

Reply Report

Proposed Otago Regional Policy Statement 2021

12: HAZ - Hazards and Risk

Andrew Maclellan

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1. Introduction

1. This report forms part of a suite of reply reports that have been prepared to sit alongside and explain the “marked up” version of the final recommendations on the proposed Otago Regional Policy Statement (pORPS). The approach to the whole suite is set out in the first report in this series, *Reply Report – Chapter 1: Introduction and General Themes*. Appended to the suite of reports is a consolidated version of the pORPS containing all final recommendations from the reporting officers.
2. This report is the final set of advice on this chapter and is in addition to:
 - a. Section 42A report on Chapter 12: HAZ - Hazards and Risk (27 April 2022)
 - b. First brief of supplement evidence of Andrew Cameron Maclellan: Chapter 12: HAZ - Hazards and Risk (11 October 2022)
 - c. Opening Statement of Andrew Cameron Maclellan: Chapter 12: HAZ - Hazards and Risk (25 April 2023).
3. The Hearing for the Hazards and Risk (HAZ) Chapter was held over two days on the 26th and 27th of April 2023. At the hearing the key matters of contention for the HAZ-NH chapter, in my view, were as follows:
 - a. Management of coastal hazards.
 - b. Infrastructure located in areas subject to natural hazards.
 - c. Amendments to APP6.
 - d. Kaitiaki decision making.
4. For the HAZ-CL chapter:
 - a. HAZ-CL-P14 – Managing contaminated land.
 - b. HAZ-CL-P15 – New contaminated land.
 - c. HAZ-CL-P18 – Waste facilities and services.
 - d. HAZ-CL- M8A – Prioritisation and action plans.
5. This report takes a provision-by-provision approach to addressing these issues and largely builds on the analysis provided within my opening statement at the hearing. It does not address the following provisions because I do not consider there are any additional matters to address as a result of the hearing:
 - a. HAZ-NH:
 - i. Objectives HAZ-NH-O2,
 - ii. Methods HAZ-NH-M3 and HAZ-NH-M5,
 - iii. HAZ-NH-E1, HAZ-NH-PR1, and HAZ-NH-AER1 to AER5.
 - b. HAZ-CL:
 - i. Policies HAZ-CL-P13, HAZ-CL-P16, HAZ-CL-P17

- ii. Methods HAZ-CL-M6, HAZ-CL-M7, HAZ-CL-M8, and HAZ-CL-M9,
 - iii. HAZ-CL-E2, HAZ-CL-PR2, HAZ-CL-AER6, and HAZ-CL-AER7.
6. My previously recommended amendments to those provisions, in addition to my amended recommendations in this report, are incorporated in the Reply Report version of the pORPS attached to this suite of reports.

2. HAZ-NH – Natural hazards

2.1. Management of coastal hazards

2.1.1. Introduction

7. The theme of coastal hazards is discussed in section 12.4.2 of the section 42A report, with my analysis in paragraphs [56] to [60].

2.1.2. Submissions and evidence

8. Ms O’Callaghan supports the submission of Port Otago¹ seeking additional clarity about how coastal hazards are to be identified and managed and in particular which provisions within HAZ-NH chapter apply to coastal hazards.
9. To provide greater clarity as to which provisions apply in the coastal environment and which do not, Ms O’Callaghan supports the submission of Port Otago seeking additional notes be added to policies HAZ-NH-P2, HAZ-NH-P3, and HAZ-NH-P4 to clarify that these policies do not apply to any area also subject to coastal hazard risk, which is to be managed by HAZ-NH-P1A and HAZ-NH-P10. Alternatively, Ms O’Callaghan considers that coastal icons be added to all the provisions within the pORPS that relate to the coastal environment, like the icons used in the Proposed Natural Resource Plan for Wellington.²
10. In my opening statement for the HAZ chapter, I proposed that HAZ-NH-P2, HAZ-NH-P3, and HAZ-NH-P4 could apply to hazards in the coastal environment if they related to ‘non-coastal hazards’ such as earthquake risks. In response to this, at the hearing Ms O’Callaghan maintained her view that HAZ-NH-P1 to HAZ-NH-P4 not apply in the coastal environment at all. To ensure HAZ-NH-P10 managed both ‘coastal hazards’ and ‘non-coastal hazards’, she suggested an additional amendment to HAZ-NH-P10(2) to include ‘and mitigate any other natural hazard risk’, which she considered would adequately manage ‘non-coastal hazards’.
11. Related to this theme, Ms McIntyre for Kāi Tahu ki Otago³ notes that coastal communities such as Karitāne may be affected by a combination of hazards, for example where river flooding, and coastal storm surges come together. In such locations, she suggests that there could be confusion about when HAZ-NH-P3 and HAZ-NH-P4 apply and when the HAZ-NH-P10 approach would be used.

