BEFORE THE SOUTHLAND REGIONAL COUNCIL
BY ITS INDEPENDENT COMMISSIONER

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of AB Lime Limited

AND

IN THE MATTER an application for a range of resource consents in relation to the operation of a landfill activity at 10-20 Bend Road, Winton

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DECISION OF COMMISSIONER ON APPLICATION BY AB LIME LIMITED

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1. Introduction

[1] In late May 2020 AB Lime Limited applied to both Environment Southland and the Southland District Council for a series of new consents and a variation to an existing consent for its landfill and limestone quarry site at Kings Bend, approximately 4 kilometres east of Winton. The landfill was established in 2004 and is restricted to a maximum annual 100,000 tonne waste discharge limit. The current consents have another 17 years to run before they expire (2038) but AB Lime Limited ('the applicant') seeks to remove the discharge limit. However, no change has been sought to the overall landfill footprint, nor to the final area or capacity of the landfill, which is situated within a limestone quarry owned by the applicant. As a consequence, the existing stormwater and water permits remain undisturbed by this proposal.

[2] I have been delegated the authority to determine the applications made to Environment Southland ('ES'). I confirm here that I am a Certified Hearings Commissioner, with over 30 years of experience, and that I have completed the RMA: Making Good Decisions programme, being Chair certified. I have conducted numerous hearings on resource consent applications, designations, plan changes and plan reviews for a range of City, District and Regional Councils throughout the South Island. The resource management issues involved in these hearings have been diverse and of relevance to this hearing, have included consents involving air discharges, the discharge of contaminants and water takes.

[3] This delegation relates to the ES applications only. As a consequence, matters such as external traffic generation effects are not relevant to my consideration of the proposal. I understand that discussions did take place between ES and the Southland District Council ('SDC') to determine whether a joint process was necessary but that SDC determined that it was comfortable processing the land use consent separately. At the time of writing this decision, no decision has been made by SDC on the land use application.

[4] After an extensive section 92 process, the Council's section 95-95G notification assessment determined that the application should be notified on a limited basis to tangata whenua via Te Ao Marama Inc and Hokonui Rūnanga and 21 other parties within a general 2 km radius

(noting cadastral boundaries) from the landfill footprint on the application site. Limited notification occurred on 8 January 2021, with the submission period closing on Tuesday, 9 February 2021**.** Seven submissions were received, with all but one of them opposing the proposal. I note that three of the submissions were received slightly outside the submission period. However, the applicant signalled agreement to these being considered and hence I have exercised my discretion under Sections 37 and 37A of the Act to receive and consider these.

[5] The limited notification process caused some concern with both the submitters and the wider community. I discuss this in detail below. In the same context, Council's section 42A reporting officer, Dr Michael Durand, formed a different view to the Section 95-95G notification report author as he did not consider it possible to assess the environmental effects of the proposal given the approach the applicant has taken to the 'consented environment'. In his view, insufficient information has been provided by the applicant as not all potential effects had been assessed. Again, I deal with this below but, as will be apparent from the following, I do not agree with Dr Durand's position on this.

[6] In the context of the notification issue, I note that some submitters highlighted the petition that Ms Allan presented at the hearing as evidence of wider community concern. However, I cannot give weight to a petition of this nature in a process such as this. I do not know what information was provided to those people who signed it or what their specific concerns are. My consideration of the issues below is limited to the matters raised by submitters and those I am required to address by the Act. However, it is likely that the issues of concern to those who signed the petition are matters that I have considered below.

[7] I advise here that I have determined that the new consents and variation to the existing consent should be **granted** subject to conditions imposed under Section 108 of the Act. The reasons for my decision commence at Section 5 page 22 below although the matters traversed in Section 4, pages 11 to 22 are also relevant to the outcome. The conditions are shown in the attached decision certificates.

2. The Proposal

[8] The proposal is fully described in the application documentation and the evidence of the applicant's team at the hearing, which made some changes to the proposal, but I briefly set out the key facts here.

[9] The applicant is the owner and operator of a limestone quarry and landfill at the site, which is the South Island's largest agriculture limestone quarry and employs 47 local people. It has been producing large quantities of agriculture lime and fertiliser blends for close to 70 years. Production is currently in the order of 250,000 tonnes per annum although it has a consented extraction rate of 350,000 tonnes per annum until 2038.[1]

[10] The surrounding environment is generally rural in nature, with some rural dwellings within a 2-kilometre radius of the site, particularly to the west and south of the site of the application. AB Lime has purchased several of the adjacent properties and operates a dairy farm on them. The site itself generally rises in a north-easterly direction, with landfill activities occurring on the south-western part of the site.

[11] The landfill operation was granted consent in 2003 and deposits waste into the cavity created by the removal of the limestone. The application classified the facility as a 'Type 1' landfill although the evidence presented at the hearing by Mrs. Smith, the Compliance and Environment Manager for the facility, clarified that this term is used interchangeably with 'Class 1' landfill. Mrs Smith stated that *"Waste Management Institute New Zealand (WasteMINZ) defines a Class 1 landfill as a municipal solid waste landfill that is able to accept municipal solid waste, construction and demolition waste, some industrial wastes, and contaminated soils"* and went on to outline what that means. She advised that such landfills must be appropriately sited to achieve a high level of containment and require engineered environmental protection (the use of a liner, leachate collection system, and an appropriate cap) and landfill gas management. Rigorous monitoring, reporting regimes, and operational controls are also required.[2]

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[1] *Evidence of Stephen Smith paragraph 18.*
[2] *Evidence of Fiona Smith, paragraphs 6 – 8.*

[12] Existing consents for landfilling activities at the site restrict the amount of waste it can receive to 100,000 tonnes per annum and expire in June 2038. I note that these consents have not been surrendered by the applicant. While the facility primarily accepts waste from local authorities within the region (being the Invercargill City Council, and the Gore and Southland District Councils), the consent does not restrict the waste received to be generated from within the Southland region and waste is currently is accepted from other territorial authorities and private operators outside the region.

[13] The facility currently operates under the following consents:

Discharge permit AUTH-201346-V3 for the discharge of up to:

- 100,000 tonnes per year of solid waste onto or into land;
- 26 cubic metres per day of leachate and contaminated stormwater onto or into land in circumstances that may result in contaminants entering groundwater (leachate leakage); and
- 200 cubic metres per day of leachate onto, or into, the land within the landfill footprint

Discharge permit AUTH-201347 to discharge:

- stormwater, from an area not exceeding 33 ha; and
- up to 40 cubic metres per day of groundwater

Water permit AUTH-201348 to take up to 40 cubic metres per day of groundwater

Water permit AUTH-201349 to dam and divert surface water

Water permit AUTH-201350 to take up to 500 cubic metres per day of surface water

Air discharge permit AUTH-201351 (after amendment May 2010) to discharge contaminants to the air from a landfill

Air discharge permit AUTH-20586201 to discharge contaminants to the air from a lime works

[14] This proposal does not seek to change the three water permits or the stormwater discharge permit. Mr McCone confirmed in his evidence at the hearing[3] that the existing Schedule 1 General Conditions will remain attached to the existing consents not being disturbed.

[3] *Evidence of Mr McCone paragraph 30(e)*

Mr McCone also advised[4] that initially a number of administrative updates were proposed to AUTH 201347 – AUTH 201350 but in response to Dr Durand's position that these could be construed as varying these consents, these changes were withdrawn. Mr McCone also confirmed the withdrawal of the new discharge permit sought for the discharge of leachate and contaminated stormwater at paragraphs 34 to 39 of his evidence.

[15] The new suite of consents now sought by the applicant and their activity status are set out in the table below.

Activity	Relevant Rule	Activity Status
A new discharge permit to deposit solid waste onto or into land where that contaminant may enter water	Rule 45 of the Proposed Water and Land Plan, and Rule 56 of the Regional Water Plan	Discretionary activity
A new discharge permit to discharge leachate onto or into land within the landfill footprint for the purposes of leachate recirculation	Rule 45 of the Proposed Water and Land Plan, and Rule 56 of the Regional Water Plan	Discretionary activity
A new discharge permit to discharge contaminants into air from combustion processes where combustible refuse matter is flared	Rule 5.5.2 (2)(c) of the Regional Air Plan	Discretionary activity
A new discharge permit to discharge contaminants into air from refuse disposal facilities receiving greater than 100,000 cu metres/year of uncompacted solid waste	Rule 5.5.2(18) of the Regional Air Plan	Discretionary activity
A new discharge permit to discharge contaminants into air from the use of masking agents to disguise odour	Rule 5.5.6 of the Regional Air Plan	Discretionary activity
A new land use permit for the drilling of additional monitoring bores	Rule 53 of the Proposed Water and Land, and Rule 22 of the Regional Water Plan	Controlled activity

[4] *Ibid, paragraphs 32 and 33*

[16] An updated set of conditions was submitted with the closing submissions of the applicant's Counsel.

[17] A variation to existing consent AUTH-205861-01-V1 to change the conditions of the limeworks air discharge consent is also sought through this process. The purpose of this variation is to reduce the amount of sulphur dioxide emissions from the lime kilns as the applicant progressively replaces the current coal combustion with LFG combustion. Section 127 of the Act identifies variations to consents as a discretionary activity.

[18] These activities are bundled and treated collectively as a **discretionary activity**. Section 104 of the Act sets out what must be considered when deciding a resource consent application. Section 104B provides that once those matters have been considered, I can grant or refuse an application for a discretionary activity. If the application is granted, conditions may be imposed under Sections 108 of the Act. The matters contained in Section 104 have all been considered in arriving at this decision.

[19] The policy framework for assessing this application is relatively extensive with a number of the relevant planning documents being now somewhat dated or not fully operative. The application assessed the National Policy Statement for Freshwater 2014 but this has now been superseded by a 2020 version (NPSFM 2020). This document is more relevant than it normally would be in a case like this because it has not yet been implemented by a regional plan. The Regional Policy Statement 2017 (SRPS) pre-dates this document, as does the Operative Regional Water Plan 2010 (RWP) while the proposed Southland Water and Land Plan 2018 (PSWLP) is being shaped within an Environment Court process with higher order objectives and policies emerging that reflect the concept of Te Mana o te Wai. Southland's Regional Air Plan 2016 was formally adopted by Council on 5 October 2016. It updates the original Air Plan, which was reviewed to reflect the community's health values, current air quality issues and the National Environmental Standards for Air Quality (NES-AQ).

[20] These documents have all been considered in my assessment of the proposal and have been addressed in the section of this decision where I give my reasons for granting the applications.

[21] The other document considered in my decision is 'Te Tangi a Tauira' (Ngai Tahu Murihiku Resource Management Plan) which is considered a relevant 'other matter' under Section 104(1)(c) of the Act. This is because it expresses the attitudes and values of tangata whenua and the regional plans have yet to be fully amended to take into account this Plan.

3. Site Visit, Hearing and Appearances

[22] I visited the site and its environs, along with the location of the submitter's properties, on Monday, 10 May 2021. I again visited the environs of the site and submitters' properties at the conclusion of the hearing on Thursday, 20 May 2021.

[23] The hearing was conducted at Invercargill from 17 to 20 May 2021. The following people attended the hearing:

The Applicant

AB Lime Limited was represented by the following people:

- Bridget Irving (Legal Counsel), assisted by Rebeca Crawford
- Stephen Smith (General Manager of AB Lime)
- Fiona Smith (Compliance and Environment Manager at AB Lime)
- Walter Starke (consultant Environmental Engineer)
- Timothy Baker (consultant Hydrogeologist)
- Donovan Van Kekem (consultant air quality expert)
- Ryan McCone (Planning consultant)

Council Staff

The Council was represented by the following people:

- Dr Michael Durand (Consultant Planner and s42A report author)
- Bruce Halligan (Consents Manager - Acting)
- Leny Tambo (Consents Co-ordinator)

- Matthew Noonan, via Zoom (Consultant air quality expert)
- Andrew Rumsby, via Zoom (Consultant Environmental Chemist/Toxicologist)
- Mike Doesburg, 17 May 2021 only (Environment Southland Legal Counsel)

Submitters

The following submitters appeared at the hearing on Wednesday, 19 June 2021:

- Rosemary Hamilton
- Bruce Johnston & Tracey Cavanagh
- Janice McKerchar
- Lyndal Sinclair supported by Katie Allan

[24] Dr Durand's s42A report and the applicant's evidence was pre-circulated while Ms Irving presented legal submissions at the commencement of the applicant's case. The s42A report and the applicant's evidence was taken as read although the applicant's experts each presented a short summary of their evidence prior to taking questions. All submitters, with the exception of Mrs McKerchar, also read from written statements. The Hokonui Rūnanga did not attend the hearing in person but tabled a written statement outlining its position.

[25] While Mr Geerlings (a submitter in support) and Te Ao Marama Inc, as representatives of Te Rūnanga o Awarua and Waihopai Runaka, did not attend the hearing, their submissions were also given full consideration. Te Ao Marama Inc advised that while it had withdrawn its right to be heard, given that the applicant has reduced the term of the consent now sought and proposed additional kaitiaki conditions, it has not withdrawn the submission itself.

[26] After the applicant's experts presented their evidence, Mr Noonan and Mr Rumsby addressed their areas of expertise. Their key comments were then written up for the record as was Dr Durand's review, which he gave after hearing from the applicant and submitters. Ms Irving's close was given at the hearing although the hearing was adjourned (on Thursday, 20 May 2021) to enable the receipt of the applicant's final reply which included an amended set of conditions. That was received on 21 May 2021 and the hearing was formally closed on 31 May 2021. The time limit to make the decision was extended to 12 July 2021 pursuant to

Section 37 of the Act, and was then further extended, with the applicant's agreement, to 19 July 2021.

[27] Copies of the statements of evidence and submissions presented at the hearing are held on file by ES. I do not separately summarise the matters covered here, but refer to or quote from that material as appropriate in the remainder of this decision.

[28] I wish to record here my thanks for the invaluable assistance provided to me by Council staff, the Independent technical landfill and air quality experts engaged by the council to provide technical input and review, the Section 42A report author, and legal counsel employed by Council. Their contributions greatly assisted with my assessment of the proposal. I also thank the applicant's team for their proactive approach to addressing issues throughout the process. Last but by no means least, I also thank the submitters who gave up their time to come to the hearing and present their concerns. While the result may not be one that they were seeking, I acknowledge and appreciate the concerns they raised and the effort they made in sharing those concerns with me. However, I am satisfied that their environmental concerns have been understood and addressed appropriately by the applicant in this process. The submitters' concerns were a significant factor in my consideration of the conditions of consent, particularly around the need for odour management and monitoring.

4. Preliminary Matters

4.1 Notification Process

[29] Before setting out my reasons for this decision, I must first address the concern raised in the submissions about the notification process and the associated issues raised in Dr Durand's s42A report and his review at the hearing. The original submissions of the Sinclairs, the McKerchars and Mr Johnson and Ms Cavanagh all considered that a much wider (public) notification process should have occurred, which was further discussed at the pre-hearing meeting. Although not raised in her original submission, Ms Hamilton also addressed the notification issue in her presentation at the hearing.

[30] Much of this concern seem to centre on the potential for the removal of the cap to enable the applicant to receive waste from around the lower South Island. At the hearing, both Ms Sinclair and Mr Johnston referred to a number of press articles from 2011 which indicated that the Waimate and Timaru Districts were considering sending their waste to the AB Lime facility. Mr Johnston stated that the waste cap was initially imposed on the 2003 consent to avoid this very scenario. Ms Allan, in support of Mrs Sinclair, stated that Dunedin City Council had also considered the possibility of sending its waste to AB Lime in September last year. Ms Hamilton believed that if the applications had been publicly notified, there would have been many more submitters involved and referred to the petition Ms Allan delivered as proof of that.

[31] As was explained to the submitters at the pre-hearing meeting, there is a very specific process that Council must go through when determining if and how a resource consent application is notified. I asked Mr Halligan, who was the author of the notification report, to explain this process at the hearing. I set out his explanation in full below:

I was allocated this application for processing in June 2020 in my previous role as Principal Consents Officer for Environment Southland. The application was accepted by me as meeting the requirement of Section 88 and the Fourth Schedule of the RMA on 3 June 2020.

