

**REGIONAL PLAN: WATER FOR OTAGO PROPOSED PLAN CHANGE 8  
 CONFERENCING PRIMARY SECTOR TOPICS Part B Animal Waste Storage (Rules  
 14.7.1.1, 14.7.1.2, 14.7.2.1,14.7.3.1, Schedules 18 and 19, new and amended definitions)  
 8 and 9 June 2021**

<b>Facilitator</b>	Deputy Commissioner – RM Dunlop
<b>Date</b>	8 and 9 June 2021
<b>Venue</b>	Dunedin Centre

<b>Witness</b>	<b>Party</b>
<b>Planning Witnesses</b>	
Dolina Lee (Senior Analyst – Freshwater and Land) (DL)	Otago Regional Council
Felicity Boyd (Consultant Senior Planner) (FB)	Otago Regional Council <b>Attended via audio-visual link on 8 June</b>
Sandra McIntyre (Planning) (SM)	Te Rūnanga o Moeraki, Kāti Huirapa Rūnaka ki Puketeraki, Te Rūnanga o Ōtākou and Hokonui Rūnanga
Maria Bartlett (Policy/Planning) (MB)	Ngāi Tahu ki Murihiku
<b>Technical Expert Witnesses</b>	
Mike Freeman (Planning and Science – management of contaminants and water quality) (MF)	Landpro Limited
Luke Kane (Farm Systems Expert) (LK)	Federated Farmers of New Zealand - Otago and North Otago Provinces TBC
Stephen Crawford (Farm Systems Expert) (SC)	Federated Farmers of New Zealand - Otago and North Otago Provinces
Nigel Paragreen (Fish and Game Operations) (NP)	Otago Fish and Game Council and the Central South Island Fish and Game Council <b>Withdrew at 11.55am 8 June</b> <b>Rejoined at 3pm 9 June</b> <b>Abstained from Q3 onwards</b>
Niall Watson (Fish and Game Operations) (NW)	Otago Fish and Game Council and the Central South Island Fish and Game Council <b>Withdrew at 11.55am 8 June</b>

	<p><b>Rejoined at 3pm 9 June</b></p> <p><b>Abstained from Q3 onwards</b></p>
Keri Johnston (Natural Resources Engineer) (KJ)	<p>Lower Waitaki Irrigation Company Ltd</p> <p><b>Given leave by facilitator for 9 June</b></p>
Logan Bowler (Dairy Effluent Management and Dairy Effluent Storage Calculator) (LB)	DairyNZ
Cain Duncan (Effluent System Design and Management and Planning) (CD)	Fonterra Co-operative Group Ltd
Ian Barugh (Effluent Systems) (IB)	NZPork
Dr Jane Chrystal (Farm System Expert) (JC)	Beef + Lamb New Zealand
<b>Scribe:</b> Jenna Sinclair, Consents officer from Otago Regional Council	
<b>Venue:</b> Conference Room 2, The Dunedin Centre, 1 Harrop Street	

## **JOINT WITNESS STATEMENT**

### **ENVIRONMENT COURT PRACTICE NOTE**

it is confirmed that the signatories to this joint witness statement have read the Environment Court Consolidated Practice Note 2014 Code of Conduct for expert witnesses and the Protocol for Expert Witness Conferences (Appendix 3) and agreed to abide by them in the production of this Statement.

