states that total nitrogen loading rates for fertiliser, sludge (MES), whey and farm dairy effluent (FDE) to any area where MES will be discharged will not exceed 150 kg N/ha/year. The 150 kg N/ha/year is a figure that has been applied to FDE discharges and, where appropriate, other discharges, in Southland for many years under Rule 5 of the Regional Effluent Land Application Plan 1998.
53. In my view, if the total loading from all waste discharges is within this limit, then the effect of the nutrient load from the MES should be regarded as minor.
54. However, the management of the total nitrogen load is one of the key issues, in that other activities, such as fertiliser application and FDE discharge, are controlled by the landowner rather than the Applicant. If the resource consent for the MES discharge is approved, a condition can prevent the MES from being discharged to areas where FDE or whey have already been applied, but the resource consent cannot be drafted to restrict those activities after the MES has been discharged. Therefore, management of the cumulative nitrogen loading requires co-ordination between the Applicant and the landowner. The Applicant proposes to manage this through a condition.
55. Cracks or fissures can develop in soils at Gladvale Farms (and elsewhere) during dry conditions, creating a pathway for contaminants that bypasses filtration through the soil. In addition to nitrogen, such bypass flow can cause other contaminants, such as bacteria and phosphorous, to affect groundwater. It is proposed that discharge should be avoided/ not take place when there are noticeable soil cracks >10mm in width in the area for MES application. The draft conditions accompanying the closing statement require that the consent holder record any environmental issues such as cracking prior to the application of MES. If there were visible soil cracks >10mm, application of MES is not to take place and this should be recorded as the action taken in response.
56. Another issue in relation to groundwater quality is that the Applicant seeks to discharge the MES onto bare land or recently cultivated land. In this situation, there will be a period that there are no plants to take up the nutrients, and there is an increased risk that nitrate nitrogen will leach to groundwater. At the hearing, the Applicant provided further information noting that sludge incorporation was a best practice tool as recommended in various documents such as NZWWA Guidelines for the Safe Application of Biosolids to Land in NZ August 2003 prepared in conjunction with the Ministry for the Environment.

Soil effects

57. The Applicant has assessed the effects of the MES discharge on soils. As per the s42A report, the material has a sodium adsorption ratio of 4.1. At that level the discharge should not give rise to structural instability or reduced hydraulic conductivity in the soils of the receiving environment. Whilst the sodium concentration of the sludge is about 10 times higher than farm dairy effluent (FDE), the applicant calculates that the sodium loading from the sludge will be no more than 49.5 kg/ha/year. As such, it is unlikely to cause soil degradation or to reduce osmotic water potential (water available for plants) at that level. Conditions proposed include regular sampling of the MES and an annual report that includes comment on soil chemistry effects.

Surface water quality

58. The site topography is relatively flat and no MES will be discharged within 20 metres of a surface water body. There are subsurface drains on the property. To avoid impacting on waterways, drains and groundwater, the MES will be applied in applications of 5mm/pass.

Cultural/ spiritual effects

59. The discharge of MES may have cultural or spiritual effects. However, the discharge is to land, and is therefore consistent with Policy 3.5.13.5 of Te Tangi a Taurira. It is also broadly consistent with FDE discharges, which is an activity that Te Ao Marama Inc has previously considered and given a broad approval to.

Bacteriological contamination/ Mycoplasma Bovis

60. The possibility of spreading M.Bovis was a major concern for submitters. I note from Mr Lowe's evidence that the Applicant has previously sampled MES being transported to other MES consented farms and that, while indicator pathogens such as E.Coli and faecal coliforms were present, there were no disease-causing organisms.
61. In addition, the Applicant stated at the pre-hearing meeting that the plant does not receive calves from M.Bovis affected farms, and that the retention time in the treatment pond would further reduce any risk. The Ministry for Primary Industries is the controlling authority with regard to the spread of M.Bovis and can impose restrictions that would override the resource consent, if granted.

section 107

62. In terms of s107, I am of the view that, with appropriate buffer distances to water bodies and application limits, the discharge of MES to land can take place without adverse effects

on water quality. In other words, the effects described in s107(1) are unlikely to occur in either groundwater or surface water.

Conclusion

63. Overall, I am of the view that the actual and potential effects on the environment are generally less than minor and can be managed through appropriate conditions.