As Environment Southland does not hold specific in-house landfill engineering and landfill odour assessment expertise, Environment Southland commissioned a series of technical review reports as is provided for under Section 92(2) of the Resource Management Act 1991 to ensure appropriately robust technical scrutiny of the application content. The applicant signalled their agreement to this review process. Hence, the application was referred for review to the following technical experts:

- *Arthur Amputch, Riley Consultants, Auckland – landfill engineering and landfill gas management;*
- *Debra Fellows, GHD Auckland – geotechnical engineering;*
- *Prue Harwood, Beca Dunedin- odour assessment, odour management.*

Following these experts' review, a request for additional information under Section 92(1) of the Act was sent to the applicant on 23 July 2020, seeking further information/clarification on 114 individual elements of the application.

The applicant responded to this request, and this was referred back to the technical reviewers for further consideration. The reviewers responded that the bulk of their technical queries had been resolved, however Mr Amputch and Ms Harwood sought some further clarification and these queries were referred back to the applicant, who provided some further information, which was again sent back for further review, with this final review stage concluding on 16 November 2020.

Following the completion of this technical review stage, I prepared a report as consent processing officer to the Consents Manager who has the delegated authority to make these notification decisions on resource consent applications, recommending that this application be processed on a limited notified basis and recommending that 23 parties be limited notified. These parties included the tangata whenua via Te Ao Marama and Hokonui Runanga and 21 other parties within a general 2 km radius (noting cadastral boundaries) from the landfill footprint on the sites of the application. It is noted that the application document included a position on Page 233 as to the parties the applicant considered could be potentially affected, however I considered that the parties notified should be broader than that.

The Consents Manager made a decision on 16 December 2020 agreeing with this recommendation and deciding that the application would be processed on a limited notified basis. The Section 95-95G recommending report has been made available on the Council website since early 2021, which explains this process and the reasons.

It was agreed with the applicant that serving the application right on Xmas was undesirable for those parties being limited notified and could also miss people who were on holiday over the festive Xmas – New Year period. Hence, limited notification occurred on 8 January and the submission period was extended slightly to close on Tuesday 9 February 2021 due to Waitangi Day observance.

[32] For Mr Halligan to reach the conclusion that public notification was not necessary, he was required to conclude that adverse effects on the environment are no more than minor (s95A(8)(b)) and that no special circumstances exist that warrant the application being publicly notified (s95A(9). After an extensive s92 process that involved robust peer review of the application, particularly in relation to effects on air quality, ground and surface water, and the effects of hazardous waste receipt, leachate and landfill gas, Mr Halligan concluded that any adverse environmental effects would be no more than minor.

[33] Nor did Mr Halligan conclude that any special circumstances exist to warrant public notification. He stated as follows:

"I do not consider that special circumstances exist which warrant full public notification of the application in accordance with Section 95A (9) of the Act. The case law around special circumstances makes reference to activities which are exceptional, abnormal or unusual. Noting the existing landfill activities currently authorised on the site and that the planning instruments contemplate landfill activities as a discretionary activity, I consider there are no special circumstances.

I consider that the fact that the proposal is for a large landfill and that it will facilitate larger volumes of waste, including emergency waste, does not amount to special circumstances."

[34] I note also that Mr Halligan's recommendation regarding the limited notified process was approved by the Southland Regional Council Consents Manager at the time, who held the delegated authority from the Southland Regional Council to make decisions regarding the processing pathway for resource consent applications.

[35] As Dr Durand noted at paragraph 2.72 of his s42A report, Council's decision on notification is not within the scope of this decision and can only be overturned by Judicial Review. However, section 104(3)(d) does prevent me from granting a resource consent if the application should have been notified. As I advised the submitters at the hearing, I could not therefore grant these applications if I found that adverse effects were more than minor as under section 95A(8)(b), it should have been notified.

4.2 Adequacy of information

[36] Adding to these procedural concerns is Dr Durand's assessment of the application. He summarised his position in his review as follows:

(a) Not all of the potential effects on the environment had been assessed, partly because the 'existing environment' had been incorrectly characterised.

(b) The environmental effects of all the types of waste to be received had not been assessed.

(c) Management plans would not provide sufficient environmental protection.

(d) Environmental effects could not be assessed.

(e) There was insufficient information provided with the application.

[37] Dr Durand's report went on to highlight s104(6) of the Act, which enables Council to decline an application if there is inadequate information to determine the application, and recommended that the application be declined on this basis.

[38] After hearing the evidence presented at the hearing, Dr Durand did not resile from his position and in fact considered there were further reasons for declining the application. In particular, he no longer thought it was correct to say that general agreement had been reached between the applicant's experts and Council's technical reviewers. In his opinion, significant and unresolved disagreements between the experts were revealed at the hearing to the point that he considered granting the consent would *"allow the operation of the landfill in a manner that is both dangerous and inconsistent with international protocols and international obligations on waste management."*

[39] As will be apparent from the result, I do not agree with Dr Durand's position and after having considered the further evidence presented at the hearing by the applicant, consider that the adverse effects of the proposal are no more than minor.

[40] While I will deal with these matters in greater detail below (and this section should be read in the context of those more detailed findings), my review of the documentation, including the extensive section 92 process, concluded that the information provided by the applicant was clearly sufficient for the experts engaged by Council to undertake a robust review in

order to assess the environmental effects of the proposal. The documentation confirms that for the most part, agreement has been reached between the technical experts of the applicant and Environment Southland to the point that environmental effects are likely to be no more than minor.

[41] As I noted at paragraph 34 above, Dr Durand outlined a number of areas in his review where he considers agreement has not been reached. I highlight in this regard that Mr Halligan's notification report also noted that there were some areas where full agreement had not been reached, particularly in relation to landfill gas management. Mr Rumsby addressed these matters in his review (in particular, his concern around oxygen levels in the gas extraction wells) while Mr Noonan also raised some matters in his review.

[42] Ms Irving submitted there is no requirement for experts to agree, as outlined in the following paragraphs of her close:

> *66. It is submitted that it is not necessary for total agreement to be reached between the experts for a decision to be made about whether to grant consent or not. Making determinations in light of conflicting evidence is par for the course in the RMA context. The Commission must assess the respective evidence and draw conclusions as to which evidence it prefers. This enables a planning assessment to be carried out.*
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> *67. Therefore, it is submitted that Mr Durand is incorrect that the Commission cannot adequately assess the proposal under section 104 to inform a decision. There is ample evidence available and relatively narrow areas where there are differences of opinion between the experts.*

[43] I agree entirely with Ms Irving on this point. This is the very nature of hearings. In this instance, I do not agree with Dr Durand that the differences are particularly significant but are more matters that can be addressed by way of conditions or clauses in the management plans. I have done so below.

4.3 Existing Environment

[44] A large part of Dr Durand's concerns relates to the starting point for the assessment of the application, being the existing environment against which the applications are to be assessed against. It was accepted by all parties that the environment up to 2038 included the current landfill operating under its current consent conditions (which obviously includes the waste receipt restriction of 100,000 tonnes per annum). It was further agreed at the hearing that post 2038, the assessment of the proposal should compare the effects arising from the ongoing operation of the landfill, as compared with a closed landfill in its aftercare phase (legacy effects). Dr Durand's concern was that the applicant had not structured its assessment of the application in this way and took issue with Mr McCone's conclusion that the difference in effects between a closed Class 1 landfill and an operating Class 1 Landfill is "marginal". In his view, there had been no evidence presented which supported that claim.

[45] In my view, the arguments around the existing environment and the significance of the legacy effects, while obviously important, have been overplayed in assessing this particular case. Here there is an existing landfill facility that has been operating since 2004, from a site that Mr Rumsby considers suitable for a Class 1 landfill[5]. The original decision in 2003 concluded that *"…the Committee is satisfied that the proposed design of the landfill, the management of it, and the consent conditions applied meet the concerns raised by the submitters. The environmental effects will be avoided or mitigated to the extent that any adverse effects will be no more than minor."*[6] The landfill has been operating for 17 years so there is a solid baseline of information to accurately determine the actual and potential effects of this proposal post 2038, regardless of whether that environment must be considered as a 'greenfield' site or a site that is impacted on by the legacy effects of the closed landfill (to whatever degree), which of course it is. The waste disposed of at the site up to 2038 will have been deposited legally and can legally discharge contaminants into the environment. It is fanciful to suggest that the waste will have to be removed from the site (thereby defeating the purpose of landfill operations) at the conclusion of the current term so ongoing management of the site will obviously be required.

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[5] *Evidence in review of Andrew Rumsby, paragraph 2.1*
[6] *Decision of Consents Committee – AB Lime (2003), paragraph 2 page13.*

[46] While I tend to agree with Dr Durand that it has not been clearly shown that the difference between the adverse effects of an operating landfill and legacy effects will only be 'marginal', I do not think this is critical in assessing the significance or otherwise of the effects of these applications. That is because the evidence presented by the applicant tells us what is happening at the site now, under its current operating regime. That evidence indicates that the only real offsite issue the landfill has had during the 17 years is the occasional issue with odour management, in particular around the management of emergency waste. Other air quality effects do not appear to be of concern while the *"landfill is having very little, if any effect on groundwater quality moving beyond the boundary of the site."*[7] The application has put significant focus on how those odour management issues can be rectified and Mr Van Kekem concluded at paragraph 199 of his evidence that *"the proposed changes to the site operations and associated air discharge consent conditions will result in a net benefit to air quality in the receiving environment."* He had earlier stated (at paragraph 180) that his recommendation in relation to odour management and the mitigation measures proposed would be appropriate regardless of whether there is an existing landfill present, or the proposal was for a greenfield site, and as a consequence stated that his conclusions *"with regards to the potential for off-site effects remain the same between now and 2038 and beyond 2038 - 2046."*

[47] While I understand the position of Dr Durand, I have concluded that the assessments of the applicant's expert witnesses, having been informed by what has happened over the last 17 years, do enable me to adequately assess the effects of the proposal. The technical review experts employed by the Council have assessed the application on this basis. This has led to a range of changes proposed for the management of the landfill.

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[7] *Evidence of Timothy Baker, paragraph 103*

4.4 The Rate of Land Filling

[48] Of course, I must factor in what difference the increase in the speed of filling the cavity makes and address the questions raised around special waste. All of the applicant's experts state in their evidence that the volume of waste received does not necessarily equate to an increase in adverse effects. In relation to groundwater quality, Mr Baker stated at paragraph 7 of his evidence summary that the speed at which the landfill fills up will not increase the risk of leachate migrating to groundwater. In fact, he considered the potential for leachate generation (and subsequent losses to groundwater) will reduce as the amount of time the site remains uncapped will reduce while the working face area is also being reduced. Mr Baker's technical evidence in this regard is unchallenged.

[49] As I have noted in paragraph 46 above, Mr Van Kekem considers there will be a net improvement in air quality as a result of the changes proposed for the facility. Mr Noonan did not agree with the Mr Van Kekem that there *"would necessarily be no change in offsite odours as the received volume waste increases"* but was *"in general agreement with the applicant that potential for odour nuisance effect is primarily associated with the effectiveness of the onsite management procedures and not the volume of waste received"*.[8] Mr Noonan and Mr Van Kekem were also in general agreement that with the odour mitigation and management measures proposed, the effects of odour would be highly unlikely to extend beyond the 2 km notification radius to, for instance, the Winton township which is approximately 4 km west of the site. Mr Starke was of the opinion that tonnage limits are an outdated measure for landfill consents as it is how the waste is managed that determines the level of potential adverse effects on the environment.[9] The evidence, to me, is reasonably clear on that.

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[8] Evidence in Review of Matthew Noonan, paragraphs 5.32 and 5.32.
[9] Evidence of Walter Starke, paragraphs 9 – 11.

4.5 Waste from Outside the Region

[50] This issue is of course central to the submitters' concerns about the site becoming the primary landfill for the lower South Island and is the issue that occupied Mr Halligan's mind when he considered the 'special circumstances' question in his notification report. From my review of the original decision in 2003, I cannot see any reference to why the 100,000 tonnes per annum was originally imposed but it is clear that the consent does not restrict waste coming from outside the region and the evidence is that this does in fact occur now.

[51] This is not surprising as the Act does not create a framework where consented activities must operate or do business solely within the region or district that they are located in. If this was the case, for example, the numerous electricity generating activities constructed within the lower South Island would not be able to export that electricity outside the region. Following the submitters' argument, only the locals who have had their environment changed by these generation activities could receive electricity from them.

[52] Instead, the Act charges decision makers to assess the environmental effects of the establishment of those activities along with consideration of any relevant policy documents, which may include strategic objectives in this regard.

[53] From my review of the relevant documents, I can find no directive strategic objectives that would enable consideration of such matters. A number of submitters raised the climate change issue and the Government's direction on this matter as factor in this context that should be considered. That is only possible if a there is a National Environmental Standard requiring consideration of the issue, which there currently is not. Consequently, s104E of the Act specifically prevents me from considering the effects of the discharge of greenhouse gases on climate change (except to the extent that the use and development of renewable energy enables a reduction in the discharge into air of greenhouse gasses), which might overwise have been a relevant consideration in considering the effects of trucking waste over large distances to a landfill (although I would comment here that this is speculation at best in respect to this application).

[54] In this case it comes down to the environmental effects of depositing the waste onto the land at this site, not where it comes from. This is where I suspect Mr Halligan landed when considering the 'special circumstances' in respect to the notification process. This matter may be more of a relevant consideration to the Southland District Council land use consents, which deal with the traffic generating component of the activity, but I have not turned my mind to that as it is outside my jurisdiction. I note also that Mr Halligan's assessment highlighted the fact that the relevant planning instruments make provision for landfill facilities so it is an activity that is contemplated by the planning documents.

4.6 Nature of the Waste

[55] The other concern raised in this context, is the nature of that waste. Dr Durand was concerned that the reference in the application to accepting waste 'in a majority of circumstances' would lead to new types of waste being accepted at the landfill and that no assessment of these new waste types had been undertaken. Some submitters also raised this concern.

[56] The current landfill is a Class 1 landfill and will continue to operate as a Class 1 landfill. Hence, there is no change in the type of waste that can be accepted at the landfill (whether it has been previously deposited at the site or not). Mr Starke's evidence[10] confirms that Appendix D of the WasteMINZ Landfill Guidelines provides waste acceptance criteria for Class 1 landfills and AB Lime proposes to follow these, as I understand it generally has in its operations to date. The waste acceptance criteria enable almost all types of waste to be accepted but they must meet significant and robust environmental performances standards. These criteria focus on the characteristic of the waste, not its type, which is only appropriate when considering the effects of disposing of it in the environment. This focus has led to imposition of significant controls on the containment design and the environmental management measures that Class 1 landfills must adopt, enabling them to take a broad range of waste.

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[10] *Evidence of Walter Starke paragraphs 22*

[57] The existing waste acceptance criteria at the AB Lime landfill have been updated for this proposal and continue to exclude hazardous waste with a few clearly defined exemptions (now further reduced due to the removal of aluminium dross waste from that exemption list). Mr Rumsby did raise some concerns with the robustness of the special waste acceptance process at the hearing although he stated it was not grounds to refuse the consent. The applicant highlighted the difficulty in its close around dealing with the issues Mr Rumsby highlighted (which Mr Rumsby also acknowledged) but has promoted some changes to address these while drawing attention to the condition proposed that requires an annual review of the waste acceptance criteria.

[58] While I deal with this matter in more detail later in this decision, what I can say here is that I am satisfied that this issue has been adequately addressed by the applicant. As a consequence, I do not share the concern raised by Dr Durand in respect to the assessment of the types of waste that can be accepted at the landfill.

4.7 Sections 104(3)(d) and 104(6) Conclusion

[59] In summary, I have concluded that Section 104(3)(d) does not prevent me from granting this consent on the basis that it should have been notified and was not. I have further concluded that I have sufficient information to determine the application and as a consequence, Section 104(6) of the Act, which enables me to decline consent if I conclude that there is insufficient information to determine the application, does not come into play.

5. Reasons for this Decision

5.1 Introduction

[60] The Act requires me to set down the reasons for my decision. It also requires that I record the principal issues in contention and the main findings of fact. These matters clearly form part of any assessment of a proposal and consequently inform the outcome. They cannot be dealt with separately from the reasons for arriving at a particular outcome and are accordingly dealt with in that way in this decision.

[61] These matters must be considered in the context of Section 104 of the Act which sets out what must be considered when deciding a resource consent application. Section 104B provides that once those matters have been considered, I can grant or refuse an application for a discretionary activity. If the application is granted, conditions may be imposed under Sections 108 of the Act. The matters contained in Section 104 have all been considered in arriving at this decision. In this context, I note that there was no argument from any party that the application was for a discretionary activity.