¹ Paragraphs [102]-[11]

² Mary O’Callaghan for Port Otago, para [104]

³ Sandra McIntyre for Kāi Tahu ki Otago, paragraph [141]

2.1.3. Analysis

12. As noted in my opening statement,⁴ I agree in part with the drafting proposed by Ms O’Callaghan. I agree that HAZ-NH-P2, HAZ-NH-P3, and HAZ-NH-P4 do not apply to coastal hazards, as coastal hazards are managed by HAZ-NH-P10. I consider the drafting proposed within my opening statement makes this clear. However, I also retained the view there may be ‘non-coastal hazards’ such as fault lines that are located within the coastal environment. These hazards are to be managed by HAZ-NH-P2, HAZ-NH-P3, and HAZ-NH-P4. In relation to the amendment proposed by Ms O’Callahan at the hearing, my view is that all ‘non-coastal hazards’ should be treated the same regardless of where they are located. I retain the view that the risk-based approach to these hazards set out within HAZ-NH-P2, HAZ-NH-P3, and HAZ-NH-P4 is appropriate. Given this I disagree any amendments are required.
13. In relation to the amendments sought by Ms McIntyre, as set out within my opening statement,⁵ I disagree an amendment is required. I consider this detail is captured in HAZ-NH-P1(2)(c) which requires that coastal hazards are identified in accordance with Policy 24 of the NZCPS. Subclause (h) of Policy 24 requires the effects of climate change to be considered.
14. The HAZ-NH chapter requires that ‘coastal hazards’ are to be identified accordance with Policy 24 of the NZCPS. With respect to these coastal hazards HAZ-NH-P10 will apply.
15. When considering which processes will be included within the identification of coastal hazards, I note that the NZCPS guidance on Policy 24, states:

‘There are a number of potential sources of inundation in the coastal environment, including:

- *storm tides (comprising storm surges, high tides and short-term fluctuations in mean sea level at timescales of seasons to years);*
- *high spring or larger ‘king’ tides*
- *wave set-up and run-up;*
- *short-term fluctuations in mean sea level (seasons to years);*
- *river flooding (which can also be influenced by storm surge and tide conditions);*
- *groundwater (from rising water tables with tidal connectivity);*
- *sea-level rise; and*
- *tsunami (which ride on the back of the sea level at the time of the event).*

Therefore, the combined effect of these sources will need to be considered, including the combined, cumulative effects of sea, river/stream catchment and groundwater influences.’

⁴ Paragraph [11]

⁵ Paragraph [13]–[15]

16. Given this, I consider the identification of coastal hazards will ensure the processes that affect coastal inundation will be taken into account when assessing and managing ‘coastal hazards’.
17. To provide greater certainty as to which hazards are included within the term ‘coastal hazard’, I consider it would be beneficial to include a definition of ‘coastal hazard’ within the pORPS. There is no definition of coastal hazard within either the RMA or the NZCPS. However, the Ministry for the Environment document, ‘Coastal hazards and climate change: Guidance for local government’ includes a definition of coastal hazard as follows:
*Coastal hazard: Subset of natural hazards covering tidal or coastal storm inundation, rising sea level, tsunami or meteorological tsunami inundation, coastal erosion (shorelines or cliffs), rise in groundwater levels from storm tides and sea-level rise (plus associated liquefaction), and salinisation of surface fresh waters and groundwater aquifers.*⁶
18. I consider the inclusion of this definition will clarify the application of HAZ-NH-P1A.

2.1.4. Final recommendation

19. To clarify which provisions apply to coastal hazards and which do not, I recommend HAZ-NH-P1A, HAZ-NH-P1, HAZ-NH-P2, and HAZ-NH-P4 be amended as follows:

HAZ-NH-P1A – Identifying areas subject to coastal hazards

Identify areas that are potentially affected by coastal hazards (including tsunami), giving priority to the identification of areas at high risk of being affected.⁷

HAZ-NH-P1 – Identifying areas subject to natural hazards

For hazards not identified in accordance with HAZ-NH-P1A,⁸ Using the best available information,⁹ identify areas where natural hazards may adversely affect Otago’s people, communities and property, by assessing:

(1) ...

