

BEFORE THE INDEPENDENT COMMISSIONER

AT DUNEDIN

IN THE MATTER the Resource Management Act 1991 (“**RMA**”)

AND

IN THE MATTER of Application RM24.143 by Dunedin City Council
to undertake various activities for the purpose of
constructing and operating the Resource Recovery
Park Precinct, Green Island.

**STATEMENT OF EVIDENCE OF TRACY FREEMAN
ON BEHALF OF OTAGO REGIONAL COUNCIL**

**AIR QUALITY
22 OCTOBER 2024**

BRIEF OF EVIDENCE OF TRACY FREEMAN

Introduction

1. My name is Tracy Joanne Freeman. I am employed as a Principal Air Quality Consultant at Jacobs Group (New Zealand) Ltd (Jacobs), currently based in Jacobs' Christchurch office.
2. I have been engaged by Otago Regional Council ("**ORC**") to provide technical review of the air quality assessment for the consent application by Dunedin City Council ("**DCC**") to construct and operate the Green Island Resource Recovery Park Precinct ("**RRPP**").
3. I have a Masters Degree in Chemical Engineering from the National University of Singapore, and a First Class Honours Bachelor Degree in Chemical and Process Engineering from the University of Canterbury, New Zealand.
4. I have over 30 years' experience in air quality consulting. The first 18 years of my experience were based in New Zealand, before moving to Australia in March 2011 and then returning to Christchurch in March 2022.
5. I am a financial member of the Clean Air Society of Australia and New Zealand ("**CASANZ**"), and a current member of the NZ Branch Committee.
6. I have assessed environmental effects from the discharge of contaminants to air on many occasions throughout my years of experience, including emissions from a wide range of industries.
7. I have provided expert evidence on odour issues for the Environment Court of New Zealand, the Victorian Civil and Administrative Tribunal ("**VCAT**"), Planning Panels Victoria, and resource consent hearings in New Zealand on many occasions. I have completed the Ministry for the Environment's "Making Good Decisions" course.

8. I was one of the two authors of the original technical report on odour assessment methods¹ where the concepts of chronic and acute odour effects first entered the New Zealand national guidance for odour assessment. This technical report later formed the basis for the development of the Ministry for the Environment's "Good Practice Guide for Assessing and Managing Odour in New Zealand" (first published in 2003), which I was also involved with.
9. I have been involved in many planning applications involving amenity conflicts between neighbouring incompatible land uses due to odour emissions from an activity causing, or having the potential to cause, nuisance for dwellings on neighbouring properties.
10. I have investigated and assessed odour issues for a wide range of activities including landfills, refuse transfer stations, recycling parks, composting plants, wastewater treatment plants, industrial waste treatment facilities, broiler farms, turkey farms, pig farms, rendering plants, abattoirs and fellmongeries. In these matters I have advised a range of stakeholders at various times, including applicants, local government, and environmental regulators.
11. I am also currently engaged by ORC to provide technical review of the air discharge consent application by DCC for extension of the Green Island Landfill.
12. I visited the Green Island Landfill site in April 2023, and visited a similar organics processing facility ("OPF") operating at the Hampton Downs Landfill in Waikato on 17 January 2024.
13. I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2023 (the "**practice note**"). Although this is an ORC hearing, this evidence has been prepared in accordance with the practice note and I agree to comply with it. My qualifications as an expert are set out above, and I confirm that the issues addressed in this statement of evidence are within my area of

¹ Ministry for the Environment, Technical Report no. 24, Review of Odour Management in New Zealand, prepared by Tracy Freeman and Roger Cudmore, August 2002.

expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

Technical Report

14. I am the author of the letter by Jacobs entitled “RM24.143 – Green Island RRPP – Technical Audit Responses; Air Discharges” dated 10 June 2024 (the “**Technical Review Letter**”). This letter is attached as Annex A. I confirm that I am not aware of errors or omissions in that report, and I adopt that letter as my main evidence.
15. In preparing the Technical Review Letter, I relied on the air quality assessment provided in the report prepared by Pattle Delamore Partners Ltd (“**PDP**”) dated February 2024, which was included in Appendix 12 of the Assessment of Environmental Effects (“**AEE**”) that supported the application. In this evidence, I will refer to the PDP report as “**the AQ Report**”.
16. I also relied on additional information provided by DCC as listed in the Technical Review Letter.
17. The air quality assessment in the AQ Report addressed the potential emissions of both odour and dust. I do not consider that any other types of air emissions needed to be included.
18. The odour assessment methodology in the AQ Report focused on three elements:
 - a) Identification of potential emissions, and associated mitigations/controls and contingency measures,
 - b) Field surveillance at existing similar operations, and
 - c) A cumulative risk assessment approach, considering the “**FIDOL**” factors (frequency, intensity, duration, offensiveness and location) to identify receptors at highest risk of odour impacts.
19. I consider that these odour assessment tools are in line with best practice, and were carried out appropriately.

20. The dust assessment methodology also focused on elements (a) and (c) from the list above, which in my opinion is also in line with best practice.

Dust Assessment

21. I agree with the dust assessment provided in the AQ Report. In my opinion, there are no sensitive receptors that are likely to be affected by dust to a minor or more than minor degree.

Odour Assessment

22. The Technical Review letter outlines in detail my review of the assessment of potential odour adverse effects.
23. The AQ Report combines the FIDOL analysis with the experience from other sites and the proposed odour mitigation measures to conclude that there is a low likelihood of off-site odour and dust from the proposed RRPP being categorized as objectionable and offensive. I agree with this conclusion based on the assessment provided in the AQ Report. I consider that if any odours are detected at sensitive receptors, these odours are likely to be weak, infrequent, and of short duration.
24. However, my conclusion is prefaced on operation of the mitigation controls and contingency measures proposed in the application, and on the field surveillance findings reported by PDP that I have not been able to independently verify.
25. If consent is granted, I recommend that conditions be included in the consent(s) to ensure that these mitigation controls and contingency measures are implemented and supported, and that appropriate monitoring is carried out.

Submissions

26. I understand that several submissions were received in response to the notification of the application. Three submissions (P. Adams, H. Murray and J&H Neill) refer to odour as a concern, and two (J&H Neill and H&G Helm) refer to dust as a concern.