5.2 Strategic Policy Framework

[62] Before considering the key environmental effects of the proposal in detail, it is appropriate in my view to assess the proposal against the strategic objectives and policies of the regional planning documents.

[63] The application itself refers to the landfill as being 'critical infrastructure' as defined by the Southland Regional Policy Statement (SRPS) and the Proposed Southland Water and Land Plan (PSWLP). 'Critical infrastructure' is defined in these documents as:
Infrastructure that provides services which, if interrupted, would have a significant effect on the wellbeing and health and safety of people and communities and would require reinstatement, and includes all strategic facilities.

[64] Both these planning documents also contain the following definition of 'Regionally Significant Infrastructure':
Infrastructure in the region which contributes to the wellbeing and health and safety of the people and communities of the region, and includes all critical infrastructure.

[65] The SRPS defines 'Strategic Facilities' as including the following:

(a) critical infrastructure;
(b) nationally significant infrastructure;
(c) regionally significant infrastructure;
(d) gas and petroleum storage facilities;
(e) public healthcare facilities and medical centres;

(f) fire stations, police stations, ambulance stations, emergency coordination facilities;

(g) defence facilities;

(h) Invercargill, Gore, Manapōuri and Milford Sound/Piopiotahi Airports, and Stewart Island/Rakiura Airstrip (Ryans Creek);

(i) Southland Public Hospital (Kew);

(j) lifeline utilities as defined in the Civil Defence Emergency Management Act 2002;

(k) flood and drainage infrastructure managed by the Southland Regional Council.

[66] The notification decision considered the facility met the critical infrastructure definition because the *"facility is a Class A landfill and is the key consented regional landfill for the Southland region. This facility receives wastes from all the various refuse transfer stations operated by the Southland territorial authorities…"*[11]. It went onto note that *"there are no conditions of the existing consents which specify or limit the locations from which solid waste is received, and the application acknowledges that the site has occasionally received solid waste from outside of Southland."*[12]

[67] The application document at section 3.2.6 put the matter this way:

The recent COVID-19 pandemic has demonstrated that waste disposal is an essential service, and the AB Lime Class A landfill was registered with the Ministry of Primary Industries to operate during Level 4 lockdown. This demonstrates that the landfill operates regionally as critical infrastructure to support waste needs of the community at all times. If waste was not collected, a range of effects would be experienced in multiple locations throughout the community, including odour, run-off/leachate, and an increase in vermin. Overall, these could have potentially significant effects on the health of the community. Furthermore, this crisis has confirmed the need to future proof the landfill to support the needs of communities in a wide variety of circumstances.

[68] In this context, the application notes that *"the overarching objective is to future proof the landfill so that it is well positioned to receive waste from a wide range of locations and in a*

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[11] Recommendation and decision on notification of resource consent application(s) under sections 95-95G of the Resource Management Act 1991 (RMA), Bruce Halligan, paragraph 3, page 2.

[12] *Ibid, paragraph 4, page 2.*

majority of circumstances" and that it becomes *"the premier landfill for the southern regions of the South Island and to better serve the needs of to the community in unexpected or emergency situations".* It also became apparent through the evidence that this facility is one of only two Class 1 landfills in the South Island, with the other being located at Kate Valley, in the Hurunui District north of Christchurch.

[69] I agree that the existing facility falls within the definition of 'critical infrastructure' and is at least regionally significant in this context. Given the lack of Class 1 landfills in the South Island, the landfill may well become more than regionally significant in the future, which appears to be a key concern of the submitters. I have dealt with this issue at paragraphs 50 to 54 above and do not propose to discuss it further here. But I do note here that this is speculation and there are a number of proposals being considered in the South Island that would impact on that.

[70] The local planning documents contain a number of strategic policies in relation to critical infrastructure and landfills in particular. The SRPS contains the following objectives and policies in relation to infrastructure and landfills:

Objective INF.1 – Southland's infrastructure

Southland's regionally significant, nationally significant and critical infrastructure is secure, operates efficiently, and is appropriately integrated with land use activities and the environment.

Policy INF.1 – Regional, national and critical infrastructure

Recognise the benefits to be derived from, and make provision for, the development, maintenance, upgrade and ongoing operation of regionally significant, nationally significant and critical infrastructure and associated activities.

Policy INF.3 – Infrastructure protection

Protect regionally significant, nationally significant and critical infrastructure, particularly from new incompatible land uses and activities under, over or adjacent to the infrastructure.

Policy WASTE.8 – Efficient use of landfills

Encourage the efficient use of existing landfills over the establishment of new landfills.

[71] The clear direction of this policy suite is to protect and secure the ongoing efficient operation of critical infrastructure. The generic policy approach is to recognise the benefit of making provision for the upgrading and ongoing operation of such infrastructure while the policy specific to landfills has a clear emphasis in favouring existing landfill development over the establishment of new facilities. Objective 9B of the PSWLP supports this policy approach by enabling *"the effective development, operation, maintenance and upgrading of Southland's regionally significant, nationally significant and critical infrastructure"* while Objective 13 of that plan enables *"the use and development of land and soils to support the economic, social, and cultural wellbeing of the region."* Policy 26A of the PSWLP reflects Policy INF.1 of the SRPS but extends it by introducing the need to address adverse environmental effects.

[72] Ms Irving discussed this policy framework in relation to the 'existing environment' at paragraphs 72–77 of her opening submissions. She highlighted the Environment Court's decision in *Lindis Catchment Group v. Otago Regional Council* [2019] NZEnvC 179 which she submitted considered that *"the importance of the assessment of effects on the 'environment' under section 104(1)(a) may be qualified by future environment contemplated by the statutory documents"* and that *"this 104(1)(b) 'environment' may be more important in some cases."*[13] Ms Irving submitted that which 'environment' is most important or relevant is fact dependent and that the policy provisions support an environment that contains an operating landfill (referring to RPS Policy WASTE.8). In her submission, the Section 104(1)(b) environment in this case is likely to include the ongoing operation of this landfill and is highly relevant to the assessment of this application.

[73] There is no doubt in my mind that the proposal in front of me specifically sets out to achieve the strategic direction of this policy framework, and this is highly relevant and significant for these applications. What is proposed is an upgrade of the existing landfill (although as the submitters pointed out, this can happen without this process) together with measures that will better provide for the long-term security of a Class 1 landfill in the region, which has already seen significant capital invested in it. The Southland region will be the main

[13] *Lindis Catchment Group v. Otago Regional Council at [57]*

benefactor of this but if the landfill does accommodate waste from outside the region, this policy suite does not discourage it and, on balance, is probably supportive of that given the lack of Class 1 landfills in the South Island. This will, of course, come down to the economics of the individual disposal proposals, which is beyond my jurisdiction to consider. A National Policy Statement and/or a National Environmental Standard on climate change may require other matters to be considered in this context in the future but there does not appear to be any opportunity for me to consider those matters now.

[74] As I highlighted above, Policy 26A of the PSWLP qualifies the enabling approach to infrastructure development by ensuring the policy direction is only given effect to "*in a way that avoids where practicable, or otherwise remedies or mitigates, adverse effects on the environment."* Policy 31A of the Southland Regional Water Plan provides guidance on what environments may be more suitable for such activities. While this policy is likely to be superseded by the PSWLP, this plan (2010) post-dates the original consent although many of these issues would have most likely been addressed when the landfill was originally consented. The policy requires the level of management for discharges of contaminants onto or into land to be matched to the level of environmental risk posed by a range of risk factors, generally relating to soil, drainage, ground and surface water conditions, climate and natural hazards.

[75] In considering the attributes of the location for the landfill, Mr Rumsby considered the site suitable for a Class 1 landfill for the following reasons, set out at paragraph 2.1 of his evidence:

(i) Examining overseas guidance (NSW EPA[14] etc), the AB Lime landfill is located within an existing quarry pit rather than a valley system.

(ii) Not situated at the headwaters of a stream or a sensitive wetland.

(iii) Not situated in an area prone to landslip or subsidence.

(iv) Not situated in a coastal area prone to erosion or sea-level change.

(v) Not situated in a floodway that may be subject to washout during a major flood event.

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[14] NSW EPA (2016) Environmental Guidelines Solid Wastes Landfills

(vi) Large buffer areas surround the landfill which is owned by AB Lime and allows the landfill to establish a no groundwater take zone within the immediate area of the landfill.

(vii) Its location is adjacent to a source of lime, which can be used to reduce odour emissions from decaying carcasses. For example, in overseas jurisdictions, lime is added over the top of animal carcasses to speed up the decomposition. It also changes (increases) the pH of the environment around carcasses reducing the formation of hydrogen sulphide, volatile fatty acids (VFAs) and amines which can cause odorous emissions.

[76] In terms of the groundwater receiving environment, Mr Baker concluded that "*the landfill is well-sited from a geological and hydrogeological perspective due to the natural upward hydraulic pressures beneath the site that prevent the downward migration of groundwater beyond the site boundary. This minimises the risk of leachate affecting offsite groundwater receptors."* Mr Smith advised that *"the extraction of agricultural limestone rock in the quarry enables us to contour the quarry to the exact shape and profile that is required for landfill cell construction. We have the majority of the landfill construction equipment, waste cover, and rehabilitation materials already on site when required."*[15] The drying of the lime on the site also enables the use of the landfill gas to fire the kilns.

[77] While Mr Van Kekem does highlight that the local topography and direction of cold air drainage creates a higher potential for adverse off-site odour effects down the valley, the predominant winds blow from west and south, towards predominantly unoccupied and sparsely populated land.[16] Both Mr Van Kekem and Mr Noonan agree that there is a good level of separation distances between landfill and neighbouring dwellings (although Mr Noonan notes that the topography of the area and the downhill location of the dwellings relative to the landfill does appear to increase the risk of a nuisance odour travelling further than 1 km).

[78] Having regard to this evidence, the location does appear to be suitable for a landfill and therefore giving effect to Policy WASTE.8 (i.e. encouraging its ongoing efficient use) is

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[15] *Summary of evidence of Stephen Smith, paragraph 3*
[16] *Evidence of Mr van Kekem, paragraphs 28-30.*

considered appropriate in these circumstances. What now must be considered is whether the effects of the new proposal can be appropriately managed at the site.

5.3 Odour Effects

[79] Probably the most significant environmental effect in contention with the proposal is the generation and management of odour at the site. Mr Van Kekem[17] advised that the following activities undertaken at the site have the potential to discharge odour:

(a) transport of waste onto the site;

(b) waste deposition, handling, and compaction at the tip face;

(c) special waste handling;

(d) landfill gas emissions;

(e) leachate collection and processing;

(f) fugitive emissions from daily cover or final capping; and

(g) hazardous waste handling.

[80] There has been a history of odour complaints from the facility with 65 complaints made between 2004 and 2020. A significant portion of these complaints arose in relation to the facility receiving emergency waste (cattle carcasses and oysters and mussels) due to the *Mycoplasma Bovis* and *Bonamia Ostreae* outbreaks as detailed in Mr Smith's evidence at paragraphs 39-58. Most submitters discussed this period at the hearing, highlighting the offensive nature of the odour they experienced at their properties. The evidence of both Mr and Mrs Smith addressed the difficulty faced by AB Lime in dealing with this waste, with Mrs Smith acknowledging that *"t*oo *much waste came in too quickly and without the necessary preparation (cattle). This created an operational problem in regard to odour control."*[18]

[81] There is also a record of complaint outside of this period (although not as numerous) with most of these events having occurred in early morning and evening/night-time period. As Mr Noonan highlighted, these periods correspond with poor dispersion conditions and the

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[17] *Ibid, paragraph 53*
[18] *Evidence of Mrs Smith, paragraph 42.*

potential for air drainage flows to occur from the surrounding hills. This is the period when neighbours are more likely to be home and all submitters confirmed their experience with odour generally occurring in these conditions.

[82] As a result of their experience with managing the landfill over the past 17 years, in particular the events around the *Mycoplasma Bovis* and *Bonamia Ostreae* outbreaks, Mrs Smith and Mr Van Kekem advised that the applicant has been progressively implementing mitigation measures to better manage odour emissions (amongst other things). Mr Van Kekem stated in his evidence (paragraph 88) that the number of complaints had reduced as a result.

[83] In Mr Van Kekem's opinion *"the potential for odour to be discharged from a landfill is less about the waste acceptance rate and more about the mitigation measures implemented.*" He sets out these improvements at paragraph 92 of his evidence, being as follows*:*

(a) Revised air discharge consent conditions which provide more prescriptive limits for on-site activities and discharges;

(b) The development of a comprehensive LAQMP to provide site staff with a prescriptive framework for odour mitigation measures and implementation methodologies;

(c) A large reduction in the open working face from approximately 3,600 m^2 to 1,000 m^2[19]. Among other things, this greatly reduces the potential for water ingress (leachate quantity), landfill gas egress, and area where waste is exposed to air;

(d) Improved leachate collection, treatment and transport procedures;

(e) Improved landfill gas collection and combustion efficiencies;

(f) New landfill capping material/design to be trialled shortly;

(g) Lower landfill gas emission limits through the capping (to comply with the NES-AQ);

(h) Improved special/emergency waste receival measures, handling and placement procedures;

(i) Siting the on-site weather station in accordance with AS 3580.14 – 2011 and introducing real time alarms for elevated risk weather conditions;

(j) Real time H_2S boundary monitoring;

(k) More stringent waste acceptance criteria; and

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[19] *Evidence of Mr Starke at paragraph [55].*

(l) The removal of over steep and uncapped faces.

[84] Most of these have already been implemented, with the real timing H_2S monitoring and weather station establishment to be implemented in the near future.

[85] Mr Noonan was "*in general agreement with the applicant that potential for odour nuisance effect is primarily associated [with the] effectiveness of the onsite management procedures and not the volume of waste received"* and he also agreed *"that the mitigation procedures proposed at site should reduce risk of adverse odour occurring."*[20] However, at paragraph 5.19 of his review summary he considers *"it is still too early to draw any firm conclusion from the complaint record as to the improvement to air quality amenity from changes to the site's operation. Poor dispersion conditions occur more frequently the winter period. It is there during this period that odour from the landfill is more frequently observed. Since winter is just now beginning a better understanding of the improvement in odour management procedure implemented by AB Lime would be better understood in four to five months' time."* In this context, I also note the evidence at the hearing of the nearest resident, Mrs McKerchar, that things have improved over time with the management of the facility although she considered there was still a question mark in this regard.

[86] The management threshold for odour discharges, as determined by the Regional Air Plan, is that any 'offensive or objectionable' effect beyond the boundary must *"be managed such that the effect is suitably avoided, remedied or mitigated."* [21] The application has gone beyond that, however, by promoting a condition that requires no such effect beyond the boundary owned (or covenanted) by the applicant. That is a high bar but Mr. Van Kekem, after having considered the characteristics of the site and the mitigation proposed within the context of an assessment applying the FIDOL (Frequency, Intensity, Duration, Offensiveness and Location) factors, which is the technique commonly used throughout New Zealand, concluded *"that the instance of odour being observable off-site will be very low or eliminated"*[22] and that *"overall, each of the FIDOL factors presented the proposed dust and*

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[20] Evidence of Matthew Noonan at paragraph 5.32
[21] Policy 3.9, Southland regional Air Plan.
[22] Evidence of Mr van Kekem, paragraph 99.

odour emissions to have a low potential for adverse off-site effects despite the proposed removal of the waste volume limit."[23]

[87] Mr Noonan agreed with the applicant that *"the implementation of these procedures and plans will improve the management of onsite odour and should reduce risk of nuisance odour being observed offsite."* [24] He stated that the management procedures are consistent with industry practice and with the odour management procedures implemented at other landfills.

[88] Overall, I accept the evidence of Mr Van Kekem and note that there was a high level of agreement between him and Mr Noonan. While Mr Noonan did not go as far to say that off-site odour will be very low or eliminated and suggested that it is reasonable to expect odour would still at times be discernible at nearby properties, he did agree the proposed odour mitigation should reduce these events.

[89] While I agree with Mr Noonan that odour may still be experienced at nearby properties, it is incumbent upon the applicant to ensure that this odour is not 'offensive or objectionable'. It is apparent to me that significant effort has gone into upgrading the management and monitoring of this issue at the facility as the result of its experience over the last 17 years. As a consequence, I am satisfied that the issue will now be better managed than in the past, particularly in relation to dealing with unforeseen emergency waste events.