HAZ-NH-P2 – Risk assessments

Within areas identified under HAZ-NH-P1 as being subject to natural hazards, Assess¹⁰ the level of¹¹ natural hazard risk by determining a range of natural hazard event scenarios and their potential consequences in accordance with the criteria set out within APP6.

HAZ-NH-P4 – Existing activities

⁶ Page 249 of Coastal hazards and climate change: Guidance for local government. Accessed at: <https://environment.govt.nz/assets/Publications/Files/coastal-hazards-guide-final.pdf>

⁷ 00301.047 Port Otago

⁸ 00301.047 Port Otago

⁹ 00139.194 DCC

¹⁰ 00236.085 Horticulture NZ

¹¹ 00138.145 QLDC

In areas identified under HAZ-NH-P1 as subject to natural hazards¹² Reduce existing natural hazard risk to a tolerable or acceptable level¹³ by:

...

Note: HAZ-NH-P1, HAZ-NH-P2, and HAZ-NH-P4 are assessed in full below, this recommendation only relates to whether the policies apply to coastal hazards or not.

20. I recommend a new definition of 'coastal hazard' as follows:

means a subset of natural hazards covering tidal or coastal storm inundation, rising sea level, tsunami or meteorological tsunami inundation, coastal erosion (shorelines or cliffs), rise in groundwater levels from storm tides and sea-level rise (plus associated liquefaction), and salinisation of surface fresh waters and groundwater aquifers.¹⁴

21. In terms of s32AA, I consider the suggested amendments setting out which provisions apply to coastal hazards, and which apply to other hazards will be more efficient and effective in achieving both HAZ-NH-O1 and HAZ-NH-O2. I consider they will create greater clarity as to which management approach will be used.

2.2. HAZ-NH-O1 – Natural Hazards

2.2.1. Introduction

22. HAZ-NH-O1 is discussed in section 12.4.3.2 of the section 42A report, with my analysis in paragraphs [71] to [73].

23. The recommended version of this provision currently reads:¹⁵

HAZ-NH-O1 – Natural hazards

Levels of risks (in relation to natural hazards)¹⁶ to people, communities and property from natural hazards within Otago are maintained where they are acceptable, and managed to ensure they¹⁷ do not exceed a tolerable level.

2.2.2. Submissions and evidence

24. Mr Place for QLDC¹⁸ seeks minor amendments to HAZ-NH-O1 to remove the phrase '(in relation to natural hazards)' as he considers these words are superfluous in relation to a set of provisions that specifically addresses natural hazards.

¹² 00301.047 Port Otago

¹³ 00138.149 QLDC

¹⁴ 00301.047 Port Otago

¹⁵ This version includes the recommendations from the hearing reports prepared under s42A of the RMA, all supplementary evidence, and the opening statements

¹⁶ 00138.145 QLDC, Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

¹⁷ 00138.142 QLDC

¹⁸ Luke Place for QLDC, para [3.1]-[3.3].

25. Ms McIntyre for Kai Tahu ki Otago¹⁹ seeks to delete ‘are maintained where they are acceptable, and managed’, as she considers it will improve clarity and consistency.

2.2.3. Analysis

26. I agree that the amendment sought by Mr Place increases the readability of the objective. Within the s42A report²⁰ I noted that term ‘risk’ is used extensively throughout the pORPS in a range of contexts. Given this, I considered it was appropriate that the definition of ‘risk’ be limited to use within the context of natural hazard management to avoid any unintended consequences. I also recommended that where ‘risk’ was used within the HAZ-NH chapter, the following addition was also included ‘*risk (in relation to natural hazards)*’. I am now of the view that the definition of ‘risk’ is sufficiently clear that it only applies within the context of natural hazard management and additional references in the HAZ-NH chapter are not required.

27. I disagree the amendment sought by Ms McIntyre is required. I consider it is important that ‘acceptable risks are maintained’, as without this amendment there is no direction within the objective seeking to maintain risk levels below a tolerable level.

2.2.4. Final recommendation

28. My final recommended amendments to the notified version of the pORPS are:

HAZ-NH-O1 – Natural hazards

~~Levels of risk~~ Risks²¹ to people, communities and property from natural hazards within Otago are maintained where they are acceptable, and managed to ensure they²² do not exceed a tolerable level.