### **PRELIMINARY MATTERS**

1. This expert conference included both planning and technical witnesses. Generally, technical witnesses discussed the technical elements of each question and planning witnesses then discussed how those agreements may be expressed in the provisions of Plan Change 8 (“PC8”). For clarity, this Joint Witness Statement (“JWS”) records which witnesses made the agreements stated. In some cases, only some of the technical witnesses considered themselves to have the appropriate expertise to comment. In those cases, those particular witnesses are recorded.
2. The witnesses did not analyse the scope of submissions on PC8 and cannot confirm that all of the agreements made and revisions to PC8 provisions proposed are within the scope of submissions. The agreements recorded in this JWS may also be applicable to Rules 12.C.0.4, 12.C.1.4 and 12.C.2.5 (“the discharge rules”) but there was no consideration of those rules because they were not within the scope of this expert conference.
3. In discussing and answering the Agenda questions posed in this JWS, the witnesses considered the provisions of PC8 and, in many cases, discussed amendments to the provisions to reflect the agreements reached. Appendices A and B record the amendments to definitions and Schedule 18 that were agreed by all of the relevant witnesses.
4. The witnesses also discussed, and in some cases drafted, amendments to other provisions. FB recorded those amendments in a copy of PC8 which is attached as Appendix C. All amendments are cross-referenced to a question in this JWS which sets out the reasoning behind the amendment. FB acknowledges that this is her personal summary of the discussion that occurred during the conference and may not be fully agreed by all experts in every instance. It is provided as an example of how some of the agreements in this JWS may be reflected in amendments to PC8 but should not be considered to be agreed by all witnesses.

### **SCOPE, APPLICATION AND DEFINITIONS**

**Q1. How is animal waste managed on farms? Is it appropriate to apply the PC8 provisions to all animal waste? If not, why not?**

5. The witnesses did not discuss all the different ways that animal waste is managed as there are many variations within and between species. The technical witnesses agreed that solid and liquid waste require different management practices and regulation. The technical witnesses considered that it is not appropriate to apply the provisions of PC8 to all animal waste systems for these reasons.

6. The technical witnesses prepared the following table to identify the various sources of animal waste (caught by existing and proposed definitions in the RPW) and to help determine whether they should be managed by PC8 rules 14.7.1.1, 14.7.1.2, 14.7.2.1 and 14.7.3.1.

<b>Animal waste source</b>	<b>Animal type</b>	<b>Considered appropriate to be managed by PC8</b>	<b>Considered inappropriate to be managed by PC 8</b>
Dairy Shed	Cows, Sheep, Goats and Deer	Yes	None
Feed pads, Wintering pads or Stand-off pads (assuming no roof)	All land-based animals	Yes, Stockpiling should be included however current rules not appropriate e.g cannot apply pond drop test to solids stockpiled.	Waste stored in-situ such as solid bedding material e.g woodchip.
Stock yards and Woolsheds	All land-based animals	No	N/A
Truck washes and dump stations	All land-based animals	Yes	None
Animal housing (Covered)	All land-based animals	Yes, Stockpiling should be included however current rules not appropriate e.g cannot apply pond drop test to solids stockpiled	Waste stored in-situ such as solid bedding material e.g woodchips, straw/sawdust, composting barns and solid manure storage.
Freezing Works (excluding processing)	All land-based animals	Effluent generation areas considered to be captured by other categories within this table.	None
Fish Hatcheries and Rearing facilities	Fish	No	N/A
Animal Rearing Facilities	All land-based animals	Yes, Stockpiling should be included however current rules not appropriate e.g cannot apply pond drop test to solids stockpiled.	Waste stored in-situ such as solid bedding material e.g woodchip, straw/sawdust and composting barns.

7. The technical witnesses agreed that there are differing risk profiles from different animal waste products – for example, liquid animal waste represents a higher risk than solid animal waste as the former is highly mobile and generally stored in greater volumes.
8. The focus of the witnesses turned to animal waste systems for the remainder of the conference because this is the focus of the rules in PC8 and the same systems may apply to different sources. Further specific consideration of animal waste sources is not included in this JWS.