[90] Mr Noonan did have some residual concern around a few matters relating to monitoring and the finer detail of the management plans. While Mr Noonan was supportive of installation of a meteorological monitoring station as a tool for identifying poor dispersion conditions, he stated that it is uncertain from the AQMP what the criterion wind speed would be for identifying poor dispersion conditions or what the interventions would be during poor dispersion conditions. He advised that *"wind directions also become less distinct and tend to meander during low speed, particularly near complex terrain. A fixed wind direction criteria may not be sufficient to capture all meteorological conditions when poor dispersion condition*

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[23] Ibid, paragraph 118.
[24] Evidence of Matthew Noonan at paragraph 5.11

transport contaminants toward nearby dwellings." As a consequence, Mr Noonan suggested that *"an ultrasonic anemometer be installed due to importance of low wind speed."* [25]

[91] Ms Irving advised in her reply that the applicant agrees with Mr Noonan on this matter and that the applicant has already ordered the ultrasonic monitoring system suggested by Mr Noonan. The management plan will need to be updated to reflect this for certification from Council prior to exercise of the consents.

[92] Because of the influence that poor dispersion conditions have on odour level outside the site, Mr Noonan also proposed that the acceptance and landfilling of potentially odour wastes be limited to the hours of 10:30 am to 4:00 pm. While he acknowledged that AB Lime's attempt to do so now, he believed this should be included as a management procedure within the AQMP.

[93] Mrs Smith noted that these weather conditions do not occur all the time but advised that this is encouraged through the booking system under the Landfill Operations Management Plan for the receipt of odorous waste to the site. However, she considers that flexibility must be retained in relation to operational matters such as this, as some waste travels long distances while delays can also occur with deliveries. In her opinion, turning waste away or leaving it overnight because it came outside these hours would create a less than desirable situation.

[94] As Ms Irving stated in her close, Mr Van Kekem confirmed that it is most likely fugitive gases that are the primary source of odour concerns for neighbours, who highlighted odour issues tended to arise in the morning and evening when the landfill is not operating. Given the restriction proposed targets the delivery of fresh waste, it is unlikely to address the problem. Ms Irving stated in her close that the issue has already been addressed in the conditions proposed and the management plans, which require odorous waste to be received under a 'Special Waste Permit' and a preference for receiving odorous waste during favourable weather conditions.[26]

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[25] *Ibid, paragraphs 5.13 - 5.15.*
[26] *Closing Submissions, paragraphs 12 – 16.*

[95] I agree with Ms Irving that imposing such a condition is an '*overly blunt instrument'*, given the many factors involved. I accept Mrs Smith and Mr Van Kekem's position that flexibility needs to be maintained in the receipt of the waste and the management of odour discharges from it. There are a wide range of tools now available to deal with the matter, with management to be tailored to the circumstances at the time. The evidence of Mrs Smith at paragraphs 46 to 58 details the process around accepting odorous waste and was not challenged as being inappropriate or ineffective by the peer reviewers. The evidence is that improvements to be made in the landfilling operation, such as a reduction in the working face, improved capping and landfill gas collection, will result in a lower potential for fugitive emissions of LFG and odour from the surface of the landfill.[27] The most recent data from walk over surface gas emission monitoring (as described by Mrs Smith at her paragraphs 76-78) indicates significantly lower gas emissions through the cap (although this is a measure of the greenhouse gas methane, which is odourless) than is permitted by the current consent. (I note in this context that Mr Starke is confident that the surface walkover data obtained to date indicates that compliance with the regulations in the NES-AQ that deal with methane discharge will be readily achievable.[28])

[96] The evidence is that the landfill gas that causes the most significant odour issue is hydrogen sulphide (H_2S). Mr Noonan was supportive of utilising real-time H_2S ambient air monitoring methods to the potential for odour impacts, noting that it is used internationally at landfill and wastewater treatment plants. However, he was concerned that the monitoring system proposed would not be effective given its detection limit of approximately 100 ppb (parts per billion) and recommended that the applicant consider using a more sensitive instrumental monitoring system, with a lower trigger point than the proposed 200 ppb. He put his concerns in the context of the Ministry for the Environment (MfE) odour guideline limit of 5 ppb (which was addressed in Mr Van Kekem's evidence) and what occurs in active geothermal areas such as near Wairakei Village, where significant industrial and natural H_2S concentrations occur. He stated that H_2S levels rarely exceed 100 ppb in this location, where

[27] *Evidence of Mr van Kekem, paragraph 94 and 95.*
[28] *Evidence of Walter Starke, paragraph 125.*

the guide limit for such areas is 50 ppb, and the applicant's proposed trigger limit is four times this guideline.

[97] Acknowledging the lower 5 ppb H_2S odour nuisance trigger level used by MfE (which he did not consider directly comparable), Mr Van Kekem considered a trigger level of 200 ppb would still be workable given the high degree of dispersion and dilution that would occur by the time the gas reached any neighbours (which he had advised he had modelled). He argued that a 10-minute average concentration can be equated to a 1-hour average guideline. [29]

[98] Mr Noonan disagreed with this reasoning, noting that during poor dispersion conditions there would be little variation in concentration observed over a 10-minute period compared to what is observed over a 1-hour period. He also advised that the 1-hour average NZ Air Quality guideline for H_2S is based on the 30-minute average H_2S concentration guideline of 5 ppb published by the WHO and given that the detection limit for H_2S is about 0.5-1 ppb, the guideline level is approximately 5-10 times higher than this.

[99] Mr Noonan also presented modelling of the gas plume, which indicated that concentrations of odorous gases may not have adequately dispersed at the nearest receivers as Mr Van Kekem had indicated. The applicant was concerned that Mr Noonan's modelling inputs have not been made available to Mr Van Kekem so they were unable to test the robustness of that modelling and, on this basis, submitted that Mr Van Kekem's evidence should be preferred.[30] However, I note that Mr Van Kekem has not provided any technical details in relation to his dispersion modelling (as I understand it, Mr Van Kekem's s92 responses related to the modelling done for the kiln and biogas flare discharge). Hence, there is still some uncertainty on this aspect.

[100] In her close, Ms Irving stated that the applicant was investigating the apparatus referred to by Mr Noonan at the hearing and whether it could be utilised at the site. If it would be more

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[29] *Evidence of Mr van Kekem, paragraph 72 - 75*
[30] *Closing submission, paragraph 15.*

effective than the instrument currently identified for installation, then the applicant indicated that the LAQMP can be updated prior to certification.[31]

[101] While the applicant suggested this technology was relatively new, I understood from Mr Noonan's comments that real time monitoring of ambient air H_2S concentration is not new and has been used at thermal energy plants for some time, with detection limits using an older technology down to around 10 ppb. He also noted that monitoring of the Levin landfill H_2S levels was done in 2015 with instruments that had a detection limit of 1 ppb. In his view, the monitoring system proposed by the applicant is a relatively low-cost system, which is primarily designed for use in confined spaces where higher H_2S level are expected and is not therefore appropriate for ambient air quality monitoring. He noted that the problem with using an instrument with a detection limit of 100 ppb is that there is no ability to adjust the threshold trigger limit if odour nuisance effects are still being observed at concentration levels below the instrument detection limit. In his view, there is a good chance of this occurring.

[102] I note in this regard, that Mr Noonan has extensive experience in H_2S emissions through his work. While odour management does not solely depend on H_2S monitoring (and is not a proxy for odour management generally as suggested by Dr Durand at paragraph 23(l) of his evidence in reply), I agree with the applicant that its implementation is good practice that adds *"another continuous real time information stream which can assist with site management."*[32] But in this instance, I would go further and suggest that it is important for this to occur given it is fugitive H_2S emissions that is likely to cause the most concern for neighbouring property owners, given its offensive properties. It also appears reasonably certain to me that there is technology available to detect the lower levels as suggested by Mr Noonan.

[103] As a consequence, I consider that H_2S monitoring should be required by the conditions and that a more sensitive instrumental monitoring system should be installed to address this matter. Such a condition has been imposed accordingly.

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[31] *Ibid, paragraph 19*
[32] *Ibid, paragraph 24*

[104] Mrs Hamilton also raised the issue of odour from the trucks that deliver waste to the site. She described it as having a '*severe pungent odour'* and being '*particularly offensive'* when the trucks refuel in Winton. Dr Durand suggested in his review that this matter was not assessed by the applicant, however I note that Mrs Smith specifically dealt with this issue at paragraphs 16 and 17 of her evidence, advising that wastes that generate odour *"must come in covered, sealed bins and require a Special Waste Permit to be issued prior to acceptance that outlines any additional requirements."* The application addresses the issue in the Air Quality Technical Assessment (at section 6.1.3) while the LAQMP acknowledges that the transport of waste to the site can cause odour (Section 4.1) and contains 'Staged Odour Mitigation' measures in Table 1 to specifically address the issue. Ms Irving's close[33] noted that all the Level 2 and Level 3 methods relating to transport of waste are new. Hence, it is an issue that the applicant has clearly recognised and addressed.

[105] I note the ultimate Level 3 mitigation measure is banning raw materials which have produced detectable odour at off-site locations and if customers/contractors persist in transporting such material, they face being prohibited from the site. However, given the transient nature of the odour, it is probably a difficult issue for the applicant to control particularly when there are many other vehicles on the road that give can rise to transient odour effects. Given that the evidence was that there have been few complaints in relation to vehicles in transit, it could be argued that it is not a common problem but I accept that most people would not take the time to complain about a transient effect such as this. The Level 3 mitigation measures do, however, also refer to detectable odour from vehicles passing through the site so that is where repeat offenders are most likely to be identified and dealt with. Provided that is done, then this should not be an issue.

5.4 Other Air Quality Effects

[106] The other air discharge effects that require consideration include:

(a) combustion emissions;

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[33] Closing Submission of the applicant, paragraph 70

(b) appropriate management of dust emissions; and

(c) potential adverse health effects from the odour suppressants.

[107] The application treats dust in much the same as it treats odour in that the discharge of 'particulate matter' must not be 'objectionable or offensive' beyond the boundary. The staged mitigation measures to control dust are set out in Table 2 of the LAQMP and Mr Van Kekem considers these to be consistent with industry standards and good practice guidelines.[34]

[108] Mr Van Kekem[35] identified the following landfill site activities as having the potential to discharge dust:

(a) disturbance of surface fines on access roads as a result of traffic movements;

(b) earthworks and material handling activities - such as the placement of cover material during dry periods;

(c) filling and compaction of dusty waste;

(d) fugitive dust emissions from exposed surfaces;

(e) material being tracked off-site onto Cahill Road by vehicle movements; and

(f) dust from material stockpiles.

[109] Mr Noonan noted that Mr Van Kekem did not discuss the effect that increasing the volume of waste may have on dust emission rates at the site. However, he considered that implementation of the dust management procedures specified in the draft Air Quality Management Plan (AQMP), in conjunction with maintaining the separation distance between potentially dusty onsite activities and nearby dwellings, would minimise the risk of adverse dust nuisance effects occurring.

[110] I note that none of the submitters have raised concerns around dust and none of the historical complaints appeared to have been about dust either. With the improved mitigation

[34] *Ibid, paragraph 62*
[35] *Ibid, paragraph 54.*

measures to be adopted in its management, I can only conclude that dust effects will be minor or less.

[111] Mr Van Kekem advised that products of combustion (CO, PM_{10}, NO_2 and SO_2) are emitted from the following sources on the site:

(a) motor vehicle exhausts;

(b) the landfill gas flare; and

(c) the lime kilns.

[112] In this context, I note that the applicant is proposing to utilise landfill gas (LFG) to replace coal combustion in its lime kilns, a move that is consistent with central government's directive to progressively eliminate coal combustion in New Zealand. This has enabled them to reduce the consented mass emission rate of SO_2 from 10 kg/hr to 2 kg/hr through this process.

[113] Mr Van Kekem sets out the relevant assessment criteria for combustion emissions from the landfill gas flare and lime kilns at his paragraph 19, being those contained within Regulation 13 of the National Environmental Standards for Air Quality 2004 (NES-AQ) and the Ministry for the Environment, Ambient Air Quality Guidelines 2002 (AAQG). He further advises that carbon monoxide (CO), sulphur dioxide (SO_2), particulate matter less than 10 microns in diameter (PM_{10}), and nitrogen dioxide (NO_2) have regulatory limits in the NES and AAQG.

[114] Mr Van Kekem undertook dispersion modelling (under a number of scenarios) to assess the change in peak off-site concentrations of these pollutants as a result of the proposed changes in on-site operations and the proposed new consent conditions. Stack testing was also undertaken from the gas flare and the lime kilns, with three fuel burning scenarios being measured on the lime kilns (coal only; coal and LFG; LFG only).

[115] He concludes "*that proposed reduction in the maximum consented SO_2 mass emission rate results in a much lower off-site effect and reduces the current theoretical peak off-site SO_2 concentrations to below the relevant regulatory criteria (the currently consented peak*

emissions would exceed the NES-AQ and AAQG)"[36]. Overall, he stated that *"[t]he air dispersion modelling demonstrated that despite the fact that the landfill will produce more landfill gas as a result of the proposed increased waste acceptance rates, the use of this landfill gas as a fuel in the on-site kilns and proposed reduction in the consented mass emission rates will result in a net improvement of air quality surrounding the site (including at the nearest receptors)."*[37]

[116] Mr Noonan reviewed the modelling input files and the results of the modelling, along with Mr Van Kekem's responses to section 92 requests and considered the methodology used to be appropriate and consistent with standard modelling practices. He also confirmed that the predicted concentrations were compared against the most relevant health-based air quality criteria limits. Mr Noonan went on to advise that he agreed with the conclusions presented in Mr Van Kekem's evidence and that based of the model predictions, *"the proposed combustion related discharges are unlikely to have an adverse health effect, provided the kilns and flare are appropriately and regularly maintained."* [38]

[117] No other evidence was presented that challenged the opinions of Mr Van Kekem or Mr Noonan on this matter.

[118] With respect to odour neutralising sprays on-site, the submission of the Hamiltons noted concern with their use and the effect they may have on human health. Mrs McKerchar also commented on this issue at the hearing, noting that they occasionally do smell these sprays during the day, which she considered a pungent, sweetish smell.

[119] Mr Van Kekem assessed the potential for off-site adverse health effects from the use of odour neutralising sprays on-site and the discharge of toxic fumes and dust from the receipt and disposal of authorised hazardous waste streams accepted by a Class 1 landfill and authorised by the current consent.

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[36] *Ibid, paragraph 129*
[37] *Ibid, paragraph 133*
[38] *Evidence in Review of Mr Noonan, paragraphs 2.2 – 2.4.*

[120] Mr Van Kekem's evidence stated that while a concentrated solution of the substance used, biOx PLUS40, does contain substances that are toxic if inhaled (chlorine dioxide), he advised that the solution is diluted at a ratio of ~1:500 prior to being used in the misting lines. He then stated that the concentration is further diluted when it is dispersed in the air through the misters/fogging cannon.[39] Mr Van Kekem advised that use of odour neutralising sprays is a recognised odour mitigation measure which is widely used across a number of odour emitting industries. He stated the sprays do not pose a risk to off-site ambient air quality and that, to his knowledge, *"there have been no reported adverse health effects associated with the operation of these odour neutralising sprays, both to on-site workers and off-site."* [40]

[121] Mr Noonan considered this issue in his review.[41] He noted that Mr Van Kekem used the Workplace Exposure Standard (WES) to assess the impact of this, which is designed for the protection of worker health. Mr Noonan highlighted two other Chlorine dioxide (ClO_2) air quality concentration limits published by international agencies for the protection of the public. These standards have lower limits because the public is considered to have a higher sensitivity to adverse effects and Mr Noonan felt it would have been useful if these air quality criteria were also considered.

[122] However, after taking into account the result of the monitoring and the separation distance between the misting sprays and the near dwellings, he considered it unlikely that that public would be exposed to ClO_2 levels which exceed relevant air quality guideline levels and agreed with Mr Van Kekem that *"discharges from the sprays are unlikely to have an adverse health effect."*

[123] I accept the evidence of Mr Van Kekem and Mr Noonan on this matter. However, I note that the conditions proposed by the applicant for this discharge permit are rather light. Noting the concern raised by Mrs McKerchar, these conditions have been beefed up to ensure the masking agent itself does not have an offensive or odjectionable odour at or beyond the site

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[39] Ibid, paragraph 142
[40] Ibid, paragraph 143 – 144.
[41] Evidence in Review of Mr Noonan, paragraphs 4.1 – 4.6.

boundary and that discharge concerntration is not noxious or dangerous at or beyond the site boundary.