29. I consider all references to ‘*risk (in relation to natural hazards)*’ can be replaced by ‘*risk*’

30. In terms of s32AA, I consider that the amendments to the objective are minor, but better to the outcome sought by the objective. As such, I consider no Section 32AA assessment is required.

2.3. HAZ-NH-P1 – Identifying areas subject to natural hazards

2.3.1. Introduction

31. HAZ-NH-P1 is discussed in section 12.4.5.2 of the section 42A report, with my analysis in paragraphs [88] to [92].

32. The recommended version of this provision currently reads:²³

HAZ-NH-P1 – Identifying areas subject to natural hazards

¹⁹ Paragraph [154]

²⁰ Paragraph [26] of the Hazards and risk s42A report

²¹ 00138.145 QLDC

²² 00138.142 QLDC

²³ This version includes the recommendations from the hearing reports prepared under s42A of the RMA, all supplementary evidence, and the opening statements

For hazards not identified in accordance with HAZ-NH-P1A²⁴ Using the best available information,²⁵ identify areas where *natural hazards* may adversely affect Otago’s people, communities and property, by assessing:

- (1) the hazard type and characteristics,
- (2) multiple and cascading hazards, where present,
- (3) any cumulative *effects*,
- (4) any effects of climate change,
- (5) the likelihood of an event occurring using the best available information,²⁶ and
- (6) any other exacerbating factors.

2.3.2. Submissions and evidence

33. Mr Place supports the submission of QLDC seeking amendments to HAZ-NH-P1 to ensure that the direction accurately reflects the advice from GNS Science²⁷ that HAZ-NH-P1 is a guide for risk assessments.²⁸ In particular, he supports amendments to clause (5) as suggest that a single likelihood is sufficient for assessing natural hazard risk, as follows:

- (5) the likelihood of a representative range of at least three hazard scenarios with varying likelihoods of an event occurring including a high, medium and maximum credible event using the best available information, and

2.3.3. Analysis

34. I agree in part with the amendment supported by Mr Place. I agree that APP6 requires more than one event to be considered. However, I disagree that the policy needs to go into the detail proposed by Mr Place. I consider the process of identifying natural hazard risk is set out in APP6 and does not need to be repeated in the policy. Instead, I consider clause (5) should be amended to highlight that APP6 requires more than one hazard scenario to be assessed. The detail as to how this assessment is to be undertaken is then left to APP6.

2.3.4. Final recommendation

35. My final recommended amendments to the notified version of the pORPS are:

HAZ-NH-P1 – Identifying areas subject to *natural hazards*

²⁴ 00301.047 Port Otago

²⁵ 00139.194 DCC

²⁶ 00139.194 DCC

²⁷ Page 2 of the GNS advice attached as Appendix A to the HAZ – Hazards and risks S42A Report

²⁸ Luke Place for QLDC, para [4.1]-[4.7]

For hazards not identified in accordance with HAZ-NH-P1A,²⁹ Using the best available information,³⁰ identify areas where natural hazards may adversely affect Otago's people, communities and property, by assessing:

- (1) the hazard type and characteristics,
- (2) *multiple and cascading hazards*, where present,
- (3) any cumulative *effects*,
- (4) any *effects of climate change*,
- (5) the likelihood of different hazard scenarios occurring using the best available information,³¹ and
- (6) any other exacerbating factors.

36. In terms of s32AA, I consider the change is minor, but better to articulate how the policy is to be interpreted and is therefore more effective in achieving HAZ-NH-O1.

2.4. HAZ-NH-P2 – Risk assessments

2.4.1. Introduction

37. HAZ-NH-P2 is discussed in section 12.4.6.2 of the section 42A report, with my analysis in paragraphs [104] to [114].

38. The recommended version of this provision currently reads:³²

HAZ-NH-P2 – Risk assessments

Within areas identified under HAZ-NH-P1 as being subject to natural hazards, Assess³³ the level of³⁴ natural hazard risk by determining a range of natural hazard event scenarios and their potential consequences in accordance with the criteria set out within APP6.

2.4.2. Submissions and evidence

39. Mr Place for QLDC³⁵ considers the amendments to HAZ-NH-P2 imply that all areas subject to natural hazards will be known and therefore that natural hazard risk will only be assessed in areas that are specifically known (through the application of HAZ-NH-P1) to be subject to a natural hazard. He does not consider this is realistic given the rapidly changing nature of natural hazards, and climate change. He notes that activities may conceivably be proposed in locations that are subject to hazards that have not been identified as directed by HAZ-NH-P1.