27. I have previously stated my opinion that there are no sensitive receptors that are likely to be affected by dust to a minor or more than minor degree. Dust emissions, control measures and contingency measures for the bulk waste transfer station (BWTS) and materials recovery facility (MRF) are listed in Section 4.2.4 of the AQ Report. I agree that these measures are appropriate, and sufficient to minimise dust emissions to the extent that no offensive or objectionable dust effect are likely outside the site boundary. Dust emissions from the composting operation are not discussed in the AQ Report, however I did not raise this as an issue during the review of the application because I consider that the potential for dust emissions from the composting operation is minor due to the available separation distances, and the large particle sizes and moisture content typical of composting substrates.
28. Control measures for dust management will be included in the Operations Management Plan as required by proposed general condition 6(e). These measures were included in the draft Operations Management Plan in Appendix 5D of the AEE, Section 7.3. I agree that the proposed measures are appropriate.
29. Dust can also be emitted during construction operations, although is usually well managed through good practice mitigation measures such as keeping exposed surfaces damp, limiting speed limits on site, and minimising stockpiling and handling of dusty materials. These measures are included in the draft Construction Environmental Management Plan in Appendix 5A of the AEE, Section 7. I agree that the proposed measures are appropriate.
30. The measures proposed by the applicant in the two Plans are sufficient in my opinion to manage the risk of dust emissions, and to address the concerns about dust raised by the submitters. I do not consider that the risk of adverse impacts from dust emissions is sufficient to warrant the instrumental monitoring of dust at or near the site boundaries.
31. In response to the concerns raised about odour, I reiterate my conclusion that there is a low likelihood of off-site odour from the

proposed RRPP being categorized as objectionable and/or offensive. I recommend the conditions discussed in Annex B and in the section below to provide certainty that the mitigation measures proposed by the applicant will be incorporated in the RRPP design and operation.

32. Mr Adams raises concerns about the odour being similar to that experienced in Christchurch, and I assume he is referring to the composting plant owned by Christchurch City Council in the Bromley area. I am familiar with the odour issues from that site. The AQ Report specifically addressed the differences between the proposed operation at Green Island and that in Bromley, and I agree with that assessment based on my site visit to the Hampton Downs composting operation.
33. Mr Adams also raises concerns that commercial loads of meat and fish waste will be received and composted at the RRPP. It has been my understanding that such wastes would not be accepted for composting, and I have not considered the receipt and handling of such wastes in my assessment of potential odour effects. Section 4.6 of the draft Operations Management Plan included in Appendix 5D of the AEE states that animal byproducts (offal)², residues for agriculture activities (e.g. silage, piggery wastes, poultry wastes), and particularly odorous loads will not be accepted, however it is possible that the definition of commercial loads of meat and fish waste might not fit in those categories. It would be helpful if DCC could confirm whether it is contemplated that such wastes might be composted; if the answer is no, then the Operations Management Plan should be amended to provide more clear definitions of the wastes that would not be accepted. If the answer is yes, I think that that risk of offensive or objectionable odours beyond the site boundary is still low, however attention to the proposed odour mitigation measures will be important.
34. I recommend an amendment to proposed Condition 5 in the Green Island RRPP air discharge permit, as discussed in the following

² The waste non-acceptance criteria are also listed in Section 4.1 of the AQ Report; in that list animal by-products is defined as "including fish by-products" but that definition is not listed in the draft Operations Management Plan included in Appendix 5D of the AEE.

section, to provide more assurance to the submitters about the nature and origin of materials that will be composted at Green Island.

Conditions

35. I listed my initial recommendations for conditions on page 8 and 9 of the Technical Review Letter. DCC provided a response to these recommendations, which I have provided in Annex B along with my reply to the DCC comments in the last column of the table. I accept some of the responses from DCC, but if consent is granted I recommend a few amendments to the proposed conditions as discussed in Annex B and detailed below.
36. Condition 5 of air discharge permit. Enviro NZ obtained consent in 2022 from Canterbury Regional Council to operate another static aerated composting system at the Redruth Landfill in Timaru. In the AQ Report, this facility is referenced as a “similar facility” to the proposed Green Island composting activity in the AEE. The air discharge consent for the Redruth composting operation is CRC243229³. Many of the consent conditions for air discharges proposed by DCC for the Green Island RRPP are the same as in CRC243229. However, Condition 3 of CRC243229 contains more detailed wording on the types of organic waste that will be processed at the composting plant compared to proposed Condition 5 in the Green Island RRPP air discharge permit. I recommend that proposed Condition 5 should be amended to reflect the same wording as for the Redruth RRPP, unless the applicant can provide more specific information why the constraints of the condition in CRC243229 are not applicable at Green Island.
37. Response to items (5) and (6) in Annex B: Contents of Composting Facility Management Plan (CFMP).
- a) Proposed Condition 23 of the air discharge permit lists the matters that must be addressed in the CFMP. DCC agrees that the matters I raised in items (5) and (6) in Annex B are relevant

³ <https://www.ecan.govt.nz/data/consent-search/consentdetails/CRC243229>

to odour management at the OPF and should also be incorporated into the final CFMP.

- b) Therefore, I recommend that these matters should be listed in Condition 23 to ensure that they are not overlooked when the final CFMP is produced.

2. Response to item (7) in Annex B: Provide details of aeration system and biofilter design to ORC for certification.

- a) I accept the DCC's response that the aeration systems are standard modular parts not subject to design alteration. However, my initial reason for raising this matter was related to the lack of detail provided in the application about the biofilter sizing and design for the ductwork to avoid corrosion and blockages from the leachate and condensation.
- b) Some additional information about the biofilter sizing was provided in the applicant's S92 response in May 2024. A design sizing of minimum 30-seconds empty bed residence time (EBRT) was proposed at the peak aeration design point. This is within the range of 15-60 seconds recommended by the proprietary composting system supplier Engineered Compost Systems (ECS)⁴. The S92 response stated that "For normal compost exhaust air, such as that which will be generated at the Dunedin facility, we design for a minimum EBRT of 30 seconds at the peak aeration design point".
- c) CRC243229 for the Redruth RRPP includes a condition specifying minimum design requirements for the biofilter, and in my opinion it would be appropriate to include similar requirements here. In CRC243229, the design minimum EBRT is specified as 15 seconds, however as the May 2024 S92 response from DCC specified 30 seconds, I consider that would be the appropriate value to use for the Green Island RRPP.

⁴ The S92 response also referred to a webpage for the biofilter design guidelines that would be followed - <https://compostsystems.com/biofilter-theory-design-operation/>; this webpage is part of the ECS knowledge base.

- d) Therefore, I have recommended a modification to proposed condition 14 of the air discharge permit, consistent with that in the Redruth resource consent, so that the minimum expected design constraints for the biofilter are specified in line with the applicant's S92 response in May 2024.
- e) Condition 17 of the General Conditions relevant to all consents includes a requirement for the design of the biofilter to be submitted to ORC for review and certification within 15 working days prior to commencing construction of the biofilter. The timeframe for certification is detailed in condition 4 of the General Conditions. I am concerned that the requirement in condition 4 for 10 working days for a response from the ORC is insufficient time; I am aware of other circumstances (not ORC jurisdiction) where that time elapsed because of staff unavailability and a management plan was deemed to be certified even though it contained issues that required addressing. In addition, if the Council wishes to seek external independent review of the design or plan, there needs to be a way within the framework of the condition for a longer certification period to be declared. I have proposed that general condition 4(c) and (e) do not apply to the biofilter design certification to get around these concerns, however I would defer to the ORC reporting officer to confirm an alternative wording or appropriate duration.
- f) I also note from general condition 4(f) that the consent holder can implement non-certified documents even in the case of a dispute with ORC regarding the contents of the design or plan. This is not desirable in the case of a dispute over the biofilter design, and in my opinion general condition 4(f) should not apply in this instance.