Relevant planning provisions

64. Analyses of the relevant planning provisions were provided by both Mr Lowe on behalf of the Applicant and by Mr West in the s42A report.
65. As outlined in Mr West's s42A report, the relevant documents and standards were considered to be:
- National Policy Statement for Freshwater Management (NPSFM) 2014
 - National Environmental Standard for Sources of Human Drinking Water Regulations 2007
 - Southland Regional Policy Statement 2017
 - Regional Water Plan for Southland 2010
 - Proposed Southland Water and Land Plan 2018
 - Southland Regional Air Plan 2016
 - Te Tangi a Tauria, the Iwi Management Plan for Southland
 - Ministry for the Environment Good Practice Guide for Assessing and Managing Odour.
66. Mr West's s42A report provided a comprehensive review of the impact of the proposed activity in relation to the various documents and I do not propose to repeat them here. Rather I propose to adopt Mr West's comments and assessments as set out in his report in relation to each of the relevant planning documents.

Conclusion on relevant plans

67. Overall, having considered all of the evidence and submissions, I am of the view that the application can be said to be consistent with the objectives and policies in the relevant planning documents, subject to conditions.

section 105

68. In term of my responsibilities under s105, I have had particular regard to the sensitivity of the receiving environment. This is generally pasture or land prior to cultivation and as such is sensitive to the leaching of contaminants.

69. Alternatives to proposed discharge at this site are disposal elsewhere or disposal to waste. The latter would mean that the beneficial properties of disposal to land would be lost.
70. In the Applicant's view, the discharge will have no more than minor adverse effects on the environment and be beneficial to the landowner.

Part 2 of the Act

71. All the considerations under s104 I have described are subject to Part 2 of the Act. In accordance with Part 2, I must determine whether the application achieves the purpose of the Act and is consistent with the principles of the "*sustainable management of natural and physical resources*", as defined in s5.
72. I accept the economic value of SPM's operations to Invercargill, Southland and New Zealand. The proposed application for the spreading of MES to Gladvale Farms is an integral component of SPM's Awarua processing plant which provides for people's social and economic well-being.
73. I am of the view that the beneficial use of MES through its disposal to land meets the s5 test of "*sustainable management of natural and physical resources*" and that any adverse effects can be mitigated (noting the Applicant's responsibility under s5(2)(c) of the RMA to "*avoid, remedy or mitigate any adverse effects of activities on the environment*").
74. In summary, overall I accept that the evidence supports the view that the adverse effects on the surrounding area can be mitigated. In saying this, I note the Applicant's duty to actively avoid, remedy and mitigate any such adverse effects.
75. With regard to s6(e), the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga, I note that the discharge is to developed farmland and no waahi tapu sites have been identified at the Applicant site.
76. In making my decision I have had particular regard to s7(b), (c), (d) and (f) and consider the application to be consistent with these requirements.
77. In relation to s7(b), I consider the application will promote "*the efficient use and development of natural and physical resources.*"
78. Section 7(c), "*the maintenance and enhancement of amenity values*", and Section 7(f), "*the maintenance and enhancement of the quality of the environment*" are both relevant to the proposed discharge. Odour and spray drift should not adversely affect amenity values beyond the discharge site, and the discharge should be managed so as to not adversely affect soil and groundwater quality. Neither do I consider that the proposed activity will adversely affect "*the intrinsic value of eco systems*" as per s7(d).

79. In relation to s7(a) and s8, Te Ao Marama Inc was identified as an affected party and was sent notice of the application, but did not make a submission. The Applicant had also contacted Te Ao Marama Inc as part of its consultation prior to lodging the application.
80. On this basis, I saw no evidence or submissions to indicate the application is not consistent with the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).

Deliberations

81. At the hearing, before adjourning, there was an interactive discussion between the Applicant and those submitters present regarding amendments to the proposed conditions. I note that none of the submitters stated at this time that the application should be declined and commentary and comments related more to providing greater certainty around the activity through the tightening of conditions and making terms more specific. The proposed changes were recorded via "Tracked Changes" of proposed conditions which Mr Lowe displayed via a PowerPoint projector.
82. I was provided a copy of the "tracked change" conditions by email from ES at 4.21pm on 18 March 2019.
83. One issue raised during discussions was the question of whether ES's environmental monitoring site at Heddon Bush was appropriate in terms of rainfall as compared to the Applicant site. It was agreed that a more conservative (wetter) site would be more appropriate.
84. Mr West subsequently advised me verbally that the Heddon Bush site was the closest site (approximately 10km from Gladvale Farms) and in his view is the most appropriate available unless SPM were to establish their own monitoring station on site.
85. Another issue on which there was no consensus was the question of whether MES should be applied to bare/ recently cultivated land or only to pasture. Mr Barry Macdonald preferred bare land to be included as an option whereas Ms Wise on behalf of the Sutton's preferred its deletion.
86. The concern was that discharges to bare soil meant there would be no uptake by plants which may mean increased losses due to leaching. On the other hand, bare land, or newly cultivated land, would not have animals grazing on it.
87. Given that the NZWWA Guidelines for the Safe Application of Biosolids to Land recommends the incorporation of biosolids into the ground, I am of the view that discharge to bare land should be included as an option.
88. As acknowledged by Mr Lowe in his evidence, the most contentious issue is probably that of the duration of the consent. The maximum duration of any resource consent allowed under s123 of the RMA is 35 years. Applicants generally seek a lengthy term because the process of obtaining a consent is costly. In addition, once obtained it gives them

commercial certainty. The Applicant sought a duration of 25 years whereas the submitters preferred a much shorter term of 5 or 10 years.