9. FB and DL do not agree with the conclusions made in the column titled “Considered appropriate to be managed by PC8” in the table above. FB was not fully engaged in the development of the table due to issues with the quality of the remote AVL audio on 8 June '21 when the discussion occurred. The reasons for her disagreement and DL’s support are:
  - a. The National Environmental Standard for Freshwater 2020 (NESF) manages feedlots and “other stock-holding areas” (which is defined as including feed pads, winter pads, stand-off pads and loafing pads). FB considers that would include, and therefore manage, the following animal waste sources from the table above: feed pads, wintering pads and stand-off pads (assuming no roof). FB considers that may also include animal housing (covered) and animal rearing facilities, depending on how those are understood. FB does not agree it is appropriate for PC8 to manage activities managed by the NESF.
  - b. Some of the activities listed as appropriate to be managed by PC8 could not practically be managed by the provisions of PC8. For example, it may not be practical to design a new truck wash in accordance with IPENZ Practice Note 21: Farm Dairy Effluent Pond Design and Construction.
10. SM acknowledges that the NESF manages feed pads, wintering pads and stand-off pads, but notes that the NESF allows for additional restrictions to be included in regional plans. As there was no discussion of this matter, SM was not able to form an opinion as to whether there might be any need for controls in addition to those in the NESF.

**Q2. What is captured by the definitions of “animal waste”, “animal waste system” and “animal waste storage”? Are there activities that are unintentionally captured and prohibited as a result?**

11. Based on the discussion in relation to Q1, the technical witnesses agreed that the terms and definitions used in provisions of PC8 were not appropriate because:
  - a. There was no differentiation between liquid and solid waste, and therefore some of the requirements of the provisions were impractical (or impossible) to apply,
  - b. They inadvertently captured waste from aquatic species (such as fish hatcheries and rearing facilities) which are managed elsewhere in the RPW (see rule 12.B.1.7) and, in the opinion of NP, are significantly different from the waste produced by land-based animals,
  - c. Use of the term “waste” has broader connotations than just effluent and does not recognise the value of effluent as a fertiliser and water source on farms. The witnesses agree that the term waste should be replaced with the term effluent,
  - d. The lack of a definition of “storage pond” makes it difficult to understand which proposed Plan Change requirements apply to which parts of the system, for example does it include treatment and conveyance structures? and
  - e. The parts of the system which discharge effluent are managed under rules 12.C.0.4, 12.C.1.4, 12.C.2.5 (“the discharge rules”) and should therefore not be within the scope of rules 14.7.1.1, 14.7.1.2, 14.7.2.1 and 14.7.3.1 (“the land use rules”).
12. For the purposes of this JWS, the technical and planning witnesses suggest that there would be planning and technical benefits in a revised set of definitions for:

- a. Animal effluent system
- b. Animal effluent storage facility
- c. Liquid animal effluent
- d. Solid animal effluent

These are included as Appendix A.

### **POND DROP TESTING**

**Q3. Are there any types of animal waste systems that cannot practically comply with Schedule 18? If so, what amendments to Schedule 18 (or other provisions) are required to address this?**

13. The following witnesses (SM, JC, MB, FB, IB, LK, SC, and DL) abstained from answering this question as they did not consider themselves to have the appropriate expertise.
14. The following technical witnesses (MF, CD, LB, KJ) agreed that pond drop tests could be undertaken on ponds, tanks or other structures that are the primary storage facility for the system, but are not practical for low risk ancillary structures (such as sumps and stone traps) or any systems for separating and/or storing solid animal waste.
15. The following technical witnesses (MF, CD, LB, KJ) agreed that using the revised definitions of “animal effluent system” and “animal effluent storage facility” (as defined in Appendix A) in place of “animal waste system” and “storage pond” in the land use rules would clarify when pond drop tests can be required.
16. The following witnesses (MF, CD, LB, KJ) agree that amendments are required to Schedule 18 to better reflect the content of IPENZ Practice Note 21 (“PN21”) and to improve the practical application of the provisions. These are described and explained below, and shown in Appendix B:
  - a. Bullet points three, four and seven require no amendments.
  - b. Bullet point one should be amended to read “a minimum of 24 hours of accurate data within a single test period” because this is sufficient to determine whether the pond is leaking and accords with PN21.
  - c. Bullet point two should be amended to read “total test error of less than  $\pm 1$  mm” because that accords with PN21.
  - d. Bullet point five should be amended to read “Ponds must be at or over 75% design depth (excluding freeboard) before a test can be undertaken” because this clarifies that the depth at which the test can be done doesn’t take into account the freeboard.
  - e. Bullet point six should be amended to read “The level of sludge or crust on the pond surface during the test should be minimal so that it does not impact on test results” because that accords with PN21.
  - f. Bullet point eight should be amended to read “only data obtained when the wind speed does not exceed 50 kilometres per hour (14 m per second) at the test site” because this accords with the IPENZ practice note 21 and aligns with suggested changes to bullet point one. High wind speeds within parts of a test shouldn’t invalidate the whole test.