3. Response to item (8) in Annex B: Handling of wastes stored in the BWTS for longer than 12 hours.

- a) I acknowledge the need to sometimes store putrescible wastes overnight or longer in the BWTS due to operating hours of the

Smooth Hill landfill. Despite the response from DCC in Annex B for item (8) and the ability to use odour sprays in the building misting system, I still consider that there is an unquantifiable risk of increased odour emissions when the BWTS is opened up for operation after a period when putrescible wastes have been stored overnight or over a Sunday/public holiday, and when those wastes are subsequently transferred into trucks for removal. It is possible that any such odours may be infrequent and of short duration, but I am unable to confidently assess this risk. I recommend that the Commissioner should ask DCC whether they can offer any further conditions, mitigation or contingency measures to reduce the risk of odour emissions when long-stored (overnight or longer) putrescible wastes are handled.

4. Response to item (9) in Annex B: Monitoring of odour at the site boundary.
 - a) Whilst I agree with the proposal by DCC to monitor odour at the site boundary by odour scouts, the proposed methodology uses on-site staff to conduct the monitoring. These staff would not be perceived as independent and are likely to have a low sensitivity to interpret findings of compost, other RRPP, and landfill odour and therefore any findings of “no odour” or “weak odour” would have low credibility. The lack of independent odour monitoring would make it difficult for the consent holder to modify activities and mitigation measures in response to monitoring feedback.
 - b) In my Technical Audit Letter, I recommended that it would be appropriate to have some independent odour scouting in addition to the site-sourced odour scouting proposed by the applicant. However, as shown in Annex B, DCC stated that the independent monitoring should be conducted by ORC. I do not agree that the role should fall to ORC to provide that independent information even if the costs can be recovered. Regional councils are often resource-constrained, and do not have staff resources to perform or manage that type of ongoing monitoring role even if the costs

can be recovered from the consent holder. However, I agree that my recommendation could be modified so that the independent monitoring is only required if there are concerns about odour beyond the site boundary.

- c) I have also recommended a new condition 25 in the air discharge permit which sets out the minimum requirements for odour monitoring.

Date: 22 October 2024

Tracy Freeman

ANNEX A – TECHNICAL REVIEW LETTER AIR QUALITY



**Challenging today.
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10 June 2024

Attn: Shay McDonald
Senior Consents Planner
Otago Regional Council

by email: Shay.McDonald@orc.govt.nz

Project name: Green Island RRPP Consent Applications
Project no: IS452400

Subject: RM24.143 – GREEN ISLAND RRPP – TECHNICAL AUDIT RESPONSES; AIR DISCHARGES

Dear Shay

Jacobs New Zealand Ltd (Jacobs) was engaged by Otago Regional Council (ORC) to complete a technical audit of a Resource Consent application for air discharges submitted by Dunedin City Council (DCC) for the proposed Green Island Resource Recovery Park Precinct (RRPP). The proposed RRPP includes an organics processing (composting) facility (OPF).

Further information was requested in accordance with Section 92 of the Resource Management Act to enable us to make a full assessment of the application, and was supplied by the DCC in May 2024.

The author of this review conducted a site visit to the Green Island Landfill (where the proposed RRPP will be constructed) in April 2023, and also visited a similar OPF operating at the Hampton Downs Landfill in Waikato on 17 January 2024.

In conducting this audit, we have reviewed the technical information related to air discharges from the RRPP as detailed in the following reports:

- Green Island Resource Recovery Park Precinct – Applications for Resource Consent and Assessment of Environmental Effects Prepared for Dunedin City Council; report prepared by Boffa Miskell dated 15 March 2024, herein referred to as the "AEE".
- Green Island Resource Recovery Park Precinct – Air Quality Assessment, prepared for Enviro NZ Services Ltd; report prepared by Pattle Delamore Partners Ltd (PDP) dated February 2024. Appendix 12 of the AEE, herein referred to as the "AQA".
- Response to Section 92 Request for Further Information; memorandum prepared by PDP dated 18 April 2024, herein referred to as the "PDP Memo".
- Response to Section 92 Request for Further Information; air quality responses spreadsheet prepared by DCC consultants dated May 2024, herein referred to as the "RFI spreadsheet".
- Odour and Litter Monitoring Work Instruction; Enviro NZ document number ENV-50-025 dated 15/4/24 submitted with the RFI spreadsheet.

- Draft Construction Environmental Management Plan; Appendix 5A of AEE, prepared by GHD revision 01 (Draft) dated 28/2/24, herein referred to as the “Draft CEMP”.
- Draft Green Island Composting Facility Management Plan; Appendix 5F of AEE, prepared by Enviro NZ Draft 2 dated February 2024.
- Draft Conditions of Consent; Appendix 20 of AEE.

We have also referred briefly to the following documents but have not conducted a full review as that is beyond the scope of the air quality assessment:

- Draft Operations Management Plan; Appendix 5D of AEE, prepared by Enviro NZ dated February 2024.

Our technical audit of the air discharge consent application is detailed on the following pages, following the question and response framework requested by ORC.

We note that the new organics receipt building (ORB) which is part of the proposed RRPP and will receive and shred the organic feedstocks for the composting operation, is subject of a separate resource consent application and as such the potential odour emissions from the ORB are not within the scope of this review. However, odour emissions from the ORB may contribute to the cumulative odour emission from the RRPP and have been included within this context in this review.

General	
Q1:	Is the technical information provided in support of the application robust, including being clear about uncertainties and any assumptions? Yes, or no. If not, what are the flaws?

Yes, the most part the technical information provided in support of the application, including the S92 responses, is robust.

Q2:	Are there any other matters that appear relevant to you that have not been included? Or is additional information needed? Please specify what additional info you require and why [please explain]
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No further information is required.

Q3:	If granted, are there any specific conditions that you recommend should be included in the consent?
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Yes, Jacobs recommends some specific conditions as well as edits to the proposed conditions. This question will be addressed at the end of this letter.

Air Quality	
Q4:	Are all relevant sensitive receptors correctly identified and described in the PDP report?

Sensitive receptors are discussed in Section 2.2 of the AQA. Jacobs is not aware of any relevant sensitive receptors that have not been identified in the AQA.

Representative sensitive receptors are listed in Table 1 of the AQA, along with the closest RRPP odour source and separation distances to the RRPP. The distances given appear to be to the closest source within the RRPP, not the RRPP boundary, which is appropriate.