[124] In this context, I briefly address Ms Sinclair's concern that emissions from the landfill are responsible for her allergies. As Ms Sinclair did not present any supporting technical documents to back her claim, I can only rely on the evidence of Mr Van Kekem on this matter. He has extensively analysed the effects of the discharges to air from the activity and has highlighted the fact the SO_2 emissions will be reduced to levels well below those specified in the NES-AQ for the protection of public health. Furthermore, he states at paragraph 173 of his evidence "*that to his knowledge the gases which are discharged from the landfill are not associated with allergic reactions".*

[125] Without technical evidence to the contrary, it would appear that the respiratory issues described by Ms Sinclair are not caused by the landfill activity.

5.5 Conclusion on Air Quality Effects

[126] In conclusion, it is clear that the historic operation of the landfill activity has created some air quality issues, although these appear to be limited to odour nuisance effects. The most significant of these related to the acceptance of emergency waste during the *Mycoplasma Bovis* and *Bonamia Ostreae* outbreaks. It is apparent from the evidence that the applicant has learnt from these events, and other nuisance odour events, and has proposed measures to ensure odour effects are better managed in the future. As a consequence, I accept the evidence of Mr Van Kekem that "*the proposed odour mitigation measures, monitoring feedback loops, and multi-tier mitigation response will ensure that there is a low potential for observable off-site odour effects."*

[127] In relation to authorised hazardous waste, Mr Van Kekem highlighted the prescriptive methodologies outlined in LAQMP noting that these controls are designed to eliminate the potential for discharge of air pollutants at the source. In his view, these controls, in conjunction with the very large separation distances, meant that *"the potential for off-site*

concentrations of hazardous air pollutants to exceed health based ambient air quality criteria is negligible."[42]

[128] Other changes in the site operation will see a major reduction of SO_2 emissions and other pollutants to air. Mr Van Kekem's assessment confirmed that the effects of the proposal *"*will meet *the RMA, NES-AQ, AAQG, and Environment Southland ambient air quality criteria. This includes the requirement to ensure that there is no offensive or objectionable odour observed beyond the boundary of the site"*. He went on to say that the *"proposed changes to the site operations and associated air discharge consent conditions will result in a net benefit to air quality in the receiving environment."*

[129] On the basis of the evidence put in front of me, I have concluded that any adverse discharges to air from the landfill activity will be no more than minor.

5.6 Landfill Gas

[130] The management of landfill gas (LFG) was also a matter of contention in relation to this proposal. LFG is a mix of different gases created by the action of microorganisms within a landfill as they decompose organic waste, including for example, food waste, garden waste and paper waste. The composition of the gas is approximately 45 to 60% methane, with the remainder being mostly carbon dioxide. Trace amounts of other volatile organic compounds (VOCs) comprise the remainder and it is these that give the gas its characteristic odour. If not managed appropriately, the build-up of these gases can give rise to adverse environmental effects, such as odour, the potential for combustion and adverse health effects.

[131] The evidence of Mr Starke[43] states that the *"existing landfill gas collection and extraction system has been designed in accordance with the principles of the NZ Landfill Guidelines"* and is similar to other modern NZ landfills. The current system comprises four main items:

(a) a lining and capping system to prevent off-site migration of landfill gas;

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[42] *Evidence of Mr van Kekem, paragraph 137.*
[43] *The evidence of Walter Starke, paragraph 93 -94.*

(b) a network of in-waste landfill gas collection wells, connected to an aboveground pipework system leading to the landfill gas destruction system;

(c) a landfill gas destruction system where the collected gas is burned in either the permanent landfill gas flare or used as a supplementary fuel for the coal fired kiln to dry the lime; and

(d) monitoring to confirm the effectiveness of the landfill gas management system, including regular monitoring of the collection wells and perimeter wells (perimeter wells are located outside the landfill footprint, and monitored for subsurface migration of gas) and regular landfill surface methane emission monitoring.

[132] Mr Starke's evidence[44] went on to describe the improvements to this system as have been encapsulated in the new LGMP developed as part of the proposal which sets out the procedures on how to manage the potential effects of landfill gas generation. In this context, the LGMP has several objectives to manage the capture, extraction and flaring of landfill gas.

[133] LFG management was an area where the Council's peer review consultant requested a range of further information. During the s92 process, the applicant considered that Mr Rumsby had confused the current system (and its failure to comply with the NES-AQ) with the future operation of the facility. Mr McCone dealt with this in his evidence[45], advising that AB Lime understood that "*there must be demonstration of compliance with NES-AQ regulations when exercising any new consent related with this proposal".* While there may have been some degree of confusion regarding the applicability of the NES-AQ to the current operation, my assessment of Mr Rumsby's review of the information that was provided to him, led to him having reservations about the future operations of the facility and its ability to comply with the relevant standards.

[134] In this context, I note that Mr Rumsby advised that the guidelines referred to in Mr Starke's evidence are not design guidelines for Gas Collection Systems, with the only design guideline for landfill gas being the USACE GAS Collection System Design Manual. He highlighted the fact that no engineering calculations have ever been produced as part of the application but

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[44] Ibid, paragraphs 95-129

[45] Evidence of Mr McCone, paragraphs 117 - 123

noted that because the LFG extraction system is already installed, evaluating the historical performance of the system can be used to confirm if the NES-AQ will be met. The AEE and the information provided within the S92 requests have shown that there have been a number of issues with the operation of gas collection system in the past. Mr Rumsby believed these to be operational issues as opposed to design issues, which he considered could be addressed by conditions.

[135] Mr Rumsby felt that a resource consent condition should be inserted stipulating that the secondary flare must be installed to meet the requirements of Regulation 27(3) and 27(5) of the NES-AQ. Regulation 27 requires a back-up flare be operated when the principal flare is not operating, which can occur if there was a failure in the main flare or it is shut-down for maintenance. The evidence indicates that this has already happened several times at this facility and that it will occur again given the need for maintenance.

[136] As I understand Mr Rumsby's concerns, the lack of a back-up flare can create significant issues when the main flare needs to be shut down. If the LFG extraction system continues to operate, offensive or objectionable odour can be discharged, particularly if this was to coincide with an inversion layer. The submission of Mr Johnston and Ms Cavanagh, and the evidence of Mrs Smith, has confirmed that this has in fact occurred at the site recently, with neighbours experiencing offensive odour at their properties.

[137] Mr Rumsby also indicated that odorous gas could discharge through the cap of the landfill if the system was shut down during maintenance of the flare. The other danger with this approach to management of a main flare shutdown, is that there is an increased risk of lateral sub-surface migration of landfill gas, which increases the risk of LFG gas explosion off-site.

[138] Ms Irving submitted that a condition requiring compliance with the NES was not necessary simply because it is a requirement regardless of the resource consent process. I note that Mr Starke deals with how this will be achieved at paragraphs 115 to 129 of his evidence and concluded that compliance with the NES will be readily achievable and a significant positive of this process. However, in recognition of Mr Rumsby's reservations about the ability of the

facility to comply with the NES-AQ in future, Mr McCone, proposed a 'condition precedent'[46] requiring compliance the NES-AQ prior to giving effect to any new consent.

[139] While I generally agree that doubling up on compliance matters from other legislation is not necessarily appropriate, the condition precedent condition is considered appropriate in this case given the historical issues that are of concern to Mr Rumsby. That will require the secondary flare to be installed prior to these consents being given effect to.

[140] With the compliance with the NES-AQ not at issue, Mr McCone was of the opinion that all technical matters related to this issue were *"agreed upon or are appropriately conditioned through the proposed consent conditions".*[47] However, that is not quite correct as the EHS Support Ltd report prepared by Mr Rumsby in review of the s92 responses did identify an issue with the level of oxygen in the gas wells although no condition regarding the oxygen concentration in the extraction wells was proposed by Mr Rumsby.

[141] Mr Rumsby addressed this issue further in his review at the hearing, noting that *"the technical reviewer's examination of the AB lime monitoring report (2020) found a significant number of times for certain gas extraction wells where oxygen concentration was higher than 5% (wells A-02, A-03, A-04. B-02, B03, E-02, E-03)."*[48] In some cases, oxygen concentrations in the gas extraction wells exceeded 10% for several months. The danger with this is the potential for subsurface fires in the landfill, which he advised have been a problem with several landfills over the past couple of years. Mr Rumsby commented that such fires *"result in hazardous air pollutants being emitted from the landfill and affect people off-site (some distance from the landfill)".* There is also the obvious risk to those working at the landfill and quarry operation.

[142] Mr Rumsby advised that controlling the oxygen concentration within the landfill is a key mechanism to manage potential fire risks. In his experience, all Class 1 landfills in

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[46] A condition precedent is a stipulation that defines certain conditions that must either occur or be met before something else can occur.
[47] Evidence of Mr McCone, paragraphs 124
[48] Evidence in Review of Mr Rumsby, paragraph 4.3.

New Zealand, as well as overseas, set a maximum oxygen concentrations level which is similar to the approach taken to limit the potential for explosions caused by methane. These levels are generally set at 20 to 25% of the flammability limit of oxygen, which is 12%, so are typically at 3 to 4% oxygen. Mr Rumsby recommended that oxygen concentration levels in all extraction wells not exceed 4% oxygen by volume.

[143] In her answer to questions around this issue, Mrs Smith's preference was not to see such a limit incorporated into the consent conditions. This was because of the variability inherent in landfill gas composition which makes it difficult to impose hard limits. However, she felt the issue of concern was dealt with by a number of the conditions proposed along with the associated management plans. Ms Irving highlighted these provisions in her close as follows:

28. At Condition 11 of the Air Discharge consent is the requirement to monitor each landfill gas well for gas composition (including % Oxygen) on a monthly basis. Although it is being done almost weekly as part of site operations to ensure optimum operation of the flare and kiln and to monitor for fire risk etc.

29. At condition 12 is a requirement to monitor the gas flare (or other utilisation system) for the same on a continuous basis. The Kiln is also monitored continuously.

30. These conditions are linked to Section 5.4 of the Landfill Gas Management Plan which requires the landfill operators to tune each well to optimise extraction and with the aim of achieving certain landfill gas quality targets. The Landfill has quality targets in line with Mr Rumsby's suggested proportions. There are also targets relating to the likes of gas temperature and carbon monoxide which are monitored for the purposes of identifying potential landfill fires[49].

31. At 5.4.2 the reasons for tuning the wells include "for the purposes of prevention or control of subsurface fires". Operationally this also needs to be balanced with other factors such as the need to increase extractions rates at wells with higher H_2S levels to assist in managing odour effects for example. This is a constant and dynamic process for the Landfill operations team.

[49] *Refer Landfill Gas Management Plan at 6.8.1-6.8.3*

[144] I agree with Mr Rumsby that the potential for fire is a significant issue that has major health and safety ramifications for those working at, and living near, the landfill. While the provisions referred to in Ms Irving's close set out the process involved in the current management of this issue, the data Mr Rumsby refers to indicates that there have been a significant number of instances when the well-recognised danger level has been exceeded. As a consequence, I consider it is an issue that should be managed by a condition that requires oxygen levels to meet a standard that will ensure the health and wellbeing of workers and neighbours is protected.

[145] While Mr Rumsby promoted 4% as being the appropriate standard, I understand that he was comfortable with the condition offered by the applicant that sets these levels at 5% oxygen by volume. As a consequence, that has been imposed as a condition on the relevant consent. The objectives of the LFG Management Plan (Schedule 1 condition GC24) have also been amended to reflect this.

[146] The other benefit Mr Rumsby highlighted with maintaining this level of oxygen is that it will also help prevent over-extraction of the landfill gas. He advised that *"this is a potential problem because excess nitrogen within the landfill gas stream lowers the caloric value of the gas being burnt and therefore results in lower flaring temperatures. If too much residual nitrogen (from over-extraction) is within the gas stream then flare temperature will not meet the NES (air quality) regulation 27*." He noted that this has been a problem at the landfill in the past.[50]

[147] I also note that during the s92 process, Mr Rumsby expressed concern with the potential for landfill gas migration, and the monitoring of that, in his 16 November 2020 review (page 13) of the response to the s92 request, and again at the hearing. The concern, as I understand it, relates to Kaarst landforms being considered high risk and he notes in his review that the *"preliminary site investigation supplied by the applicant indicates that the limestone within and surrounding the landfill has variable hydraulic characteristics and there is some secondary permeability within the limestone caused by cavities"*.

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[50] *Evidence in Review of Mr Rumsby, paragraph 4.4.*

[148] In this context, Mr Starke highlighted the in-situ permeability testing carried out as part of the original consenting process, and stated that this testing confirmed that natural ground surrounding the landfill has a relatively low permeability, which limits the potential for significant lateral landfill gas migration from the site.[51] In response to the s92 requests on the issue, the applicant stated that the current design (sidewall liner plus gas control) eliminates the possibility of landfill gas migration outside the boundary of the landfill and that no gas has been detected in the current monitoring wells.

[149] Mr Rumsby noted that this in-situ permeability testing is for water not landfill gas. He stated that sufficiently detailed records of the gas monitoring wells had not been provided to him but his review of the information that he was provided with (the Annual 2020 Monitoring report 5) indicated to him that landfill gas can escape beyond the side liner/gas control system at several different locations. Mr Rumsby recommended a condition that the spacing and location of gas monitoring bores be reviewed annually and that a Construction Quality Assurance Plan (CQA) be prepared.

[150] The applicant did not consider the condition requiring the CQA plan was necessary given they produce a Technical Specification, Quality Assurance and Quality Control (QA/QC) Standard prior to the construction of each area, and a Completion Report post the construction of each area. These three documents are reviewed by the Independent Peer Reviewer and issued for approval to Environment Southland. With respect to gas migration, the applicant considered the risk to off-site sensitive receptors as being low. However, it promoted an alternative condition to address this issue, if it remained a concern.

[151] While I accept that the CQA condition is not necessary, given the conditions already proposed, I agree with Mr Rumsby's assessment that there remains some uncertainty around off-site gas migration at this site. Hence the following condition has been imposed:

(a) Within 12 months after giving effect to this consent, the consent holder will undertake a landfill gas offsite migration risk assessment to determine the risk of landfill gas

[51] *Evidence of Walter Starke, paragraphs 110 – 111.*

migration to offsite sensitive receptors. As part of this assessment the consent holder shall provide a recommendation on the necessity of the requirement for additional landfill gas monitoring probes and, if necessary, the location and spacing of such probes, and the appropriate timing of future reviews should they be considered necessary.

(b) The conclusions of the assessment provided in (a) shall be provided to the Independent Peer Reviewer(s) for certification and Southland Regional Council for approval.

5.7 Leachate Effects on Groundwater

[152] The generation of leachate at a landfill was also an issue in contention. Leachate is caused principally by precipitation percolating through waste deposited in the landfill. Once in contact with decomposing solid waste, the percolating water becomes contaminated and then collects on top of the impermeable base liner. Additional leachate volume is produced during this decomposition of carbonaceous material producing a wide range of other materials including methane, carbon dioxide and a complex mixture of organic acids, aldehydes, alcohols and simple sugars.

[153] As a Class 1 landfill, the main objective is being able to achieve a high level of containment[52]. Mr Baker advised in his evidence (paragraphs 15-16) that the existing landfill is compliant with the requirements necessary to meet Class 1 standard, having an underdrainage system that keeps any groundwater away from the liner, along with an engineered leachate collection system and appropriate cap. Stormwater diversion infrastructure is also in place. No changes to this infrastructure are proposed. Monitoring of sediment run-off, surface water and groundwater quality, along with leachate quality and quantity is required.[53]

[154] A number of the submitters have raised concerns in relation to leachate generation under the new proposal. The Hamiltons were concerned with the possibility that leachate may enter the groundwater and cause risks for nearby users. Mrs Hamilton expanded on this concern at the hearing, raising concern that the acceptance of unlimited and different types

[52] *Evidence of Fiona Smith paragraph 7.*
[53] *Ibid, paragraph 8.*

of waste could impact on the linings of the fill area which would impact on groundwater. Ms Cavanagh was also concerned that toxins could reach surrounding waterways and could contaminate Winton's and Invercargill's water supply.