- g. The heading of the table in Schedule 18 should be amended to “Maximum allowable pond level change” because in the test the pond may gain in level rather than drop. It occurs to JC that a gain would prevent a pond from ‘failing’ the test – it is only the magnitude of ‘drop’ that is relevant. JC noted that liquid may be added to a pond during testing<sup>1</sup> possibly resulting in a less than expected increase in pond level than if it were not leaking. Thus, a pond may be leaking but still have a higher pond level at the end of the test period than it had at the beginning. CD, agrees that “drop” should not be retained because, due to the margins of error in the testing and accuracy of the testing equipment of +/- 1mm, there are often tests that show a slight increase in pond level. CD considers that the objective is to control significant increases in a pond level as this could indicate ground water is entering the pond (when the water table is high). This would be of concern because when the water table drops effluent may leak out of the pond. LB considers that “drop” should not be retained in the table heading.
- h. The sentence under the heading “Criteria” should be amended to “When tested in accordance with the requirements above, the pond is considered to meet the pond drop test criteria if the maximum pond level change does not exceed the following” for the same reasons as in (f).

17. The following witnesses (LB, SC, CD, LK, JC) noted that [10(d)] (bullet point five) above, has implications for the timing of pond drop tests such that these are likely to only be able to be undertaken between October and February. This is because of the requirement to keep pond levels low before winter to allow for sufficient storage of effluent and therefore to avoid irrigating during the wetter months. This is a matter to consider when assessing the availability of Suitably Qualified Persons and crafting related Plan provisions.

**Q4. What are the risks to consider when managing storage ponds via pond drop testing rather than a leak detection system?**

- 18. The following witnesses (SM, JC, MB, FB, IB, LK, SC, and DL) abstained from answering this question as they did not consider themselves to have the appropriate expertise.
- 19. The following witnesses (MF, CD, LB, KJ) agreed that a pond drop test may indicate whether a pond is leaking at a particular point in time, while a leak detection system is ongoing and therefore may pick up a leak earlier, and of smaller volumes, compared to a pond drop test. However, a leak detection system is not a guarantee that the pond is not leaking and not all leak detection systems are equally effective (e.g. systems not installed in accordance with PN21).
- 20. Pond drop testing requires specialist equipment and expertise and there are a limited number of providers who can carry out these tests. An installed leak detection system in accordance with PN21 may be a better alternative to regular pond drop testing. Refer to further discussion in Q5.
- 21. MF considers that the term “criteria” in Schedule 18 is misleading and recommends that it be changed (in both the Schedule and the reference in Rule 14.7.1.1) to the more appropriate term “Maximum allowable pond level change”.

---

<sup>1</sup> KJ notes that liquid can be added to a pond via rainfall (either directly or via stormwater) or, for example, on milk pick up when the tanker will use water that often goes to the pond system. High ground levels can also prevent a pond from leaking (the head of groundwater is more than the head of liquid in the pond). KJ notes this is why it is really important to account for all inflows and outflows (natural and otherwise) during a test. If groundwater levels are high, then it is not an ideal time for a test to be undertaken.