Q5:	The PDP report considers that the commonly used separation distances of 500 m (for composting activities) and 300 m (for BWTS) are not appropriate radii in which to consider potential effects on sensitive receptors for this site. Do you agree? Please explain.
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Composting activities separation distance

The proposed activity at the OPF is composting of up to 20,000 tonnes per year of green waste and food waste by aerated static pile (ASP) composting system.

PDP relies on a separation distance proposed in a 2012 discussion document prepared for Auckland Council (Emission Impossible, 2012)¹ which recommends a 500 m separation distance that is not dependent on type of feedstock, processing methodology or mitigation. The rationale provided by PDP is that if a 500 m separation distance for composting is not site-specific to production throughput, methodology or mitigation, then the composting system proposed for the RRPP with its associated odour mitigation would have a lower odour potential than the generic composting that could potentially fall within the scope of the 500 m separation distance requirement. Jacobs agrees in general with this rationale.

However, this highlights the limited usefulness of that Auckland Council guideline, which is based on a 2011-published separation distances policy in Tasmania. It is not clear why Emission Impossible (2012) recommends adopting the Tasmania approach and does not consider the EPA Victoria approach which the same discussion document recommends should have a higher priority than the Tasmanian guidelines.

EPA Victoria has produced several updates to recommended separation distances since the Emission Impossible (2012) discussion document was published. The current (draft) recommended separation distances for composting plants (EPA Victoria, 2022)² are based on feedstock, composting throughput, and mitigation measures applied. For a throughput of 20,000 tonnes per year of the type of feedstock and processing methodology proposed for the RRPP, a separation distance in the range of 750m – 1100m is applicable.

Whilst the recommended separation distances in EPA Victoria (2022) are still in draft status, the previous separation distances for composting facilities (EPA Victoria, 2012)³ recommended 1000 m for production of up to 50,000 tonnes per year for a facility handling green waste and kerbside organics with enclosed in-vessel composting and odour control equipment. Whilst that 2012 publication also has draft status, it was the reference guideline for composting facilities in Victoria since 2012 (as stated in EPA Victoria (2013)⁴).

Therefore, there is precedent and context for a recommended separation distance of approximately 1000 m. The ORP proposed at Green Island does not meet these separation distances.

If a proposal does not comply with a separation distance, this does not mean the proposal cannot proceed. It does however mean that a site-specific odour risk assessment is needed, which has been provided in the AQA.

BWTS separation distance

Jacobs agrees that a 300 m separation distance is likely to be appropriate for the BWTS, based on the various references quoted in Section 2.6.2 of the AQA.

¹ Wickham, L (2012). Separation Distances for Industry, A discussion document prepared for Auckland Council, July 2012. Prepared by Emission Impossible Ltd

² EPA Victoria (2022). Separation distance guideline (draft). Publication 1949, December 2022.

³ EPA Victoria (2012). Draft Guidelines for Separation Distances for Composting Facilities. Publication 1445, March 2012.

⁴ EPA Victoria (2013). Recommended Separation Distances for Industrial Residual Air Emissions. Publication 1518, March 2013.

Q6: Is the assessment methodology appropriate and in line with best practice? Please explain.

The odour assessment methodology focused on three elements:

1. Identification of potential emissions, and associated mitigations/controls and contingency measures,
2. Field surveillance at existing similar operations, and
3. A cumulative risk assessment approach, considering the FIDOL factors (frequency, intensity, duration, offensiveness and location) to identify receptors at highest risk of odour impacts.

These odour assessment tools are in line with best practice, and have been carried out appropriately.

The dust assessment methodology also focused on elements (1) and (3) from the list above, which is also in line with best practice.

Q7: Are all relevant air emission sources considered and are the proposed mitigation measures for each appropriate? Please explain.

Odour and dust emissions, control measures and contingency measures for the BWTS and MRF are listed in Sections 4.2.3 and 4.2.4 of the AQA. All relevant air emission sources appear to have been considered. Jacobs agrees that with these measures in place, the risk of odour emissions from the BWTS and MRF is minimized.

Odour emissions for the ORB are listed in Section 4.4 of the AQA. The potential odour sources appear to have been correctly identified. A key stated mitigation measure is that *"there is no ventilation on this building and the door to the ORB will be closed, when practicable, in-between deposits and load-outs. (At times it will be necessary to have doors open when diesel machinery is operating)."* In the RFI Spreadsheet, DCC also confirmed that the ORB doors may need to be open at times to load the shredder safely and efficiently, and that the shredder will be running during loading. Therefore, it appears that the ORB doors may be open during operational hours for a number of reasons, and therefore closed doors should not be relied upon as a mitigation measure for the ORB. However, Jacobs notes again that emissions from the ORB are not subject to this consent application, except as a background odour source that may contribute to the overall cumulative odour effect.

Odour emissions for the OPF are discussed in Sections 4.5 and 4.6 of the AQA. All relevant odour emission sources appear to have been considered. Dust emissions from the OPF are not discussed; however this is appropriate. Jacobs agrees that the potential for dust emissions from the OPF is minor as the composting material has large particle sizes and will be kept moist.

Q8: Have the potential adverse effects relating to odour and dust been adequately described and assessed? Do you agree that there is a low likelihood of offsite odour and dust being categorised as offensive or objectionable at nearby receptor locations? Please explain.

In responding to this question, Jacobs has reviewed the field surveillance and cumulative risk assessment elements of the assessment methodology.

1. Field surveillance (experience with other sites)
 - a. Composting
 - i. Site investigations downwind of the Hampton Downs compost facility are discussed in Section 5.1.3 of the AQA. The AQA states that compost odours are unlikely to be experienced at distances of more than 200 m from the proposed composting operations at Green Island.

- ii. Jacobs is unable to independently verify the field investigation that is detailed in the AQA. It is noted that the nearest sensitive receptor to the Hampton Downs composting plant is more than a kilometre from the composting plant site, and even if any compost odours carried far enough downwind to those receptors it would probably be masked by the adjacent landfill odours in any case. On the day of our site visit to Hampton Downs, the wind direction was not suitable for conducting observations downwind of the composting plant. In addition, the main biofilter was not operating at the time of the site visit due to a breakage in the main inlet duct, so it would not have been possible to assess odour from the composting plant under normal operating conditions.
 - iii. Jacobs notes that a new ASP composting plant is being built by Enviro NZ in Timaru. However, no operational experiences are yet available for this site.
 - iv. Jacobs also agrees with the discussion in the AQA in Section 5.5 about “Bromley Odour Issues” and the rationale for concluding that the proposal for the RRPP at Green Island will not result in the same level of odour effects.
- b. BWTS and MRF
- i. Site investigations downwind of the Sunshine Avenue waste transfer station and MRF are discussed in Section 5.2 of the AQA. However, odours from these activities are highly dependent on the amount of putrescible material included in the waste streams, and it is possible that the field surveillance downwind of the Sunshine Avenue site may not reflect worst-case operations at the RRPP.
 - ii. Based on PDP’s stated experience with odour observations from transfer stations in Section 5.2 of the AQA, and Jacobs’ own experiences with similar activities, Jacobs agrees that the proposed BWTS and MRF operations could result in weak odours up to approximately 100 m from the source on occasions.