[155] The Sinclair submission raised concerns with the toxicity of the leachate and it flowing into natural springs. Mrs Sinclair addressed this issue further at the hearing, being unconvinced by the evidence of Mr Baker that the current operation is having little, if any, effect on water quality in the area and Mr Starke's evidence regarding the management of the landfill. She was concerned that the current infrastructure may not cope with the volume restriction removed and highlighted the toxic chemical nature of leachate. She was concerned that it may not be able to be disposed of at the current Invercargill's City disposal facility in the future and what that may mean for the community.

[156] The submission from the McKerchars noted that concern was raised during the original consent process around possible leachate leakage flowing into the Tothills Creek and then into the Winton Stream and Oreti River. However, the submitter had confidence that the applicant and Environment Southland would monitor this effectively and was supportive of the applicant minimising leachate.

[157] Mr Starke deals with leachate at paragraphs 80 to 86 of his evidence. He was very clear that "*The generation of leachate is not directly related to the waste tonnage, or the rate at which it is deposited in the landfill. Rather, it is directly related to the amount of water that enters through the working face, exposed liner area, uncapped areas and to a very limited degree the capped areas of the landfill."* In his view, if management of the landfill was not appropriate, leachate can build up or leak out into groundwater or the surrounding environment. The key management step in this regard is to reduce the volume of leachate created.

[158] Mr Starke outlined a number of measures that are being put in place to maintain leachate production at current volumes despite the proposed increase in the quantities of waste being accepted under this proposal. These include the proposed restriction of the working face area to no more than 1000 m² and restrictions on the daily cover area, which will have a

significant impact on rainfall infiltration and therefore leachate generation. Capping of current over-steep faces and the improved landfill cover processes will also have the potential to reduce rainfall infiltration and leachate production.

[159] Mr Starke also advised that as a part of this process, a new Landfill Leachate Management Plan (LLMP) has been developed to replace the existing management plan, which he considers a much-improved document. A condition of consent has also been proposed that requires leachate management processes to be reviewed should leachate quantities show a continued upward trend over the first three years of giving effect to the new consent.

[160] The key evidence in relation to assessing the effects of leachate generation on ground and surface water, is that of Mr Baker, a Hydrogeologist with 18 years' experience in the field of hydrogeology and water resources. His evidence highlighted the extensive hydrogeological investigation and assessment of groundwater effects that was undertaken to support the 2003 application.[54] He outlined the geological and hydrological setting within which the landfill sits, noting that it is located within the Lower Oreti Groundwater Management Zone (GMZ)[55].

[161] Critically, Mr Baker advised that the groundwater gradients measured as part of the 2003 groundwater investigation have been confirmed through the subsequent 18 years of monitoring at the site. He describes these gradients conceptually as:

(a) Downward groundwater pressure gradients are present in higher altitude recharge areas and upward pressure gradients in the lower discharge areas.

(b) Positive (i.e. upward) groundwater gradients currently exist beneath the base of the quarry, with groundwater seepage towards the ground surface.[56]

[162] In his opinion, this *"provides a form of hydrogeological security to the landfill site against leachate leakage impacting on the local groundwater resource"*[57] so it *"is the shallow*

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[54] *Evidence of Tim Baker, paragraph 10*
[55] *Ibid, paragraphs 18 – 36.*
[56] *Ibid, paragraph 35*
[57] *Ibid, paragraph 36*

groundwater system beneath the landfill and downgradient of the site that is of interest with regards to groundwater quality. This includes spring fed streams down gradient of the landfill where shallow groundwater may emerge."[58]

[163] As Mr Baker noted in his evidence, the 2003 groundwater investigation that characterised the groundwater body pre-landfill now provides a valuable baseline against which to assess the effects of the landfill operation to date. Mr Baker's comparison of groundwater quality collected pre-landfill to that present now in the 11 monitoring bores has led him to conclude that *"overall, the landfill is having very little, if any effect on groundwater quality moving beyond the boundary of the site"*[59] indicating that *"the current management practices onsite are effective in managing groundwater quality."*[60]

[164] While the trigger levels have been exceeded for dissolved lead, dissolved copper, and nitrate-nitrogen in some of the bores, Mr Baker noted in his evidence that they were generally within either the Australia and New Zealand Environment and Conservation Council guidelines or the New Zealand Drinking Water Standards.[61] I would also note here that the applicant was questioned on this in the peer review process, with the 23 July 2020 section 92 further information request noting in question 2.73 relating to groundwater quality that the *"relevant environmental quality criteria show some impact from landfill leachate on groundwater down-gradient.*" The applicant responded by advising that while the well at SKM 108 shows leachate indicators being present, they are at or below Trigger level 1 criteria. Critically, the response noted that *"when compared to the pre-landfill date, concentrations are very similar, suggesting these contaminants were already present in the groundwater prior to the landfill being operational*".[62]

[165] Mr Baker reiterated this point in his evidence, when the "*the pre-landfill groundwater quality monitoring data indicates that groundwater has most likely been impacted by agricultural*

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[58] Ibid, paragraph 38
[59] Ibid, paragraph 103
[60] Ibid, paragraph 104
[61] Ibid, paragraph 44
[62] S92 Response to Environment Southland, 2 September 2020, page 40.

land use and the baseline groundwater quality pre-landfill has been impacted by farming practices."[63]

[166] At the hearing, Mrs Hamilton raised concern with the recent result from Bore E45/0661, which is located on the AB Lime Dairy Farm boundary with the Hamilton property, south west of the landfill. She indicated that there had been a 'huge deterioration' in water quality at this bore.

[167] At the hearing, information on this bore was sought from the relevant Council department and this was supplied in a memo dated 19 May 2021, from Ciaran Thayer – Compliance Technical Officer with the Council. Mr Thayer advised that bore is used to monitor ground water quality as a requirement of AUTH-20146341-01-V1, a dairy effluent discharge permit for the AB Lime dairy farm, as opposed to being necessary to assess the effects of the landfill.

[168] The monitoring results were reviewed by Mr Baker (with the bore having also been identified in Mr Baker's Technical Memo) and demonstrate that overall water quality is high and meets the New Zealand Drinking Water Standards.[64] Hence, the claims made by Mrs Hamilton would not appear to be correct. Further, both Mr Thayer and the applicant confirm that monitoring of this bore has ceased because it is unsuitable for monitoring groundwater given the geological conditions create significant challenges in obtaining representative results.

[169] The concern expressed by Mrs Sinclair at the hearing in relation to potential effects on the springs within her property were also addressed by the applicant in close.[65] Mr Baker advises that the springs in question *"are located considerably higher than the landfill and as such there is no potential for the landfill to affect the water at those springs."*

[170] In relation to the effect that removal of the volume restriction may have, Mr Baker stated that *"this will not increase the risk of leachate migrating to groundwater. If anything, the potential for leachate generation (and subsequent losses to groundwater) will reduce as the*

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[63] *Ibid, paragraph 46*
[64] *Closing Submissions for the applicant, paragraph 51.*
[65] *Ibid, paragraph 53*

amount of time the site is uncapped for will reduce, and the working face area is being reduced. These factors combine to manage the volumes of leachate produced and therefore the risks of effects arising from it."[66]

[171] He did, however, recommend the installation of two additional groundwater monitoring wells downgradient of the property boundary to strengthen the groundwater monitoring at the site. This was supported by the peer reviewer. As a consequence, this suite of new applications includes an application for two additional monitoring bores.

[172] Mr Baker's evidence is not challenged and is compelling. The evidence is reasonably clear that the current operation is having little, if any, impact on groundwater indicating that the leachate collection system in place is effective. Both Mr Starke and Mr Baker are of the opinion that the operational changes proposed will reduce the potential for leachate generation and as a consequence, the increase in the speed of filling the landfill will not have any additional impact on groundwater quality.

[173] I also note in this context that the applicant is no longer pursuing the original consent that did enable it to discharge leachate leakage, specifically 26 m^3 per day of leachate and contaminated stormwater. That is no longer considered best practice so has been removed from the applications and does illustrate that the applicant has a high level of comfort that leachate is not leaking into the groundwater.

[174] The submitters, Dr Durand and Mr Rumsby also raised the issue of the current approach to leachate disposal, which is to Invercargill City Council (ICC) Wastewater Plant. Submitters raised concern in relation to the composition of the leachate if waste not previously received at the landfill is taken under the new conditions.

[175] I do not think this is particularly relevant to this process. As Ms Irving noted in her close[67], *"ICC hold a resource consent to discharge contaminants and it is their responsibility to ensure*

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[66] *Ibid, paragraph 17.*
[67] *Ibid, paragraph 45.*

compliance with their consent conditions. To do this they place controls on the leachate that AB Lime must comply with under their contract with ICC and via a Trade Waste Permit."

[176] While the applicant acknowledged that there could be changes to this in the future (and as a consequence, Mr Smith advised that they are actively looking at alternatives), it is a separate process and it is simply not appropriate to address the issue here. Importantly, this current process does not provide any new rights to dispose of leachate on the site of the application and as I noted above, will in fact remove current rights to discharge leachate.

5.8 Waste Acceptance Criteria

[177] As I noted earlier in this decision, Mr Rumsby did raise some concerns with the robustness of the special waste acceptance process at the hearing, as did some submitters. In contrast to Dr Durand's position on this matter, he did not consider this as grounds to refuse the consent as he advised that it is a reasonably common issue with landfills. Mr Rumsby noted that this issue is not helped by the lack of a national waste strategy and legislation that defines what these criteria should be.

[178] One concern he raised was the linking of waste acceptance criteria with HSNO classifications. He outlined the difference between hazardous substances and hazardous wastes and highlighted the problem with using the HSNO Hazardous Substance (Minimum Degree of Hazards) Notice 2017 as this only assesses hazardous substance and generally not hazardous waste (with a few exceptions). He considered it *"unlikely that AB Lime would be able to undertake an assessment of whether or not a waste type would exceed the minimum degree of hazards outlined within the HSNO Act and regulations if it were not already classified as such."*

[179] Mr Rumsby noted that there are two HSNO documents that impose waste acceptance criteria for landfills, being the Hazardous Substance (Disposal of Persistent Organic Pollutants) Notice and the Firefighting Foam Chemicals Group Standard 2017 (Section 15). He also advised that New Zealand is in the process of ratifying the Minamata Convention on Mercury which will see certain types of mercury-containing wastes prohibited from going to landfill. Mr Rumsby was concerned that the current waste acceptance criteria would not

ensure that the landfill was compliant with the two HSNO documents or the provisions within the Minamata Convention on Mercury. He was also concerned that the criteria do not address the provisions of the Radiation Safety Act 2016.

[180] In response to the specific concerns raised by Mr Rumsby, Ms Irving submitted that a hazardous waste under the proposed condition is a waste that contains a hazardous substance[68] and proposed some amendments to the condition to provide greater clarity, including with respect to radioactive wastes. She advised that the applicant has not sought consent to accept radioactive waste through this process (save for incidental waste) and noted that the proposed radioactive waste conditions reflect the conditions of the existing consents. Given the incompatibility with the HSNO legislation, the applicant has instead proposed that 'radioactive' be removed from Condition 21(i) and listed as its own criteria.[69]

[181] That condition now reads as follows:

With the exception of medical wastes, and asbestos wastes, no hazardous waste shall be accepted for disposal at the landfill. The definition of "hazardous waste" shall include:

(i) wastes which are ~~defined as~~ ~~either radioactive~~, explosive, flammable, oxidising, or corrosive, or, which are identified as possessing these characteristics in the HSNO regulations;

(ii) wastes capable, by any means after disposal, of yielding another material, for example, leachate, which possesses any of the above characteristics;

(iii) wastes which exhibit the characteristics of toxicity and eco-toxicity which following testing using the USEPA Toxicity Characteristic Leaching Procedure (TCLP) result in leachable concentrations of contaminants in excess of the leachable concentration limits listed in Schedule 2;

(iv) wastes which exhibit the characteristics of toxicity and eco-toxicity with total concentrations in excess of the total concentration limits listed in Schedule 2;

(v) wastes that contain substances that are persistent, bio accumulative and toxic, except as provided for in Schedule 2;

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[68] *https://www.worksafe.govt.nz/topic-and-industry/hazardous-substances/managing/hazardous-waste/*
[69] *Closing submissions, paragraphs 37 – 40.*

(vi) *wastes which are radioactive and controlled under the Radiation Safety Act 2016. For avoidance of doubt this does not apply to incidental radioactive material that is reasonably expected to be contained within municipal waste stream, such as smoke detectors.*

(vii) *Aluminium Dross Waste.*

Schedule 2 is incorporated into the Landfill Operations Management Plan and may be updated from time to time to in accordance with Condition 14 above.

…

Advice Note: This condition does not limit the consent holder's obligations with respect to other legislation that controls disposal of any substances, products or materials, such as the Hazardous Substances and New Organisms Act. It is the consent holder's obligation to ensure compliance with all relevant legislation, irrespective of anything in the conditions of this consent.

[182] The changes proposed to this condition address the specific concerns raised by Mr Rumsby, including the concern with persistent organic pollutants (such as PFOS firefighting foams) which are subject of the Stockholm Convention and various regulations. I have also specifically noted the exclusion of Aluminium Dross Waste in this condition, given the applicant withdrew this from the application. An advice note has also been included on the condition that clarifies that the *"definition of persistent bioaccumulative and toxic compound is any compound that meet the criteria as defined in Annex D of the Stockholm Convention."*

[183] I note that the condition above refers to condition 14, which has also been amended. It requires at least an annual review of the waste acceptance criteria and prohibited items. This process requires a review of new legislation, regulations and/or guidance on the matter to ensure the criteria remains consistent with the latest requirements. As Mr Starke noted in his evidence[70], Section 4.5 of the LOMP deals with emerging contaminants and will likely inform this process in that context. The report prepared will then be peer reviewed and

[70] *Evidence of Walter Starke, paragraph43(d)*

certified by the Council. The certified criteria must be incorporated into the LOMP. While not implicit in the condition proposed, it is implied that the Management Plan Amendment Process review process set out in the Schedule 1 conditions. An amendment has been made to reflect that while the advice note from Condition 9 has also been added to this condition. That sets out that if there is substantial disagreement between the Consent Holder and the Independent Management Plan Reviewer(s), then Council acts as the final arbiter.

[184] I also note here that General Condition 20 of Schedule 1 also requires the annual report from the Independent Peer Reviewer to address 'waste acceptance' matters. Furthermore, condition 28 of the 'Solid waste onto or into land' permit promoted by the applicant (now AUTH-20202200-01) allows the Council to review the consent *"within six months of the publication of any change in the national definition of hazardous wastes, or the publication of new national policies, regulations, standards or guidelines on landfill waste acceptance or the treatment and/or disposal of wastes with hazardous properties"* while condition 29 also enables a review by Council to ensure that (amongst other things) *"refuse acceptance criteria and discharge areas and practices are appropriate to avoid or reduce adverse effects on the environment".* A similar review condition (GC39) has also been included in Schedule 1. I note here that the applicants' Schedule 1 conditions 39 and 40 have been amalgamated in the consent documents and apply regardless of whether there is a transfer of the consents to another party or not.

[185] In my view, the conditions outlined above provide a framework that will allow the ever-evolving technology involved in managing the disposal of waste to be appropriately reflected in the management of this particular facility. It would appear to me that all the concerns raised by Mr Rumsby can be addressed through the processes codified in the conditions and then actioned in the supporting management plan. Dr Durand was concerned with this approach, noting that the operational benefit to the consent holder is that management techniques can be adapted over time without the need to change consent conditions or get a new consent, which he suggested defers scrutiny of the methods proposed to manage environmental effects. In relation to new guidelines that are developed to address emerging issues (such as those related to mercury mentioned by Mr Rumsby), this would seem to be the most appropriate and efficient way to do it. The management methods

would have already been independently developed and scrutinised so Dr Durand's concern is addressed to my satisfaction.

[186] With respect to Dr Durand's wider concerns around the use of management plans, Mr McCone addresses this in detail at paragraphs 83 to 200 of his evidence. He confirms that management plan provisions are subordinate to the performance criteria identified in the conditions of the consent but provide an adaptive management framework that can *"appropriately avoid, remedy or mitigate the potential and actual effects of the landfill at all levels of operation."*

[187] In the context of Dr Durand's concern, he highlights the certification sequence provided in the plans, noting that the review process is delegated to a suitability qualified persons as determined by the Council. Critically, the certification process rests with Council *"ensuring that the ultimate decision-making responsibility is not delegated to a third person*."