22. In considering the pond drop test requirements in PC8, the witnesses noted that under Rule 14.7.1.1 existing animal effluent storage facilities constructed with a synthetic liner, or of concrete construction, or that are above-ground tanks did not require any visual inspection by a SQP to remain a permitted activity. The witnesses agreed that all existing animal effluent storage facilities should be certified by an SQP as having no visual cracks, holes or defects that would allow effluent to leak from the facility and, where relevant, as meeting the pond drop test criteria in Schedule 18. This latter point regarding the relevance of drop tests is discussed further in Q5. JC agrees the preceding facilities should be checked but does not agree that (if unsuitable for a pond drop test) that a SQP should have to have the same qualifications as a person conducting a pond drop test. JC further notes that the related frequency of requisite testing was not agreed.

**Q5. Given the risks above, what frequency of drop testing is appropriate for different types of ponds and how should this information be recorded?**

23. The following witnesses (SM, JC, MB, FB, IB, and DL) abstained from answering this question as they did not consider themselves to have the appropriate expertise.
24. The following technical witnesses (MF, CD, LB, KJ) agreed that above-ground tanks should not require pond drop testing provided they have been constructed in accordance with a building consent. This is because the Building Act requires a compacted base that minimises the risk of discharges through the base. Those witnesses agree that bladder systems cannot be pond drop tested because they are fully enclosed. Bladder systems are also subject to the Building Act (refer to the answer to Q11). The witnesses also agree that it is not physically possible to drop test a solid animal effluent storage facility.
25. The following technical witnesses (MF, CD, LB, KJ, SC and LK) agreed that the requirement to undertake pond drop tests no less than three yearly was too frequent and that a longer term would be more suitable, however no agreement was reached on the frequency of testing for the purposes of rules 14.7.1.1 (c) (i) and 14.7.2.1 (e) (ii).
26. The following technical witnesses (MF, CD, LB, KJ, JC, MF, CD, LK and SC) consider that different frequencies could be applied in different circumstances. The following technical witnesses (JC, MF, CD) consider that new systems with leak detection systems built in accordance with PN21 should have longer intervals between pond drop tests than older systems and/or systems without leak detection systems installed in accordance with PN21. These witnesses consider it is important to incentivise installation of leak detection systems by reducing the pond drop test frequency and associated financial costs.
27. The following witnesses (MF, CD, LB, KJ, JC, MF, CD, LK and SC) agree that ponds mechanically de-sludged have a higher risk of a pond base liner being penetrated and should therefore be drop tested more frequently. Similarly, systems with no agitation or low energy stirrers where there is a lower risk of damaging the liner should be drop tested less frequently. The witnesses named in this paragraph did not agree an appropriate testing frequency for mechanically de-sludged, no agitation and low energy stirrer systems.
28. As a further example SC and LK consider that in-situ clay ponds, which are common in Otago, that pass an initial pond drop test should be subject to a less frequent testing regime because of the low risk nature of this kind of pond due to the depth of impermeable clay substrate.

29. SC and LK expressed concern that PC8's sole focus on pond drop tests may not accommodate future technological and/or scientific developments or improvements. For example, a possible future monitoring device developed which is fit for purpose, and accurate to the required standard, but not allowed because of the prescriptive pond drop test criteria in the Plan. SC and LK request provision be made in the Plan for future potential developments.
30. LB and SC consider that new systems with leak detection systems built and monitored in accordance with PN21 do not require pond drop tests at all.
31. The witnesses agree that a written report should be produced by the SQP who does the pond drop test required by Rule 14.7.1.1(b)(iv) and the report should be able to be provided to the council on request.