2. FIDOL assessment

- a. The risk assessment relies on site-specific FIDOL characteristics for the RRPP. The frequency part of the FIDOL assessment detailed in Section 5.3.1 of the AQA relies on wind speed and direction frequency data measured at the landfill which is appropriate. Jacobs also notes that there is an error in the AQA in Table 3, where all direction-dependent wind speeds above 5 m/s are listed as 0.0% frequency. This omission is not critical to the assessment.
- b. Jacobs agrees with the approach taken in the AQA to focus on the low wind speeds (below 3 m/s). Table 6 of the AQA provides a frequency rating for each receptor based on their upwind direction under low wind speeds. This frequency rating comes from a United Kingdom guideline for dust impacts published in 2016. Most of the receptors are assessed as being downwind “infrequently” based on a definition of “infrequent” of <5%, however Jacobs considers that this frequency could be increased to allow for wind meander under low wind speeds. The use of this frequency rating system, and the assumptions needed to determine the frequency assignments in Table 6, could be investigated further but are not critical to the overall assessment.
- c. The second factor in FIDOL is “intensity”. For the BWTS and MRF, Jacobs agrees with the discussion in paragraph 1 of Section 5.3.2 of the AQA report that BWTS and MRF odours are likely to be weak up to 100 m or so from the source.
- d. For intensity of the composting odours, the statement in the second paragraph of Section 5.3.2 of the AQA states that odours associated with aerobic conditions are not usually detected more than 150 to 200 m from the site, and if they are detected the intensity of odours at this distance would be described as weak. As discussed above, Jacobs is not able to independently verify this conclusion, however agrees based on the findings from the PDP odour surveillance that if odours are more intense than “weak” at a distance of more than 200 m from the composting site, it is likely that something has gone wrong with the design or operation of the OPF.

- e. The fourth paragraph of Section 5.3.2 of the AQA states that *“for the majority of the time any odours that are generated are expected to be weak at or beyond the Site boundary”*. Jacobs notes that the proposed composting site is close to the north boundary of the RRPP, and therefore disagrees with this statement. However, there are no sensitive receptors at or near that boundary.
 - f. The third factor in FIDOL is “duration”. Jacobs agrees that most odours noticeable outside the site boundary are likely to be short and intermittent. Longer duration events (up to a few hours) might occur during unloading of bunkers to the maturation pad, or bunker-to-bunker transfers.
 - g. The fourth factor in FIDOL is “offensiveness”, or the degree of unpleasantness or “hedonic tone” of the odour which is subjective to the individual experiencing the odour. Jacobs agrees that under normal operations, odours from the RRPP including the composting operation are likely to have a relatively low offensiveness rating (least degree of unpleasantness) compared to if the operations were poorly operated or controlled. Maintaining aerobic operating conditions, limiting controls on acceptance of odorous loads, and having mitigation and contingency measures in place will be important for the operation of the RRPP if consent is granted.
 - h. The last factor in FIDOL is “location”. Jacobs agrees that the site and proposed activities have a reasonable separation distance to nearby receptors.
 - i. Section 5.3.5 of the AQA states that at the distances to nearby sensitive receptors, *“it is unlikely that any odour from the proposed RRPP will be detectable”*. In Jacobs’ opinion, this statement cannot be supported because a “no detectable odour” threshold is very high standard and is difficult to predict.
3. Conclusions – likelihood of odour and dust from proposed RRPP:
- a. The AQA combines the FIDOL analysis with the experience from other sites and the proposed odour mitigation measures to conclude that there is a low likelihood of off-site odour and dust from the proposed RRPP being categorized as objectionable and offensive. Jacobs agrees with this conclusion based on the assessment provided. If any odours are detected at sensitive receptors, these odours are likely to be weak, infrequent, and of short duration.
 - b. This conclusion is contingent on operation of the mitigation controls and contingency measures proposed in the application, and on the field surveillance findings reported by PDP that cannot be independently verified. If consent is granted, Jacobs recommends that conditions be included in the consent(s) to ensure that these mitigation controls and contingency measures are implemented and supported, and that appropriate monitoring is carried out.

Q9:	Have the cumulative effects of the discharges to air been appropriately assessed? Please explain. In your answer please clearly indicate whether, in your expert opinion, the odour effects of the RRPP and the odour effects of the landfill are additive, or whether they can be separated or distinguished or if they provide any ‘masking’ effect for each other.
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The AQA acknowledges the presence of the Green Island landfill as a background odour source. This landfill is proposed for closure in a few years, although the timing of closure is subject to other resource consent proceedings currently underway.

The potential also exists for cumulative impacts with odour emissions from the ORB, if controls at that building are not adequate.

As stated in response to Q8, if any odours from the BWTS, MRF or OPF are detected at sensitive receptors, these odours are likely to be weak, infrequent, and of short duration. On their own, these are unlikely to cause an odour that would be considered offensive or objectionable.

Combination with other background sources can change the frequency, intensity, duration or offensiveness of the odour experience. In this case Jacobs notes the following:

- Landfill-related odours from Green Island are known to cause occasional odour nuisance and complaint for nearby residents.
- Composting odours will have a markedly different odour character to landfill odours, and should be easily differentiated.
- Combined effects are more likely to increase the frequency of odour occurrences at nearby receptors, rather than the intensity or offensiveness.
- Odours from the landfill may mask weak odours from the RRPP, but this would only be a factor for receptors that are simultaneously downwind of the RRPP and the landfill.

If compost-related odours are noticeable on regular occasions at sensitive receptors near the RRPP that also experience odours from the landfill, then there is a risk that the increased frequency of odours could increase the overall objectionable odour experience for those receptors.

Based on the FIDOL assessment for the BWTS, MRF and OPF and the field surveillance experience from similar sites, Jacobs mostly agrees with the conclusions in the AQA - that the presence of any weak, infrequent and short-duration odours from the BWTS, MRF or OPF are unlikely to change the overall risk of offensive or objectionable odours for nearby residents due to operations from the landfill.

However, there is a lower degree of certainty in this conclusion for residents in the Brighton Road and Clariton Avenue areas (represented by Receptors R3 and R4 in the AQA Figure 4), as these areas are already moderately affected by landfill odours and may be more sensitive to any increased frequency of unpleasant odours. R3 is 290 m from the MRF, 350 m from the BWTS, and 450 m from the OPF. R4 is 130 m from the MRF, 210 m from the BWTS, and 360 m from the OPF. Therefore, odours from the RRPP should not be detectable at locations R3 or R4 based on the findings in the AQA. Nevertheless, if odour from the RRPP is noticeable further downwind than predicted in the AQA, these locations have the potential to be affected by odour from the RRPP, at least to a minor degree, due to cumulative impact with the landfill odours.