²⁹ 00301.047 Port Otago

³⁰ 00139.194 DCC

³¹ 00139.194 DCC

³² This version includes the recommendations from the hearing reports prepared under s42A of the RMA, all supplementary evidence, and the opening statements

³³ 00236.085 Horticulture NZ

³⁴ 00138.145 QLDC

³⁵ Luke Place for QLDC, para [4.8]-[4.12]

40. Related to HAZ-NH-P2, at the hearing Commissioner Sullivan questioned whether new definitions for acceptable, tolerable, and significant risk needed to be added to the pORPS which would provide a link between these terms and the assessment within APP6.

2.4.3. Analysis

41. I agree with Mr Place that not all areas subject to natural hazards will be known. In my view, HAZ-NH-P1 is not a static policy, its application will change as the understanding of where and how natural hazards may affect communities evolves over time. Once an area is identified as being subject to natural hazard risk, then HAZ-NH-P2 applies.

42. In relation to the question from Commissioner Sullivan, I agree that the provisions within the HAZ-NH chapter should more explicitly state that acceptable, tolerable, and significant levels of natural hazard risk are to be identified in accordance with APP6. Rather than including this within a definition, I consider this should be included within HAZ-NH-P2. I consider an amendment to HAZ-NH-P2 will make it clear that the references to acceptable, tolerable, and significant level of risk within the subsequent policies (HAZ-NH-P3 and HAZ-NH-P4) are referring to the assessment within APP6. As such, I have recommended an amendment to HAZ-NH-P2 to reflect this.

2.4.4. Final recommendation

43. My final recommended amendments to the notified version of the pORPS are:

HAZ-NH-P2 – Risk assessments

Within areas identified under HAZ-NH-P1 as being subject to *natural hazards*, Assess³⁶ the level of³⁷ *natural hazard risk as significant, tolerable, or acceptable*³⁸ by determining a range of *natural hazard* event scenarios and their potential consequences in accordance with the criteria set out within APP6.

44. In terms of s32AA, I consider the change is minor, but will better articulate the link between HAZ-NH-P2 and APP6 and is therefore more effective in achieving HAZ-NH-O1

2.5. HAZ-NH-P3 – New activities

2.5.1. Introduction

45. HAZ-NH-P3 is discussed in section 12.4.7.2 of the section 42A report, with my analysis in paragraphs [130] to [138].

46. The recommended version of this provision currently reads:³⁹

HAZ-NH-P3 – New activities

³⁶ 00236.085 Horticulture NZ

³⁷ 00138.145 QLDC

³⁸ 0138.145 QLDC

³⁹ This version includes the recommendations from the hearing reports prepared under s42A of the RMA, all supplementary evidence, and the opening statements

Once the level of *natural hazard risk* associated with an activity has been determined in accordance with HAZ-NH-P2, manage new activities to achieve the following outcomes:

- (1) when the *natural hazard risk* is significant, the activity is avoided,
- (2) when the *natural hazard risk* is tolerable, manage the level of *risk* so that it does not ~~become significant~~ exceed tolerable⁴⁰, and
- (3) when the *natural hazard risk* is acceptable, maintain the level of *risk*.⁴¹

2.5.2. Submissions and evidence

47. Several parties⁴² seek amendments to HAZ-NH-P3(1) to ensure that the requirement to avoid significant natural hazard risk does not unreasonably restrict activities such as nationally or regionally significant infrastructure. These parties suggested a number of different drafting solutions to resolve this concern, including:

- a. Ms McLeod for Transpower supports an amendment to HAZ-NH-P3(1) to focus the policy on avoiding the significant risk.⁴³
- b. Ms McMinn for Waka Kotahi supports an exclusion from the whole of HAZ-NH-P3 for nationally significant infrastructure.⁴⁴
- c. Ms Hunter for Contact Energy supports an amendment to HAZ-NH-P3(1) to require that for nationally significant infrastructure that has a functional need or operational need for its location, the risk is to be appropriately managed.⁴⁵

2.5.3. Analysis

48. In relation to the amendment supported by Ms McLeod, I agree that the intent of the clause is to avoid significant natural hazard risk. In my view, this is what the notified version of HAZ-NH-P3(1) will achieve. The chapeau of HAZ-NH-P3 requires that the level of natural hazard risk associated with an activity needs to be determined in accordance with HAZ-NH-P2. The process of determining the natural hazard risk requires a consideration of a range of matters including the mitigation measures proposed as part of determining the risk. HAZ-NH-P3(1) then states, if the natural hazard risk is significant, the activity is avoided. In my view it is clear that it is the significant risk associated with the activity that is being avoided.