[188] I agree with Mr McCone that *"…conditions of consent proposed set clear performance criteria to ensure adverse effects are minor. The approval and certification process for the management plan framework is also sufficiently robust to ensure that the operational methods employed at the site achieve ongoing compliance with the conditions."*[71] I also agree with Mr McCone that the use of an adaptive management regime is an accepted tool for large scale activities[72] and in the context of this facility being a Class 1 landfill, I consider that approach to be appropriate here. As Ms Irving stated in her close in relation to Class 1 landfills: *"they are the end of the road for most things. They cannot serve their purpose if there is not broad scope for receiving products that most other facilities cannot."* [73] The application does not propose to take all waste and I am satisfied that the conditions and management processes in place are now robust enough to ensure inappropriate waste is not received at the facility. I note here that a number of changes have been made for clarity purposes to how the review and certification process works.

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[71] *Evidence of Mr McCone, paragraph 98*
[72] *Ibid, paragraph 88*
[73] *Submissions in Close, paragraph 6.*

5.9 Cultural Matters and Consent Duration

[189] After having regard to Te Mana o te Wai and the provisions of the relevant planning instruments, Mr. Halligan, in his s95 notification report, considered cultural effects to be key consideration and as a consequence, recommended that Te Ao Marama Inc and Hokonui Rūnanga be considered affected parties. Submissions were received from both groups opposing the applications. The opposition focused on consent duration and notification provisions within the consent conditions. Both Hokonui Rūnanga and Te Ao Marama Inc sought a consent duration of 17 years so that the new consents would align with the original expiry date of 2038 while they also wished to be notified when the consent holder accepts waste under the proposed emergency waste consent condition. Hokonui Rūnanga also sought to be included in accidental discovery conditions as an affected party.

[190] In relation to the notification provisions, the applicant has agreed to those changes and has promoted changes to the proposed conditions accordingly, which have been adopted in this decision. In relation to the emergency waste provisions, changes have been made to condition 19 of discharge permit for solid waste onto or into land and condition 5 of discharge to air. Conditions 33 and 35 of the Schedule 1 – General Conditions have been amended to include Hokonui Rūnanga as an affected party in the accidental discovery protocol. This has also required an amendment to the Site Archaeological/Koiwi or Taonga Accidental Discovery Plan.

[191] In relation to the consent term, the original application sought a 35-year consent but at the hearing this was reduced to 25 years in response to the submissions. However, both Hokonui Rūnanga and Te Ao Marama Inc contended a consent duration of 17 years was more appropriate. The applicant proposed the reduced consent term of 25 years so as to align the duration with the principles outlined in the Ngai Tahu Ki Murihiku Resource and Environmental Iwi Management Plan 2008. That decision was based on the following statement in the Ngai Tahu Ki Murihiku Resource and Environmental Iwi Management Plan 2008, which provides the following commentary around consent duration:

"Ngai Tahu ki Murihiku do not believe we should be granting consents for activities where we do not know what the effects may be over the long term. Anything over 25 years is essentially

making decisions for the next generation. We also need to ensure that consent duration recognises and provides for changes in technology, thus allowing us to continually improve the way we do things."

[192] The significance of 25 years for tangata whenua is also that it reflects a human generational construct where tangata whenua as kaitiaki want to see significant progress to achieving mātauranga Māori in the management of resources within a generation.

[193] Ms Irving commented on the duration in her opening submissions. While acknowledging there '*is some superficial attraction to align these key components of the landfill consent with the existing lime quarrying consents'*, she submitted that a 17-year consent does not align with the long-term nature of investment required in landfill facilities and the fact that it is defined as 'critical infrastructure' under the RPS.

[194] The amendments made by the applicant led to Te Ao Marama Inc withdrawing its right to be heard advising that it accepts the shorter timeframe as mitigating concerns raised in the submission as well as the addition to advise it when the landfill is accepting emergency waste. In its tabled response to the evidence pre-circulated by the applicant, the Hokonui Rūnanga advised that it understands and supports the adaptive management approach to managing the landfill but continues to seek the 2038 expiry date of the original consents. Hokonui Rūnanga also advised that it supports further discussion on the management of effects relating to cultural values.

[195] Policy 40 of the Proposed Regional Water and Land Plan provides policy guidance for the determination of an appropriate term. It reads as follows:

Policy 40 – Determining the term of resource consents

When determining the term of a resource consent consideration will be given, but not limited, to:

1. *granting a shorter duration than that sought by the applicant when there is uncertainty regarding the nature, scale, duration and frequency of adverse effects from the activity or the capacity of the resource;*
2. *relevant tangata whenua values and Ngāi Tahu indicators of health;*

3. *the duration sought by the applicant and reasons for the duration sought;*
4. *the permanence and economic life of any capital investment;*
5. *the desirability of applying a common expiry date for water permits that allocate water from the same resource or land use and discharges that may affect the quality of the same resource;*
6. *the applicant's compliance with the conditions of any previous resource consent, and the applicant's adoption, particularly voluntarily, of good management practices; and*
7. *the timing of development of FMU sections of this Plan, and whether granting a shorter or longer duration will better enable implementation of the revised frameworks established in those sections.*

[196] This policy reflects the principles that have flowed out of case law over recent years. In relation to points 1 and 2 of the policy, I note that the applicant is proposing a shorter duration than originally sought. This is to address the concerns of Iwi, and reflects the direction of Policy 13 of Section 3.2 Air of the Ngai Tahu Ki Murihiku Resource and Environmental Iwi Management Plan 2008. I note that the RPS, the PRWLP and RPW all contain policies that require decisions to take into account iwi management plans.

[197] Policy 13 reads "*Advocate for robust consent conditions with a maximum twenty-five years. Changes to consent conditions must be notified to affected parties and all consent conditions monitored routinely."* While the 25-years is a maximum, I am satisfied that when the other criteria are considered, it is the appropriate length for the consent. This takes into account the fact that there is little uncertainty around adverse effects, given the facility has been operating for 17 years and that there are robust processes in place for dealing with emerging wastes and new regulations. The adaptive management plan approach, together with the peer review and certification process, will ensure that best practice is adopted throughout the life of the facility.

[198] I gave serious consideration to linking the new consents to the expiry date of the existing water and stormwater water permits that will not be changed by this process and will expire in 2038. However, this facility is defined as 'critical infrastructure' in the planning documents and those same planning documents protect and secure the ongoing efficient operation of

critical infrastructure, with the efficient use of existing landfills favoured over the creation of new ones.

[199] This policy direction implies that longer terms consents should be in place for critical infrastructure. The capital investment required is also a relevant factor under the policy, and this has been significant to date. Mr Smith's evidence addresses the increase in cost associated with the implementation of the changes proposed, which includes a $1,000,000 worth of mobile plant to deal with a reduced working face. The new lining system proposed will see the cost of cell construction increase significantly (the small Area 15 cost $2.4 million to construct) while a back-up flare will also be required, which is likely to cost between the $700,000 for the principal flare (excluding gas pipelines) and the $224,000 spent on the lime kiln burner project. Additional cost will also be incurred by the need for more cover material to meet NES-AQ standards while staff numbers have also increased dramatically.[74]

[200] As a consequence, I am satisfied that a 25-year term is appropriate for this consent. I do note here that the terms proposed on the draft consents submitted by the applicant refer to the 25-year term beginning once the existing consents expire. Given that surrender date is unknown and that the existing consents do not expire until 2038, there is a degree of uncertainty here. Hence an expiry date of 6 August 2046 , which reflects the appeal period, has been attached to the consents.

[201] While the submissions of iwi did not raise any particular environmental issues, I have also considered the relevant provisions of Ngāi Tahu Ki Murihiku Resource and Environmental Iwi Management Plan 2008, along with the policy framework addressing issues of concern to tangata whenua in the various local planning documents.

[202] The Iwi Management Plan has been dealt with in depth at Section 11 of the application document. Having reviewed that assessment, I record my agreement with it here and adopt it accordingly. I note in particular that the Solid Waste Management Provisions of the plan support best practice, the implementation of new technology to reduce adverse effects on

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[74] *Evidence of Stephen Smith, paragraphs 83 – 91.*

air quality, and the continual improvement of solid waste management. I believe that is happening here. The provisions also promote the development of maximising the 're-use, recycling and recovery' of waste, which the use of the LFG for fuel in the lime kilns is an example of.

[203] Section 10 of the application considers the policy framework of the local planning documents as they relate to tangata whenua issues. That framework deals with partnership, consultation and involvement in decision making, along with requiring recognition of iwi management plans. Tangata whenua values and interests must be identified and reflected in environmental management.

[204] Again, I agree with and accordingly adopt the application's assessment of the proposal against this policy framework. The submission of iwi and the response to them by the applicant indicate that this policy direction has been considered in this application and that the proposal is not inconsistent with that direction.

5.10 Other Effects

[205] The application also addresses a number of other environmental effects that are relevant to this process but which were not the focus of any particular concern. These included litter (section 8.3), vermin and bird management (section 8.4), and ecological effects (section 8.11). Ecological matters which fall within Southland Regional Council's jurisdiction are closely linked to effects on groundwater and surface water and I have determined that these effects are no more than minor. There are no known significant ecological values at the site and this proposal is not increasing the footprint of the landfill. Hence, this issue need not be considered further.

[206] Adverse environmental effects can occur if litter, vermin and birds are not appropriately managed. The McKerchars raised the issue of windblown material in their submission, noting that in high winds material does escape and reach their property. Mrs McKerchar acknowledged that the applicant, in previous years, had been proactive and prompt in clearing this rubbish but indicated that over recent years, they have had to phone the landfill office to get action.

[207] Sections 8.3 and 8.4 of the application deals with these issues and outlines the existing processes in place to manage these effects. The draft Landfill Operations Management Plan includes content to address these potential effects, and includes management measures such as:

- management of the tipping areas to control both litter and vermin;
- a pest management regime;
- the covering of all trucks transporting material to the site to minimise windblown material potential;
- litter nets;
- on and off-site inspections for litter debris.

I consider the management processes for the existing facility will ensure these matters are adequately controlled.

[208] In relation to off-site litter effects, I note action in relation to this matter is complainants driven. The draft Landfill Operations Management Plan states as follows:

If any complaints are received from adjacent landowners in relation to windblown litter from the landfill, the Landfill Supervisor shall inform the Environmental Manager, who will carry out an investigation into the origin of the litter immediately and ensure that the litter is collected as soon as practicable. If the nuisance is of an on-going nature as deemed from the receipt of repeated valid complaints, take steps to ensure any identified impacts are addressed.

Litter complaint reporting is to be undertaken in accordance with the Environmental Management Plan Complaints Register.

[209] The McKerchars' submission indicates that current practice is consistent with this but they indicated that the applicant has not been as proactive as it once was in this area.

[210] This is an area where the applicant may need to give some further attention. While I note that the site is reasonably well framed by pine trees (although there are gaps), there does seem to be some distance between trees to the south and the tipping area and working face,

and they also appear to be lower in elevation. I also noted on my site visit that some of the litter nets were in a poor state of repair. While I conclude that the applicant should give consideration to improvements it could make in relation to litter management, I do not consider that an additional condition is required in this regard.

5.11 Positive Effects

[211] Positive effects are included within the definition of 'effect' in the Act, and as a consequence, must be considered as part of the assessment process. The application, at section 8.1, and Mr McCone's evidence in attachment E, outline the positive effects of the proposal. I largely agree with these assessments and briefly summarise the key positive effects below:

- enables the efficient use of an existing landfill that makes use of the cavity created by the extraction of lime within an established quarry;
- the use of landfill gas to power the lime kilns, thereby reducing SO_2 limits from the coal powered kilns, with the associated improvement in ambient air quality;
- compliance with the NES-AQ standards pertaining to the control of greenhouse gas emissions at landfills;
- removal of diluted contaminated material of Aluminum Dross Waste as an acceptable hazardous waste stream;
- removal of ability to discharge leachate leakage and commitment to reducing leachate generation;
- improved management of special waste and emergency waste acceptance;
- improved ability to deal with the disposal of waste arising from a natural and biosecurity disasters;
- improved odour and other air quality mitigation and monitoring;
- improved management of the landfill design including an increase and improvement in design of permanent capping; an increase in the depth of the landfill base liner capping; a reduction of the working face to 1000 m^2; remediation of the overstep faces; better daily, intermediate and temporary cover management; creation of an area specific filling plan; an increase in the depth of the landfill base liner;
- introduction of a comprehensive management plan framework with associated peer review and certification process.

[212] The proposal is also likely to generate some local economic benefits including additional employment although these have not been quantified to any great extent.

5.12 Conclusion on Environmental Effects

[213] A wide range of environmental effects were addressed by the applicant in its AEE. Some of these effects, such as traffic generation, are not relevant to the matters that fall under the jurisdiction of ES. Those that do fall under the jurisdiction of ES have been thoroughly assessed by technical experts in the fields of water quality, air quality, landfill gas and leachate generation, and landfill design and management. A thorough and robust Section 92 process was followed, which led to refinement of the conditions proposed. This continued through to the conclusion of the hearing.

[214] At the end of that process, there were few issues of disagreement between the experts and where there has been disagreement, conditions have been attached to the relevant consents to address any residual concern.

[215] As a consequence of this process, I am satisfied that, overall, adverse environmental effects of the proposal will be no more than minor.

5.13 The Provisions of Relevant Planning Instruments

5.13.1 Introduction

[216] I have discussed the proposal in the context of the strategic policy framework in paragraphs 62–78 above, and have concluded that the proposal is consistent with that. I have also concluded above that the environmental effects of the proposal are likely to be no more than minor subject to compliance with the conditions and processes set out in the management plans. I now consider the remaining policy provisions that are relevant of the proposal below. Much of that policy framework requires that adverse environmental effects are avoided, remedied or mitigated. The proposal effectively achieves that.

[217] The application contains a comprehensive assessment of the proposal against the following documents:

- the National Policy Statement for Freshwater Management (2014), which is now superseded by a 2020 document;
- Resource Management (National Environmental Standards for Air Quality) Regulations 2004 (NES-AQ);
- the Southland Regional Policy Statement 2017;
- the Regional Water Plan 2010;
- the Proposed Southland Water and Land Plan;
- the Regional Air Plan 2016; and
- the Ngāi Tahu Murihiku Natural Resource and Environmental Iwi Management Plan 2008.

[218] Mr McCone's evidence further addressed these documents with the exception of the National Policy Statement for Freshwater Management. In the main, I generally agree with and adopt the conclusions reached in both the application and Mr McCone's evidence in relation to these documents. Below I consider the NPSFM 2020 and provide a brief overview of the other policy themes of the local planning documents.

5.13.2 National Policy Statement for Freshwater Management 2020

[219] The NPSFM 2020 came into force on 3 September 2020 and as a consequence, is not reflected in any of the local planning documents. Accordingly, I have addressed it in more detail than perhaps an application of this nature would normally require. The NPS is the definitive statement on the management of New Zealand's freshwater resources and is therefore relevant to those components of this proposal that potentially have an impact on freshwater, being:

- the discharge of solid waste to land where the contaminant may enter water;
- the discharge of leachate to land within the landfill footprint where the contaminant may enter water;
- the discharge of leachate and contaminated stormwater that may enter groundwater (leachate leakage).

[220] I also note that the applicant holds existing Water Permits 201348, 201349 and 201350 for taking of up to 40 cubic metres per day of groundwater, damming and diverting surface water, and taking up to 500 cubic metres of surface water. These water permits will not be disturbed by this process and as outlined above, expire in June 2038.

[221] The NPSFM 2020 introduces a "fundamental concept" called Te Mana o te Wai which encapsulates the fundamental importance of water itself and as a connected element of the wider environment. It has a mauri that is to be protected, which is reflected in clause 1.3(1) that states "*Te Mana o te Wai is about restoring and preserving the balance between the water, the wider environment and the community*".

[222] Te Mana o te Wai requires that decision-making under the Resource Management Act takes account of six principles relating to the roles of tangata whenua and other New Zealanders in the management of freshwater. These principles, which inform the implementation of the NPSFM 2020, are as follows:

(a) Mana whakahaere: the power, authority and obligations of tangata whenua to make decisions that maintain, protect and sustain the health and wellbeing of, and their relationship with, freshwater.

(b) Kaitiakitanga: the obligation of tangata whenua to preserve, restore, enhance and sustainably use freshwater for the benefit of present and future generations.

(c) Manaakitanga: the process by which tangata whenua show respect, generosity and care for freshwater and for others.

(d) Governance: the responsibility of those with authority for making decisions about freshwater to do so in a way that prioritises the health and wellbeing of freshwater now and in the future.