Q10:	Taking into account your answers above, in your opinion, are there any offsite receptors that are affected by (RRPP operational-phase) odour or dust to a minor or more than minor degree? Please clearly identify which receptors you consider to be affected, to what degree, and why
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As discussed above in the answer to Q9, residents in the areas represented by R3 and R4 are considered to have the potential to be affected by odour to a minor degree if odour from the RRPP is noticeable further downwind than predicted in the AQA, even if that odour from the RRPP is not offensive or objectionable in its own capacity.

There are no receptors that are likely to be affected by dust to a minor or more than minor degree.

Q11:	Does the draft CEMP (Appendix 7) adequately describe and assess the potential adverse effects of landfill gases and odour during the construction phase, and are the proposed mitigation measures appropriate to ensure that adverse effects on persons and the environment are less than minor? Please explain.
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The odour emission risks, monitoring and mitigation measures are described in Section 10 of the CEMP. The description and proposed mitigation measures are appropriate. However, it is not possible to say for certain that the measures will ensure that adverse effects on persons and the environment will be less than minor, as this will depend on the cause of the odour, whether it is possible to adequately mitigate that odour, and how long it takes to complete the mitigation action.

Jacobs recommends that supplies needed for mitigation measures should be held on standby at the construction site or at the adjacent landfill for rapid deployment – such as a stockpile of clean cover material, odour suppression foam spray, and an odour suppressant misting cannon.

Q3: If granted, are there any specific conditions that you recommend should be included in the consent?

Jacobs recommends conditions relating to the following:

1. Limiting the size of the OPF to six bunkers to start with, with expansion to 10 bunkers following an odour review which would include independent field odour surveillance, and community engagement.
 - a. This would allow DCC to demonstrate that the OPF can be operated as described in the AQA, before scaling up to full design capacity.
2. Limiting bunker-to-bunker transfers to material that has been in a bunker for at least 9 days.
3. Requiring a Solvita test score of 6 and a minimum of 21 days active composting before compost can be removed from a bunker to the maturation pile. This would be an amendment to proposed condition 11 of the air discharge consent for composting activities.
4. Requiring each bunker pile to be capped with approximately 300mm layer of unscreened mature compost.
5. Composting Management Plan should require the following:
 - a. Good record keeping of bunker ventilation status (positive/negative aeration), when loading/unloading operations at the bunkers occur, and when bunker-to-bunker transfers occur. This would allow subsequent analysis of potential causes of odour detected during odour surveys or due to odour complaints.
 - b. Emptying of bunkers not to be started if the weather conditions are conducive to poor dispersion (as per response by DCC in RFI spreadsheet comment 8a).
 - c. Winds to be monitored during loading/unloading and transfer operations at the OPF, so that operations can be completed as quickly as possible if wind speeds reduce to levels of concern for dispersion towards a sensitive receptor.
 - d. Protocols for biofilter media replacement.
6. Biofilter monitoring (as per draft Composting Management Plan), noting that this is already provided in proposed condition 20 of the air discharge consent for composting activities.
7. Provide detailed design of bunker aeration system and biofilter design to ORC for certification.
 - a. Jacobs notes the certification process clauses in the proposed General conditions, and recommends that the requirement in condition 4(c) for a response within 10 days be extended to a longer time period, or deleted altogether, to ensure that the need for a certification is not overlooked.
8. For the BWTS, the following time restrictions are recommended: All putrescible waste will be removed from the site within 72 hours. If waste is to be held on site longer than 12 hours (ie. overnight or longer), putrescible waste will be covered and deodorising spray used as required to prevent off-site effects. This is a modification to the proposed wording in condition 4 of the air discharge consent for discharge from buildings.

Date: 10 June 2024

Subject: RM24.143 – GREEN ISLAND RRPP – TECHNICAL AUDIT RESPONSES; AIR DISCHARGES

Jacobs

9. Monitoring of odour at the site boundary and at sensitive receptors by odour scouts, both by independent contractors and by site-staff, with adaptive management of on-site operations and mitigation measures in response to monitoring outcomes.
 - a. Jacobs agrees with the proposal by DCC to monitor odour at the site boundary by odour scouts. However, the methodology described in ENV-50-25 indicates that the monitoring would be conducted by on-site staff. These staff would not be independent and are likely to have a low sensitivity to interpret findings of compost, other RRPP, and landfill odour and therefore any findings of “no odour” or “weak odour” would have low credibility.
 - b. Jacobs considers it appropriate to have some independent odour scouting in addition to the site-sourced odour scouting proposed by the applicant.
10. Periodic independent review of compost operations, such as on a 2-yearly basis.
11. Maintaining wind monitoring at the site, even after the landfill is closed. This is included by proposed condition 3 of the proposed consent conditions for air discharges for composting activities.
12. Ensuring that the full range of odour and dust mitigation measures detailed in the AQA are carried through into the Operations Management Plan and the Composting Management Plan. This could be achieved through proposed condition 23 of the consent for air discharges for composting activities, however some of the initiatives proposed need to be incorporated into the facility design and it would be too late to identify any deficiencies in the proposed measures at the time frame referred to in proposed condition 23 (ie. no less than 15 working days prior to commencement of operations).
13. Annual environmental report describing operations conducted at the RRPP over the previous year. A report of this type is included in condition 24 of the proposed general consent conditions. However, Jacobs recommends that the report should also include a summary of all monitoring at the RRPP related to the biofilter and odour scouting, mitigation/corrective measures initiated, and complaint assessment.

Finally, Jacobs notes proposed condition 6 of the General conditions which states that the amount of raw material received on the site for the production of compost must not exceed 30,000 tonnes per year. However, the AQA is based on a composting system “capable of composting up to 20,000 tonnes per year of green waste and food waste”. Therefore, we recommend that condition 6 be modified to reflect the capacity assessed in the AQA, which is 20,000 tonnes of raw material.