49. I accept that the drafting supported by Ms McLeod provides greater certainty as to the application of HAZ-NH-P3(1). But fundamentally I think both versions of the clause will achieve the same result, significant natural hazard risks are avoided. Given the drafting supported by Ms McLeod provides greater certainty, I support this amendment.

⁴⁰ 00138.148 QLDC

⁴¹ Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

⁴² Contact Energy, Transpower, Waka Kotahi, Oceana Gold

⁴³ Ainsley McLeod for Transpower, para [8.82]-[8.86]

⁴⁴ Julie McMinn for Waka Kotahi, para [7.3]-[7.5]

⁴⁵ Claire Hunter for Contact Energy, para [12.1]-[12.5]

50. In relation to the amendments supported by Ms McMinn and Ms Hunter seeking exclusions from HAZ-NH-P3(1), as set out in the s42A⁴⁶ report, the emphasis in HAZ-NH-P3(1) is on the level of risk associated with an activity. If the natural hazard risk is significant, the activity is to be avoided. If the activity is undertaken in an area of high risk but given the nature of the activity or the mitigation measures proposed and, if the risks associated with the activity are not significant, then the 'avoid' direction does not apply.
51. I retain the view that the implementation of APP6 is unlikely to capture nationally significant infrastructure as Step 2 of APP6 requires quantifying the potential consequences of a natural hazard event, which includes taking into account any mitigation measures proposed. I also note that APP6 has been drafted with two different approaches, one for plan changes or plan review processes, and another for the purposes of consenting. The consequence table⁴⁷ is not designed for individual consenting projects. Note 2 within APP6 states that the list of matters within (1) – (11) within APP6 are the primary considerations for resource consent applications to determine the level of natural hazard consequence. Therefore, when the consequences of a particular application are considered in this qualitative context, taking into account the mitigation measures that will be proposed as part of any naturally significant infrastructure project, I consider APP6 will not prevent the granting of consents for these projects, and therefore I disagree any further amendments are required.
52. If the panel disagrees with my recommendation, and considers additional amendments are required due to the perceived uncertainty associated with implementation of APP6 for infrastructure providers, I consider the drafting provided Ms Hunter for Contact at paragraph [12.1] of her EiC would be the most appropriate. This drafting limits the 'carve out' to clause (1) only and not the whole of the policy, and would only apply to nationally significant infrastructure that has a functional or operational need to locate in a particular place.

2.5.4. Final recommendation

53. My final recommended amendments to the notified version of the pORPS are:

HAZ-NH-P3 – New activities

Once the level of *natural hazard risk* associated with an activity has been determined in accordance with HAZ-NH-P2, manage new activities to achieve the following outcomes:

- (1) significant ~~when the natural hazard risks are avoided~~ ~~is significant, the activity is avoided,~~⁴⁸
- (2) when the *natural hazard risk* is tolerable, manage the level of *risk* so that it does not ~~become significant~~ exceed tolerable,⁴⁹ and

⁴⁶ Paragraph [132]

⁴⁷ Table 7 – Consequence table of APP6

⁴⁸ 00314.044 Transpower

⁴⁹ 00138.148 QLDC

(3) when the *natural hazard risk* is acceptable, maintain the level of *risk*.⁵⁰

54. In terms of s32AA, I consider the change is minor, but better to articulate how clause (3) is to be interpreted and is therefore more effective in achieving HAZ-NH-01.