89. Mr Lowe made the point that SPM's earlier consents for the McMillan and Tayler properties had terms of 5 years and 10 years respectively. This was because management of the activity (disposal of MES) had not been proven at that time. Given this experience on these other sites, he considered that management issues and concerns had been resolved. He noted that SPM had confirmed that there had been no complaints in relation to their activities at any of their other MES consented sites. In other words, the process had been satisfactorily proven.
90. SPM also proposed a "genuine" 5 yearly review of operations in relation to data, actual practices, the Sutton bore, and of all effects, including trend analyses. It was not to be limited to just a review of potential technical improvements.
91. For these reasons, and for commercial certainty, SPM sought a term of 25 years.
92. On the other hand, the submitters were concerned that existing farming practices by Gladvale Farms were not necessarily of the highest order and this could lead to adverse environmental effects.
93. For the benefit of the submitters, I note that I am unable to take existing farm management practices into consideration in my deliberations and must assume that the Applicant/ land owner will abide by the conditions of all consents issued in relation to the farm operations. If they do not, ES has the power to take enforcement action.
94. I also note that as part of discussions at the time of the pre-hearing meeting, SPM had offered a reduced term of 15 years. Given this concession, and adopting a precautionary approach, I consider this to be the appropriate duration and have made this one of the conditions.
95. Referring now to the proposed Operational Management Plan of which I only received a copy at the hearing, I consider this to form a reasonable basis for the management of the MES related activities but it will need updating to reflect the actual conditions imposed.
96. Submitters had expressed concern that the location of the transfer point between road tankers and the farm spreader had not been defined, and about possible traffic issues given this unknown.
97. At the hearing, Mr Lowe suggested there might be 2-3 transfer locations and agreed that he would provide an appropriate plan indicating the location of proposed transfer points between the road tankers and farm spreader. This would exclude transfer on the roadside and neither would it occur closer than 200m to any residential dwelling. He noted that the landowner preferred a number of locations to reduce the distance that the farm spreader would need to travel before beginning its discharge.

98. I received Mr Lowe's closing statement, and final draft of proposed conditions, including a plan indicating the location of transfer points, on 27 March 2019.
99. In his closing statement, he noted that SPM were proposing that sections of farm races be used for the transfer rather than specific points. I am comfortable with this approach and the locations nominated on the plan which I am including as part of the consent.
100. Also in his closing statement, Mr Lowe noted that the term "field capacity" was not well defined. He proposed that the categories listed on the ES website for the categorisation of soil moisture content be adopted. He suggested that discharge of MES should be allowed when the Heddon Bush monitoring site showed "*Safe to irrigate*"; "*Low rate irrigation*"; or "*Pulse irrigation*".
101. Given the concerns that Heddon Bush may not accurately reflect conditions at Gladvale Farms, I have restricted the spreading of MES such that it can only be carried out when the Heddon Bush soil moisture recording site indicates "Safe" or "Low rate irrigation" and have modified the proposed condition accordingly.

Conclusion

102. On the basis of the above assessment of effects on the environment, my evaluation of consistency with the objectives and policies of the relevant planning provisions, and subject to Part 2 of the Act, I am of the view that the purpose and principles of the Act can be best achieved by granting the application, subject to the consent conditions in Annexure 1 attached.

Decision

It is the decision of the Southland Regional Council, pursuant to sections 104, 104B, 105, 107, and 108, and subject to Part 2 of the Resource Management Act 1991, to GRANT the application by South Pacific Meats Limited for Resource Consents to discharge meatworks effluent sludges (MES) onto land, and to discharge contaminants to air associated with the sludge (MES) discharge, at 225 Hamilton Road and 209 and 360 Oreti Plains Road, Oreti, subject to the consent conditions in Annexures 1, and 2.

Appeal

The parties are advised that there is a right of appeal to the Environment Court within 15 Working Days of receipt of this decision:

Dated at Christchurch this 7th day of May 2019

A handwritten signature in blue ink, appearing to read 'D McLernon', with a horizontal line drawn underneath it.

**David McLernon
Hearings Commissioner**

Conditions

Annexure 1 – Discharge Permit AUTH-20181437-01

Annexure 2 – Air Discharge Permit AUTH-20181437-02