Yours sincerely,



Tracy Freeman
Principal Air Quality Specialist

tracy.freeman@jacobs.com

**ANNEX B – DCC RESPONSES TO RECOMMENDATIONS
IN TECHNICAL REVIEW LETTER**

Green Island Resource Recovery Park - Technical Audit Conditions of Consent

Air Quality - Tracy Freeman - Jacobs

Project Specialists - DCC, GHD, PDP and EnvironZ

Item	Suggestion in Jacobs Technical Review Letter	Response to ORC	Changes to submitted draft consent conditions	Updated consent conditions	Tracy Freeman comment for evidence
1	Limiting the size of the OPF to six bunkers to start with, with expansion to 10 bunkers following an odour review which would include independent field odour surveillance, and community engagement. This would allow DCC to demonstrate that the OPF can be operated as described in the AQA, before scaling up to full design capacity.	The consent application and PDP assessment is based on the processing of 20,000 tonnes organic waste per year and 10 bunkers for the OPF. 10 bunkers are required to accommodate processing of 20,000 tonnes per year, and a reduction in the number of bunkers would mean that only 12 - 15,000 tonnes per annum would be able to be processed which would not meet Dunedin's anticipated organic waste demands. Increasing the number of bunkers from 6 to 10 will not result in an increase in odour potential, provided no more than 20,000 tonnes per year is composted. Accordingly DCC considers the number of bunkers should remain at 10.	No change		Explanation provided by DCC is accepted. Recommendation withdrawn, noting that in the event that odour from the composting activity cannot be appropriately managed, DCC has the fall-back option to remove problematic organic material from the site
2	Limiting bunker-to-bunker transfers to material that has been in a bunker for at least 9 days	Bunker to bunker transfers will normally take place after 9 days. However the operator needs flexibility to make decisions and initiate action on a batch by batch basis to ensure the overall operation of the OPF does not result in noxious, dangerous, offensive, or objectionable odour beyond the boundary (as per draft air discharge condition 4). This may on occasion require transfer material prior to 9 days. Transfers between bunkers will only be undertaken at times which are least likely to cause objectionable odour effects on neighbours (as per draft air discharge condition 16). Management of odour to achieve these performance based conditions will be addressed in the Composting Facility Management Plan (as per draft air discharge conditions 21 - 23). DCC therefore considers bunker to bunker transfers should not be required to take place after 9 days.	No change		Explanation provided by DCC is accepted. Recommendation withdrawn.
3	Requiring a Solvita test score of 6 and a minimum of 21 days active composting before compost can be removed from a bunker to the maturation pile. This would be an amendment to proposed condition 11 of the air discharge consent for composting activities.	DCC accepts the proposed amendment to condition 11, which is consistent with PDP's air quality assessment.	To be added to Condition 11 of air discharge consent - see wording	<i>Material within the aerated static pile bunkers must:</i> a) be capped with a minimum of 300mm of unscreened mature compost. b) remain within the bunkers for a minimum of 21 days. c) achieve a solvita score of 6 before being removed from the bunkers.	Proposed consent condition is accepted.
4	Requiring each bunker pile to be capped with approximately 300mm layer of unscreened mature compost.	DCC accepts the proposed amendment, and proposes it be added	To be added to Condition 11 of air discharge consent - see wording	<i>Material within the aerated static pile bunkers must:</i> a) be capped with a minimum of 300mm of unscreened mature compost. b) remain within the bunkers for a minimum of 21 days. c) achieve a solvita score of 6 before being removed from the bunkers.	Proposed consent condition is accepted.

5	Composting Management Plan should require the following: a. Good record keeping of bunker ventilation status (positive/negative aeration), when loading/unloading operations at the bunkers occur, and when bunker-to-bunker transfers occur. This would allow subsequent analysis of potential causes of odour detected during odour surveys or due to odour complaints. b. Emptying of bunkers not to be started if the weather conditions are conducive to poor dispersion (as per response by DCC in RFI spreadsheet comment 8a). c. Winds to be monitored during loading/unloading and transfer operations at the OPF, so that operations can be completed as quickly as possible if wind speeds reduce to levels of concern for dispersion towards a sensitive receptor. d. Protocols for biofilter media replacement.	DCC agrees with these matters, and considers they are addressed in the draft Composting Facility Management Plan. Any further refinement required to address these matters will be incorporated in the final Composting Facility Management Plan (as per proposed conditions 21 - 23).	No change		The conditions need to state the expectations of what will be included in the Composting Facility Management Plan, and therefore these items need to be included in the list in draft Condition 23 of the Air Discharge permit for composting activities.
6	Biofilter monitoring (as per draft Composting Management Plan), noting that this is already provided in proposed condition 20 of the air discharge consent for composting activities.	DCC agrees that monitoring of the biofilter (as per draft condition 21) should be incorporated into the Composting Facility Management Plan. Any further refinement required to address these matters will be incorporated in the final Composting Facility Management Plan (as per proposed conditions 21 and 22).	No change		The conditions need to state the expectations of what will be included in the Composting Facility Management Plan, and therefore these items need to be included in the list in draft Condition 23 of the Air Discharge permit for composting activities.
7	Provide detailed design of bunker aeration system and biofilter design to ORC for certification. Jacobs notes the certification process clauses in the proposed General conditions, and recommends that the requirement in condition 4(c) for a response within 10 days be extended to a longer time period, or deleted altogether, to ensure that the need for a certification is not overlooked.	The system proposed is the ECS system, the same system installed at Hampton Downs and inspected by the reviewer. The detailed design is provided by ECS, who have designed a large number of these systems worldwide. The aeration systems are standard modular parts provided by ECS and not subject to alteration as part of the design or review process. The only component likely subject to bespoke design for the system is the biofilter. If required, DCC would be comfortable with the design of the biofilter (e.g. filter sizing/retention time) being provided for certification in accordance with condition 4. DCC notes that the 10 day certification timeframe is common and is reflected both in the conditions for the Smooth Hill Landfill, and proposed draft conditions for the replacement consents for the Green Island Landfill.	To be added to general condition 17 if required by ORC - see wording.	<p><i>17. Within 15 working days prior to commencing the construction of any:</i></p> <p><i>a. Any building within the RRPP;</i></p> <p><i>b. Leachate collection system, for direct discharge to pump stations;</i></p> <p><i>c. Stormwater collection, treatment and discharge system; and</i></p> <p><i>d. biofilter for the aerated static pile bunkers;</i></p> <p><i>the consent holder must submit a design report with specifications and design drawings to the Otago Regional Council for review to assess that they have been prepared by appropriately qualified personnel in accordance with the conditions of consent and in accordance with good practice, and certification in accordance with general condition 4.</i></p>	<p>I agree with the introduction of proposed condition 17(d) to address the need for review of the biofilter design, and consider that this is sufficient to address the original recommendation. I still consider that a requirement for 10 working days (general condition 4) for a response from the ORC is insufficient time; I am aware of other circumstances (not ORC jurisdiction) where that time elapsed because of staff unavailability and the management plan in question was deemed to be certified even though it contained issues that required addressing.</p> <p>I also note general condition 4(f) that the consent holder can implement non-certified documents. This is not be desirable in the case of a dispute over the biofilter design, and in my opinion general condition 4(f) should not apply in this instance.</p>