2.6. HAZ-NH-P4 – Existing activities

2.6.1. Introduction

55. HAZ-NH-P4 is discussed in section 12.4.8.2 of the section 42A report, with my analysis in paragraphs [159] to [167].

56. The recommended version of this provision currently reads:⁵¹

HAZ-NH-P4 – Existing activities

In areas identified under HAZ-NH-P1 as subject to natural hazards⁵² Reduce existing *natural hazard risk* to a tolerable or acceptable level⁵³ by:

- (1) encouraging activities that reduce *risk* (*in relation to natural hazards*),⁵⁴ or reduce community vulnerability,
- ~~(2) restricting activities that increase *risk*, or increase community vulnerability,⁵⁵~~
- (3) managing existing ~~land uses~~ activities⁵⁶ within areas of significant *risk* (*in relation to natural hazards*)⁵⁷ to people, ~~and~~ communities and property,⁵⁸
- (4) encouraging design that facilitates:
 - ~~(a) recovery from *natural hazard events*, or⁵⁹~~
 - (b) relocation to areas of acceptable *risk* (*in relation to natural hazards*),⁶⁰
or
 - (c) reduction of *risk* (*in relation to natural hazards*),⁶¹

⁵⁰ Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

⁵¹ This version includes the recommendations from the hearing reports prepared under s42A of the RMA, all supplementary evidence, and the opening statements

⁵² 00301.047 Port Otago

⁵³ 00138.149 QLDC

⁵⁴ Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

⁵⁵ 00321.077 Te Waihanga

⁵⁶ 00022.022 Graymont NZ

⁵⁷ Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

⁵⁸ 00138.149 QLDC

⁵⁹ 00138.149 QLDC

⁶⁰ Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

⁶¹ Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

- (5) relocating *lifeline utilities*, and facilities for essential and emergency services, away from areas of significant risk (*in relation to natural hazards*),⁶² where appropriate and practicable, and
- (6) enabling development, upgrade, maintenance and operation of *lifeline utilities* and facilities for essential and emergency services.

2.6.2. Submissions and evidence

57. Mr Place supports the submission of QLDC⁶³ seeking a range of amendments to HAZ-NH-P4 including:
- a. Additional clarity about what constitutes a ‘new’ activity as opposed to an ‘existing’ activity.
 - b. Removing the clauses relate to managing existing activities or their future state, and transferring them to HAZ-NH-P3.
 - c. Amending ‘or’ in clause (1) to ‘and’.
 - d. Additional amendments to provide direction on how risk can be reduced, including timeframes and methods, and further detail on what constitutes vulnerable activities, as he notes that most plan users and territorial authorities have little or no experience reducing risk in developed areas and he considers the HAZ-NH Chapter should do more to provide guidance on reducing existing natural hazard risk.
58. At the hearing questions were raised about the management of existing use rights and what ability ORC has in relation to managed retreat under the RMA. This will be addressed in legal submissions.

2.6.3. Analysis

59. In response to the suggestion that the pORPS needs to provide additional clarity as to what constitutes a ‘new’ activity as opposed to an ‘existing’ activity, I consider differentiating a ‘new’ activity from an ‘existing’ activity is not uncommon when applying the provisions of plans and is informed by sections 10 and 20A of the RMA. I do not consider any further amendments are required.
60. I disagree with Mr Place’s proposal to move the clauses in this policy managing existing activities to HAZ-NH-P3. In my view, HAZ-NH-P4 manages existing natural hazard risk, therefore it is important that it manages existing activities and their future states. I do acknowledge that the title to the policy is misleading as the content of the policy is not solely related to ‘existing activities.’ Rather, it is related to ‘existing natural hazard risk’ and therefore I recommend the title of the policy is amended to reflect this.

⁶² Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

⁶³ Luke Place for QLDC, para [5.1]-[5.13]

61. In relation to clause HAZ-NH-P4(1) I retain the view that the policy should encourage activities that reduce risk 'or' reduce community vulnerability.
62. Finally, in relation to the suggestion that amendments are made to HAZ-NH-P4 to include timeframes and methods, and further detail on what constitutes vulnerable activities. As highlighted by Mr Place⁶⁴ no national guidelines exist (as yet) to guide territorial authorities or plan users on how to navigate the complexity associated with managed retreat or managing existing uses to reduce risk. Given this I do not think it is the role of the pORPS to take a lead in providing this guidance in the absence of national guidance.

2.6.4. Final recommendation

63. My final recommended amendments to the notified version of the pORPS are:

HAZ-NH-P4 – Existing natural hazard risk activities⁶⁵

In areas identified under HAZ-NH-P1 as subject to natural hazards⁶⁶ Reduce existing natural hazard risk to a tolerable or acceptable level⁶⁷ by:

- (1) encouraging activities that reduce *risk*, or reduce community *vulnerability*,
- ~~(2) restricting activities that increase *risk*, or increase community vulnerability,⁶⁸~~
- (3) managing existing ~~land uses~~ activities⁶⁹ within areas of significant *risk*⁷⁰ to people, ~~and~~ communities and property,⁷¹
- (4) encouraging design that facilitates:
 - ~~(a) recovery from natural hazard events, or⁷²~~
 - (b) relocation to areas of acceptable *risk*,⁷³ or
 - (c) reduction of *risk*,⁷⁴
- (5) relocating *lifeline utilities*, and facilities for essential and emergency services, away from areas of significant *risk*,⁷⁵ where appropriate and practicable, and
- (6) enabling development, upgrade, maintenance and operation of *lifeline utilities* and facilities for essential and emergency services.