**Q9. Should pond drop tests be restricted only to storage ponds (i.e. not ancillary structures such as stone traps) or to components of a system that are above a specified volume? If the latter, what is an appropriate volume?**

32. This question is addressed through the witnesses' discussion and agreements recorded under Q3.

**Q17. Does Schedule 18 contain the same requirements as Table 8.1 in IPENZ Practice Note 21? If not, what are the differences? And should any differences be included in PC 8?**

33. This question is addressed through the witnesses' discussion and agreements recorded under Q3.

**Q18. Is it appropriate for PC 8 to provide for both methods in Question 17?**

34. This question is addressed through the witnesses' discussion and agreements recorded under Q3.

## **LEAK DETECTION SYSTEMS**

**Q7. What are the risks of installing leak detection systems in existing ponds? Do the expected benefits of installation outweigh the potential risks of doing so and should installation be enabled by PC 8?**

35. The following technical witnesses (CD, LB, MF, SC, LK) agree that with current technology, it is impossible to install leak detection systems in existing ponds without deconstructing the pond liner.

**Q8. Are leak detection systems an effective way to manage the risk of leakage?**

36. The following technical witnesses (CD, LB, MF, SC, LK) agree that a leak detection system is not a guarantee that the pond is not leaking and not all leak detection systems are equally effective (refer to the answers to Q4 and Q5) Those witnesses agree that leak detection systems are effective if installed in accordance with PN21.

## **OTHER APPROPRIATE MINIMUM STANDARDS**

**Q6. If drop tests are not appropriate for some components of effluent systems, what is an appropriate management regime for these?**

37. The planning witnesses agree that upgrading or replacing components of an animal effluent system, which are not the animal effluent storage facility (referred to in this statement as ancillary structures), would not meet the conditions of rule 14.7.1.1 and would therefore require resource consent under either rule 14.7.2.1 or 14.7.3.1.
38. The technical witnesses consider that the position described in [35] does not reflect the lower environmental risk posed by ancillary structures in comparison to animal effluent storage facilities. This lower environmental risk arises primarily because ancillary structures do not store effluent for long periods and are instead designed to convey effluent from the storage facility to the point of discharge.
39. All of the witnesses agree that it would be preferable to have a separate permitted activity rule for ancillary structures, with conditions which are more appropriate to the function those ancillary structures serve within the animal waste system instead of being captured within Rule 14.7.1.1 which is focused primarily on storage facilities. Due to time constraints, a stand-alone permitted activity rule was not developed by the witnesses.

**Q11. What standards apply to above-ground tanks outside the RMA?**

40. Technical witnesses (MF, CB,) identified that above-ground tanks with volumes greater than 35,000 litres and bladder systems with volumes greater than 200,000 litres require building consent.

**Q14. In addition to IPENZ Practice Notes 21 and 27, what other good practice documents are available for the design, construction, management and operation of effluent systems? And should they be included in PC 8?**

41. Another potentially relevant practice document identified by the following technical witnesses (MF, CB, LB and JC) is Farm Dairy Effluent Design Standards and Code of Practice 2015 from DairyNZ.
42. The technical witnesses named at [41] did not have sufficient time to decide whether the document should be included by reference in PC8.

**Q15. Are any other amendments required to the specified rules in section 14 and associated Schedules to align them better with industry best practice?**

43. Refer to discussion of DESC calculation in Q10

**USE OF DESC**

**Q10. Should the land use rule set a minimum volume for ponds based on DESC output? For example, 90<sup>th</sup> percentile.**

44. The following technical witnesses (MF, CB, IB, LB, KJ) agree that the DESC is the most appropriate storage calculator for calculating the volume of cow dairy animal effluent storage facilities and the latter should be sized in accordance with the 90th percentile as calculated by the DESC.
45. The witnesses above and JC agree that other animal effluent (e.g., sheep, goats, pigs and deer) can be used in calculations, but the plan would need to include a conversion factor for other animals to ensure consistent implementation. This could be incorporated in a schedule. KJ notes that an alternative could also be made available in this case, and that the schedule could set out the requirements that any alternate calculation has to meet, such as the climate data and land application practices.