8	For the BWTS, the following time restrictions are recommended: All putrescible waste will be removed from the site within 72 hours. If waste is to be held on site longer than 12 hours (ie. overnight or longer), putrescible waste will be covered and deodorising spray used as required to prevent off-site effects. This is a modification to the proposed wording in condition 4 of the air discharge consent for discharge from buildings	DCC agrees with the requirement to remove putrescible waste from the BWTS within 72 hours (as per draft air discharge from buildings condition 4). DCC notes it would not be practicable to remove putrescible waste from the BWTS within 12 hours given that the consent conditions for Smooth Hill do not allow waste to be recieved for disposal on a Sunday or specified public holidays. Furthermore it considers the requirement for putrescible waste held at the BWTS longer than 12 hours to be covered is not practicable or necessary given it will be difficult to identify which portion of the waste is older than 12 hours, and the operation is occurring inside an enclosed building where the doors will be closed when not in use. As noted in PDP's Air Quality Assessment, odour supressing sprays will be available to be used, if necessary, which will be addressed in the Operations Management Plan (as per draft conditions 5 and 6).	No change		I acknowledge the practical limitations due to operating hours of the Smooth Hill landfill. Despite the response from DCC, I still consider that there is an unquantifiable risk of increased odour emissions when the BWTS is opened up for operation after a period when putrescible wastes have been stored overnight or over a Sunday/public holiday (which I expressed as "more than 12 hours"), and when those wastes are subsequently transferred into trucks for removal. Notwithstanding, the ability to use odour sprays in the building misting system should reduce the magnitude of fugitive odours being released under such conditions. I would invite DCC to indicate whether they can offer any further conditions or mitigation measures to reduce the risk of odour emissions when long-stored (overnight or longer) putrescible wastes are handled.
9	Monitoring of odour at the site boundary and at sensitive receptors by odour scouts, both by independent contractors and by site-staff, with adaptive management of on-site operations and mitigation measures in response to monitoring outcomes. a. Jacobs agrees with the proposal by DCC to monitor odour at the site boundary by odour scouts. However, the methodology described in ENV-50-25 indicates that the monitoring would be conducted by on-site staff. These staff would not be independent and are likely to have a low sensitivity to interpret findings of compost, other RRPP, and landfill odour and therefore any findings of "no odour" or "weak odour" would have low credibility. b. Jacobs considers it appropriate to have some independent odour scouting in addition to the sitesourced odour scouting proposed by the applicant.	DCC note that staff will be appropriately trained in odour monitoring. Furthermore it considers that ORC as administrator and auditors of the consents and their compliance are best placed to engage independent persons to assess whether operation of the RRPP is not resulting in noxious, dangerous, offensive, or objectionable odour beyond the boundary (as per draft air discharge condition 4), noting the the costs of such compliance auditing are able to be passed onto the consent holder as an admistrative charge.	No change		I remain uncertain that the method proposed by DCC will provide them with accurate independent odour observations to inform odour management at the site. I do not agree that the role should fall to ORC to provide that independent information even if the costs can be recovered. However, I agree that my recommendation could be modified so that the independent monitoring is only required if there are concerns about odour beyond the site boundary. A similar approach was agreed for the Southern Landfill in Wellington in late 2023.
10	Periodic independent review of compost operations, such as on a 2-yearly basis.	DCC note that the Operations Management Plan and Compositing Facility Management Plan are required to be reviewed annually in consultation with Te Runaka, to ensure the management processes contained within them remain adequate to ensure compliance with the conditions of the consents, including the requirement that there is no noxious, offensive, or objectionable odour beyond the boundary (as per draft air discharge condition 4). The reviewed plans are required to be recertified, giving ORC the ability to independently consider the appropriateness of the plans, includng based on outcomes in the Annual Monitoring Report (required by general condition 24), and any complaints recieved. The costs of ORC certification are able to be passed onto the consent holder as an admistrative charge.	No change		I accept the response provided by DCC. However, my concerns about the timeframe available to ORC to respond to such review opportunities remains, and I recommend that a longer period than 10 working days for such reviews should be recognised.

11	Maintaining wind monitoring at the site, even after the landfill is closed. This is included by proposed condition 3 of the proposed consent conditions for air discharges for composting activities	Accepted	No change		This recommendation is addressed in proposed condition 3. I recommend adding another sentence that "the data recorded by the weather station shall be provided to ORC in electronic format, on request".
12	Ensuring that the full range of odour and dust mitigation measures detailed in the AQA are carried through into the Operations Management Plan and the Composting Management Plan. This could be achieved through proposed condition 23 of the consent for air discharges for composting activities, however some of the initiatives proposed need to be incorporated into the facility design and it would be too late to identify any deficiencies in the proposed measures at the time frame referred to in proposed condition 23 (ie. no less than 15 working days prior to commencement of operations).	DCC agrees with these matters, and considers they are addressed in the current draft Operations Management Plan and Composting Facility Management Plan. Any further refinement required to address these matters will be incorporated in the final plans (as per proposed conditions 5 - 7, and 21 - 23).	No change		I accept the response provided by DCC. However, my concerns about the timeframe available to ORC to respond to such review opportunities remains, and I recommend that a longer period than 10 working days for such reviews should be recognised.
13	Annual environmental report describing operations conducted at the RRPP over the previous year. A report of this type is included in condition 24 of the proposed general consent conditions. However, Jacobs recommends that the report should also include a summary of all monitoring at the RRPP related to the biofilter and odour scouting, mitigation/corrective measures initiated, and complaint assessment.	DCC agrees that the Annual Monitoring Report required by general condition 24 should address these matters.	Amend general condition 24 - see wording	See wording of amended general condition 24	I agree with the wording of the proposed amended condition
14	Finally, Jacobs notes proposed condition 6 of the General conditions which states that the amount of raw material received on the site for the production of compost must not exceed 30,000 tonnes per year. However, the AQA is based on a composting system "capable of composting up to 20,000 tonnes per year of green waste and food waste". Therefore, we recommend that condition 6 be modified to reflect the capacity assessed in the AQA, which is 20,000 tonnes of raw material.	DCC note that while the OPF is designed to process 20,000 tonnes of raw material into compost per annum, condition 6 is intended to provide flexibility for up to 30,000 tonnes of material to be received on site, with any excess material being shredded/mixed, and then removed off site to another composting facility. This flexibility is intended to meet future obligations signalled in proposed changes to waste legislation that would require DCC to accept regional organic and greenwaste from outside the District. DCC nevertheless agree that air discharge consent condition 6 should be amended to recognise that only up to 20,000 tonnes of raw material received can be processed within the OPF.	Amend air discharge consent 6 - see wording	<i>The amount of organic and green waste raw material received on the site must not exceed 30,000 tonnes per annum, of which no more than 20,000 tonnes per annum must be used for the production of compost in the Organics Processing Facility (OPF). Any excess raw material must be shredded and removed from the site.</i>	I agree with the wording of the proposed amended condition