(e) Stewardship: the obligation of all New Zealanders to manage freshwater in a way that ensures it sustains present and future generations.

(f) Care and Respect: the responsibility of all New Zealanders to care for freshwater in providing for the health of the nation.

[223] Clause (1.3(5)) states that there is a hierarchy of obligations in Te Mana o te Wai that prioritises the following:

"(a) first, the health and well-being of water bodies and freshwater ecosystems

(b) second, the health needs of people (such as drinking water)

(c) third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future".

[224] This priority is reflected in Objective 2.1 of the NPSFM 2020. The policies considered most relevant to this proposal are as follows:

Policy 1: Freshwater is managed in a way that gives effect to Te Mana o te Wai.

Policy 2: Tangata whenua are actively involved in freshwater management (including decision-making processes), and Māori freshwater values are identified and provided for.

Policy 3: Freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis, including the effects on receiving environments.

Policy 13: The condition of water bodies and freshwater ecosystems is systematically monitored over time, and action is taken where freshwater is degraded, and to reverse deteriorating trends.

Policy 15: Communities are enabled to provide for their social, economic, and cultural wellbeing in a way that is consistent with this National Policy Statement.

[225] With respect to tangata whenua involvement in this process, the application noted that the COVID-19 lockdown meant that were unable to meet tangata whenua during the preparation of the application but it was noted that a Cultural Impact Assessment was prepared in support of the original application. However, Te Ao Marama Inc and Hokonui Rūnanga have been involved through the submission process, which has been discussed above. This has led to the strengthening of consultation provisions in relation to a number of management processes and a reduction in the term sought. No specific environmental issues have been raised by tangata whenua with Hokonui Rūnanga advising that they understand and support the adaptive management approach to managing the landfill. I am satisfied that Policy 2 has been given effect.

[226] I have determined above that the facility is not having any noticeable adverse effect on the quality of ground and surface water in the catchment and that the new proposal will not change that. I also accept that the facility is 'critical infrastructure' and that the regional planning framework is supportive if its ongoing use and development. Hence, Policies 3 and 15 are achieved. With the additional groundwater monitoring proposed, the proposal is also giving effect to Policy 13.

[227] Overall, I am satisfied that the freshwater resources potentially affected by the proposal will be managed in a way that gives effect to Te Mana o te Wai.

5.13.3 Regional Fresh Water Provisions

[228] While they do not yet give full effect to the NPSFM 2020, the conclusions reached above also apply to the relevant policy provisions of local planning documents that relate to freshwater management. The key provisions in the RPS are Objective WQUAL.1 and Policy QWUAL.1, although they refer to NPSFM 2014, which sets out to safeguard the life supporting capacity of water and achieve the maintenance or improvement of it. The evidence indicates that at least maintenance of water quality is being achieved here. The siting of operation in this context (Policy WQUAL.10) is considered appropriate given the characteristics of the groundwater gradient in this location which Mr Baker said provides hydrogeological security for the landfill site against leachate leaking into the local groundwater resource. This also assists in the achievement of Objectives 1 and 2 of the PSWLP and the associated policies of that plan (all read in the context of the PSWLP's interpretation statement).

[229] The RPS policy framework in relation to natural state water is not applicable given the fact that pre-development testing indicates it is affected by agriculture use in the catchment but the concentrations of detected contaminants are for the most part compliant with the New Zealand Drinking Water Standards so the outcomes sought by Objective 8 and 13B of the PSWLP are achieved.

[230] Overall, I conclude that the proposal achieves the outcomes sought by the various planning documents in relation to the freshwater resources of the region.

5.13.4 Discharge and Solid Waste Provisions

[231] The planning documents also contains a number of objective and policies that address the discharge of contaminants onto or into land including specific policies relating to waste disposal. The outcomes sought by Objective HAZ.1 of the RPS and its associated policies is the protection of the environment (including human health and safety) from the adverse effects of transporting and disposing hazardous substances. Objective WASTE.2 and its associated policies seek the same outcomes in relation to transport and disposal of solid waste. Policy 16A of the PSWLP requires the adoption of the best practicable option to manage the treatment and discharge of contaminants from industrial and trade premises.

[232] I have concluded above that the management processes developed by the applicant and the conditions attached to the consents will ensure that the outcomes sought by this policy framework are achieved. The management framework proposed is consistent with good practice and provides for an adaptive management approach that will ensure new technologies and methodologies that evolve over time can be incorporated into the management of the landfill.

[233] These documents also contain a policy framework that seeks the reduction of solid waste. Objective WASTE.1 is to reduce the generation of solid waste while Policy WASTE.4 includes the following solid waste hierarchy:

Solid waste shall be appropriately managed in accordance with the following hierarchy:

(a) prevent solid waste from being generated;

(b) reduce the amount of solid waste generated;

(c) reuse solid waste;

(d) recycle solid waste;

(e) recover resources from solid waste;

(f) dispose of residual solid wastes to authorised landfills or cleanfills.

[234] Policy WASTE.5 is to improve knowledge of solid waste generation disposal trend along with the effects that different types of waste generate.

[235] In response to this policy framework, the application stated at page 209:

AB Lime understands the importance of their role in waste minimisation and continues to undertake an active role in the education of the community to help understand the significance of effective waste management in the Southland region.

Effective monitoring of the landfill is proposed to continue as part of this application, and this provides invaluable insights into Southland's solid waste generation and disposal trends. Each management plan identifies monitoring parameters, which will continue to measure effects at all levels of operations.

[236] The applicant's landfill is essentially the end of the line when it comes to the waste management hierarchy so the majority of the goals set out in Policy WASTE.4 need to be (and are) addressed by the community and the local authorities prior to waste being disposed of. One significant positive of this proposal, however, is the recovery of the gas that is generated by the waste deposited at the site and its use to power the lime kilns on the site. As previously discussed, this has a number of environmental and health benefits as compared to current arrangements at the site and is consistent with Policy WASTE.4(e).

[237] In a similar context, there are a number of policies that promote the integrated management of resources (see Policy WQUAL.12 of the RPS, Policy 39A of the PSWLP). The synergy between the quarry operation and the landfilling activity, along with the utilisation of the waste from one to power an aspect of the other, is a significant positive benefit of the proposal. The key rural land resource objective of the RPS is to achieve sustainable land use including in respect of the primary sector, development and mineral extraction activities. This synergy goes a long way towards achieving that as it provides for a number of the community's needs.

5.13.5 Air Quality Provisions

[238] In relation to the air quality policy framework, the air quality objective of the RPS (AQ.1) is to enable the discharge of contaminants into air while managing the adverse effects of those contaminants on human health and wellbeing, and the environment. Policy AQ.1 requires

the effects of those contaminants to be avoided, remedied or mitigated while Policy AQ.4 requires air quality to be maintained or enhanced where it complies with the NESAQ.

[239] The Southland Regional Air Plan seeks similar outcomes. The policy framework of Part 1 of the document addresses health and amenity effects of ambient (outdoor) air quality and health and amenity effects associated with localised air quality. In relation to ambient air quality, it seeks compliance with NESAQ (Objectives 2.1 and 2.2). Objective 2.4 addresses local air quality (including health and amenity values) and requires discharges to avoid remedy or mitigate adverse effects. The associated policy framework requires odour and dust likely to be offensive or objectionable beyond a property boundary to be avoided, remedied or mitigated (Policy 3.9 and 3.10). Concentrations of hazardous air pollutants beyond property boundaries are to be avoided or mitigated (Policy 3.11).

[240] These matters have all been considered in the assessment of air quality effects above. That assessment indicates that this policy suite will be met by the applicant provided the proposed mitigation measures are adhered to and stringently monitored for effectiveness. Achieving that policy suite means that the proposal also achieves the more general Policy 3.12.

[241] Policy 3.13 addresses the NESAQ in the context of a local air environment and requires that regard is had to the appropriate ambient air quality guidelines. The evidence of Mr Van Kekem is that the performance standards within the conditions proposed are designed to meet the NESAQ. These have largely been adopted, with some minor amendments, and include a condition precedent that requires confirmation of compliance with the NESAQ before the consent can be given effect to.

[242] Stage 2 of the document contains provisions relevant to industrial and trade premises, which includes landfills, and further provisions on odour. The policy provisions of this section largely reflect the direction of the policy framework considered above, although it does also address greenhouse gas emissions from landfills. Mr McCone addresses these provisions in detail at paragraphs 179 to 201 of his evidence.

[243] In relation to greenhouse gas emissions, he states that in the hierarchy of planning instruments, the NESAQ sits above the SRAP. Because the proposal must comply with the NESAQ, it will therefore promote the reduction of fugitive greenhouse gas, specifically methane, and will achieve the outcomes sought by the SRAP. In relation to hazardous air pollutants and ambient air quality, he considers the proposal completely aligns with the SRAP and similarly with the odour provisions, which reflect the Stage 1 provisions.

[244] I generally agree with Mr McCone's assessment of these provisions and adopt it accordingly. I would note here, however, that the NESAQ sits to the side of the SRAP rather than above it.

5.13.6 Policy Conclusion

[245] Having thoroughly considered the proposal against the policy framework of the relevant planning documents, I have concluded that the proposal activity achieves the strategic direction of the local policy framework for critical infrastructure. It is located within an environment that is considered suitable for landfills by that policy framework. The conditions of the consent and the adaptive management processes to be employed at the facility will ensure that the proposal achieves the outcomes sought by the environmental effects policy framework.

5.14 Conditions

[246] The applicant proposed a comprehensive set of conditions with the applications. These conditions are based on the existing conditions but impose higher environmental performance standards and provide for an adaptive management approach through a range of management plans that address the various environmental issues that face a waste disposal site. These conditions have been through several iterations as the result of a Section 92 and hearing process, with the last set being produced with the applicant's submissions in close.

[247] I have largely addressed the latest set of changes within the body of this decision. Over and above the specific changes to these conditions that I have dealt with above, there have been some minor changes to the administrative processes the conditions set up.

[248] The one remaining condition that I have not addressed earlier, is the matter of the bond. Dr Durand's Section 42A report raised a number concerns with the bond, noting that the value of the bond has not changed despite the extension sought and questioned whether it should be required to remain in force beyond the expiry of the consents. In his review, he recommended that an appropriate bond amount be set following the common practice of at least two independent experts providing costings for works required to meet the consent condition. He also highlighted the deletion of that part of the bond that secured monitoring, noting its deletion had not been shown.

[249] In her opening submissions, Ms Irving advised[75] that the applicant considered the current bond appropriate and that it did not need to be disturbed. There were a number of reasons for that including the bond being linked to current contract arrangements, and as a consequence there are financial implications with any change, and that there are other bonds "*required pursuant to those commercial arrangements which increases the pool of funds available should they need to be called upon whilst the landfill is operational."* She submitted that an aftercare bond is better addressed at the time the landfill is to close and noted that there are likely to be at least two, if not three, consents required before this occurs. She indicated that if I considered a larger bond was required, this could be addressed by requiring the calculation of a bond commensurate with the works required by the Aftercare Plan, to be lodged 12 months prior to the landfill operations ceasing on the site. While standing by her submission that no change was necessary to the bond, this condition was proposed in her close[76].

[250] I agree with Ms Irving that the life of the landfill will outlast these consents and as a consequence, I agree with Dr Durand that a bond set in 2004 with a fixed amount is unlikely to be satisfactory to address closure issues several decades from now. Hence, the condition proposed is considered appropriate as it will enable the true cost of closure to be assessed and then bonded at the appropriate time. While that could happen in a later consent, I think it appropriate that it is signalled now.

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[75] Submissions in opening, paragraph 109 – 11.
[76] Submissions in close, paragraph 75(c).

[251] The new bond condition only applies to the rehabilitation/aftercare phase of the landfill life. I have not made changes to the original bond, mainly for the reasons outlined by Ms Irving. However, the review conditions of the relevant consents have been amended to enable this issue to be revisited in the future, should monitoring indicate the potential for issues to arise.

[252] No reason was provided by the applicant as to why the reference to monitoring in the bond was deleted. While that was possibly because securing "compliance with all the conditions of this consent" would cover that matter, I have reinstated it as further insurance, particularly given the heavy reliance placed on monitoring to ensure 'offensive and objectionable' odour is avoided at property boundaries.

6. Summary and Conclusion

[253] As I noted at the outset, Section 104 of the Act sets out the matters that I must have regard to when considering an application for a resource consent and any submissions received. That consideration is subject to Part 2 of the Act. The matters are set out below:

(a) any actual and potential effects on the environment of allowing the activity; and

(ab) any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity; and

(b) any relevant provisions of—

(i) a national environmental standard:

(ii) other regulations:

(iii) a national policy statement:

(iv) a New Zealand coastal policy statement:

(v) a regional policy statement or proposed regional policy statement:

(vi) a plan or proposed plan; and

(c) any other matter the consent authority considers relevant and reasonably necessary to determine the application.

[254] I have determined above that any adverse environmental effects that the proposal may have will not be more than minor. In relation to some of the effects generated by the existing operation (such as ambient air quality, odour and leachate generation), there may well be an improvement under this proposal given the new mitigation and management measures to be adopted.

[255] The relevant provisions of the national and local planning instruments have been thoroughly considered and I have concluded that the proposal is generally consistent with the outcomes sought by all of these documents. I have also considered the provisions of the Ngai Tahu Ki Murihiku Resource and Environmental Iwi Management Plan 2008 (as another relevant matter) and have also found the proposal consistent with the outcomes sought by that document.

[256] Because this involves a discharge permit, in addition to the matters in Section 104(1), I must have regard to the matters in Section 105 as follows:

(a) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and

(b) the Applicant's reasons for the proposed choice; and

(c) any possible alternative methods of discharge, including discharge into any other receiving environment.

[257] I have already assessed the suitability of the site under the relevant policy considerations above and have found the receiving environment is such that a landfill can locate here without creating adverse environmental effects that are any more than minor. With respect to alternatives, the proposal relates to an existing landfill, that generates the same discharges, and I note that the overall landfill footprint and the associated water and stormwater permits are not changing.

[258] I have also had regard to the applicant's reasons for the proposal and conclude that they are no barrier to granting the consents sought.

[259] I have also had regard to the requirements of Section 107 in relation to the discharge of a contaminant or water into water, and I have concluded that this proposal does not contravene this section.

[260] As Mr McCone noted in his evidence[77], there is no longer any need to consider Part 2 matters unless there is invalidity, incompleteness or uncertainty of meaning in the statutory planning documents. While I have highlighted above that some of the local planning instruments have not been updated to incorporate the NPS-FM 2020, I have concluded that the proposal is consistent with that document. That aside, I agree with Mr McCone that many of the Part 2 matters of relevance have been directly addressed by the planning instruments.

[261] Mr McCone addressed what he considered to be the remaining matters as follows[78]:

(211) In my opinion, the key outstanding Part 2 matters of importance remain:

(a) the extent to which the need for solid waste disposal as regionally critical infrastructure is a reasonably foreseeable need for future generations;

(b) in relation to section 7(b) the removal of a waste acceptance limit for an existing landfill is considered efficient land use and is preferable to establishing a new landfill at an alternative location;

(c) in relation to section 7(ba) this proposal will utilise landfill gas for energy conversion to power the lime kilns, creating a positive overall effect on air quality[79];

(d) in relation to section 7(i) the proposed changes to bring this proposal into line with NES-AQ standards applicable to this proposal will improve greenhouse gas emissions associated with the landfill. Also, the adaptive management framework allows for adoption of new technology and the evolution of landfill operations in line with best practice; and

(e) in relation to section 6(e) section 7(a), section 7(aa) and section 8 there are no significant issues in respect of the proposal in regard to tangata whenua as described in paragraphs 213 to 216 of this evidence.

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[77] *Evidence of Mr McCone, paragraph 209.*
[78] *Ibid, paragraph 211*
[79] *Mr Van Kekem's evidence at [133]-[134]*

[262] I agree with his assessment and adopt it accordingly.

[263] Overall, I conclude that the proposal is an efficient use of an established piece of the region's critical infrastructure. Its ongoing use and development will take place under much improved management procedures that will enable evolving waste disposal technology and methodology to be utilised when it becomes available. This will ensure that any adverse effects that may be experienced by the community will be no more than minor.

[264] As a consequence, the proposal promotes the sustainable management of natural and physical resources and has been granted accordingly.

DATED at Dunedin this 16th day of July 2021.

Allan Cubitt

Independent Hearings Commissioner