46. KJ notes that for animal effluent storage facilities that would also be captured by PC8, such as stock truck wash storage facilities, the DESC is not an appropriate tool to use and allowances would need to be made in PC8 for an alternative. LB does not agree because, in his opinion, it would not be inappropriate to use the DESC for truck washes provided conversion factors as discussed in [44] were applied. LB considers there may well be another tool but this should not preclude use of the DESC.
47. Technical witnesses (MF, CB, IB, LB and JC) support a change to the definition of Dairy Effluent Storage Calculator to replace the present wording with a direct link to the current version on the DairyNZ website.
48. MF, CD, LB agree that the DESC calculation (and KJ notes that the same should also extend to any alternate calculation) should be undertaken by a person with appropriate qualifications and/or experience. Risks are considered to be associated with use of the DESC by persons without suitable expertise, including inappropriate pond sizing that would be both a risk to the environment and to the pond user in terms of cost. The named witnesses consider that amendments could be made to the SQP definition to include appropriate, requisite qualifications and/or experience for undertaking DESC calculations. The witnesses consider that the amendments should include that an SQP undertaking DESC calculations should have:
  - a. A qualification in effluent system design,
  - b. Experience in farm systems, and
  - c. Experience in the design of effluent irrigation systems.
49. The remaining witnesses abstained from expressing an opinion as they did not consider the matter was within their expertise.

## **SUITABLY QUALIFIED PERSONS**

### **Q16. What experience and/or qualifications would a person need in order to be approved as a Suitably Qualified Person? How should this be provided for in PC 8?**

50. All the witnesses agree that a change in the definition of Suitably Qualified Person is required to more clearly set out the basis for becoming a Suitably Qualified Person. A draft framework for revising the definition is attached in Appendix A, however, the witnesses agree that relevant qualifications and experience will differ depending on the task to be performed by the Suitably Qualified Person (eg DESC calculations and pond drop tests).
51. Technical witnesses (MF, CB, LB) also recommend changes to the scope of activities that a Suitably Qualified Person should carry out, which are reflected in proposed amendments to rule 14.7.1.1. These witnesses and SC, JC and LK consider that it was important to ensure a list of Suitably Qualified Persons is maintained and made available by the regional council.
52. The technical witnesses (MF, CB, LB, KJ) agree that a Chartered Professional Engineer is the appropriate person to design and/or certify new animal effluent storage facilities, and weeping walls/sludge beds.
53. Refer to Q10 for discussion of Suitably Qualified Person in relation to DESC calculations.
54. MF has seen “not privileged” legal advice that indicates the current PC8 SQP definition, which provides for the ORC to have unfettered power to approve or decline SQPs, is not lawful (see circulated Philip Maw advice to ECan). MF suggested a change be made to

the definition to take this into account which is shown in Appendix A MF considers this definition reflects the general tenor of related discussion recorded in the JWS but holds that disputed cases should be determined by the Environment Court. SM and FB consider this to be a legal and planning matter not properly within the scope of the conference.

55. SM considers that a process for resolving disputed cases should be part of a broader procedure but there should be no need to take the matter to the Environment Court. SM is comfortable with either of the Appendix A SQP definitions and notes that in each case the procedure for assessing whether the requirements are met still needs to be established, which can be discussed in mediation.

## **SCHEDULE 19A CALCULATIONS**

### **Q12. Are there any practical difficulties in undertaking the calculations required by Schedule 19A?**

56. The following technical witnesses (MF, CD, LB, KJ) agree that Schedule 19A adopts broad assumptions for calculations such as the litres per day per cow. Therefore, Schedule 19A may not accurately assess the environmental risk associated with the volume of storage capacity. Furthermore, KJ notes that the assumed value of 50L/cow/day is arbitrary and that actual use records now available indicate that this can be anywhere between 20L/cow/day to upwards of 100L/cow/day.
57. The technical and planning witnesses agree that the implementation of the Plan's requirements must be staged for practicality of processing consents.
58. The technical and planning witnesses agree there may be an easier way of calculating this. However, there is uncertainty around how other methods would calculate environmental risk.
59. The technical and planning witnesses agree that, in the absence of a simpler risk-based approach, Schedule 19A is sufficient for its purpose of staging consent application dates for the purposes of rule 14.7.1.2 and 14.7.3.1. FB advised the conference that ORC has a record of the estimated days of storage on most (but not all) dairy farms in Otago through the Compliance Officers' regular inspections. The witnesses, including MB, LB, FB, SM, DL and KJ, agree that communicating that information, and the relevant timeframe for applying for resource consent (if required) to dairy farmers proactively would assist with implementation of Schedule 19A. MF considers that Schedule 19A in PC8 is *ultra vires* and uncertain. He has significant reservations about the proposed approach in the notified version of PC8 because it does not provide an adequate level of certainty for plan users and gives the consent authority secondary approval power and/or creates terms that are not adequately defined. He considers that a simpler date-based system would be preferable.
60. The witnesses consider it important that the council communicate the purpose of the Schedule clearly to users to avoid confusion about the implications of the methodology contained in the Schedule.

### **Q13. Are there alternative approaches to categorising the risk associated with existing effluent systems?**

61. The following witnesses [KJ, CD, FB] agree that there are alternative approaches that could be used, but decided against recommending these for the reasons outlined in the response to Q12. They concluded that additional effort would not improve the outcome.

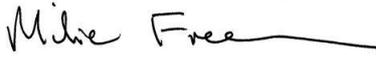
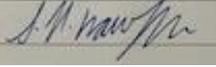
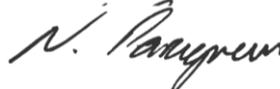
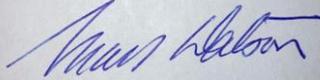
## MANAGEMENT PLANS

**Q19. What would an effective management plan for an effluent system contain? Including what objective(s) or outcomes should the management plan achieve; and who should certify that a proposed management plan can achieve the outcomes sought?**

62. All witnesses agree that the objectives of a management plan for an animal effluent system should be to:
- a. record the preventative measures to be taken to minimise the risk of unauthorised discharges, and
  - b. record the responses to be taken in the event of an unauthorised discharge.
63. The technical and planning witnesses agree that, at minimum, the management plan should contain:
- a. operational procedures for using and maintaining the system,
  - b. responses to identification of any leaks and to any other system failures or emergencies, including timeframes for response,
  - c. monitoring and reporting requirements and timeframes,
  - d. any requirements for pond drop tests of an animal effluent storage facility, including test intervals and reporting of results.
64. SM considers that the objectives and required components of the management plan should be specified in the plan provisions. Due to lack of time, the way in which they should be incorporated was not discussed. In similar vein, FB records that the witnesses agree amendments are required to Rules 14.7.1.1 and 14.7.2.1 to reflect the agreements recorded above regarding management plans, however there was not sufficient time during conferencing to discuss amendments.
65. The witnesses agree that a management plan for the purposes of the PC8 rules can be a component of a more comprehensive ~~existing or pending requirements of land managers (eg more comprehensive farm environment plan.~~

## OTHER MATTERS

66. In considering the application of Rule 14.7.2.1, the technical witnesses noted that conveyancing pipes that transport effluent from the animal effluent storage facility to the point of discharge may not be able to meet the setback requirements in Rule 14.7.2.1(d). The technical witnesses agree that conveyancing pipes should be excluded from the setback requirements in (d).

Witness	Signature
Dolina Lee	
Felicity Boyd	
Mike Freeman	
Sandra McIntyre	
Luke Kane	
Stephen Crawford	
Nigel Paragreen	
Niall Watson	
Keri Johnston	
Logan Bowler	
Cain Duncan	
Ian Barugh	
Maria Bartlett	

Jane Chrystal

A handwritten signature in black ink that reads "Jane Chrystal". The signature is written in a cursive style with a large initial "J" and "C".