⁶⁴ Paragraph [5.13] of Mr Place's EIC

⁶⁵ 00138.149 QLDC

⁶⁶ 00301.047 Port Otago

⁶⁷ 00138.149 QLDC

⁶⁸ 00321.077 Te Waihanga

⁶⁹ 00022.022 Graymont NZ

⁷⁰ Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

⁷¹ 00138.149 QLDC

⁷² 00138.149 QLDC

⁷³ Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

⁷⁴ Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

⁷⁵ Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

64. In terms of s32AA, I consider the changes better to articulate how the policy is to be interpreted and is therefore more effective in achieving HAZ-NH-O1 and HAZ-NH-O2

2.7. HAZ-NH-P5 – Precautionary approach to natural hazard risk

2.7.1. Introduction

65. HAZ-NH-P5 is discussed in section 12.4.9.2 of the section 42A report, with my analysis in paragraphs [159] to [167].

66. The recommended version of this provision currently reads:⁷⁶

HAZ-NH-P5 – Precautionary approach to *natural hazard risk*

Where the *natural hazard risk*, either individually or cumulatively, is uncertain or unknown, but potentially significant or irreversible, apply a precautionary approach to identifying, assessing and managing that *risk*⁷⁷ by adopting an avoidance or adaptive management response ~~to diminish the risk and uncertainty.~~⁷⁸

2.7.2. Submissions and evidence

67. Ms McEwan supports the submission of the DCC⁷⁹ seeking a range of amendments to HAZ-NH-P5 to remove the use of ‘avoid’ as she considers this will impact on the function of the UFD chapter and the ability to give effect to the NPSUD.

2.7.3. Analysis

68. Ms McEwan does not explain how use of ‘avoid’ within HAZ-NH-P5 will lead to potential impacts on the function of the UFD chapter and the ability to give effect to the NPSUD. In HAZ-NH-P5, adopting an avoidance response is only required where the natural hazard risk is uncertain or unknown but potentially significant or irreversible. I consider that, in this context, avoidance is an appropriate response given the potential impact on people’s health and safety.

2.7.4. Final recommendation

69. I do not recommend any further amendments.

⁷⁶ This version includes the recommendations from the hearing reports prepared under s42A of the RMA, all supplementary evidence, and the opening statements

⁷⁷ Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

⁷⁸ 00138.150 QLDC

⁷⁹ Emily McEwan for DCC, para [21]

2.8. HAZ-NH-P6 – Protecting features and systems that provide hazard mitigation

2.8.1. Introduction

70. HAZ-NH-P6 is discussed in section 12.4.10.2 of the section 42A report, with my analysis in paragraphs [187] to [188].

71. The recommended version of this provision currently reads:⁸⁰

HAZ-NH-P6 – Protecting features and systems that provide hazard mitigation

Protect natural or modified features and systems that contribute to mitigating the effects of natural hazards and climate change.

2.8.2. Submissions and evidence

72. Ms McMinn supports the submission for Waka Kotahi⁸¹ seeking an amendment to HAZ-NH-P6 as follows:

Protect natural or modified features and systems that contribute to mitigating the effects of natural hazards and climate change, except where nationally significant infrastructure has a functional or operational need to locate in these areas and the risk is appropriately managed.

73. She notes that word ‘protect’ sets a high threshold to meet if infrastructure has to locate in areas where these features and systems may be affected. During the hearing she provided some examples that she considered may be captured by this policy, including modifying natural catchments and establishing culverts to accommodate additional stormwater from a state highway development or establishing groynes in rivers to protect bridges. She considers that these activities would not protect natural or modified features and systems as required by HAZ-NH-P6.

2.8.3. Analysis

74. HAZ-NH-P6 requires protecting natural or modified features and systems that contribute to mitigating the effects of natural hazards and climate change. In my view, the examples provided by Ms McMinn such as the addition of groynes to protect bridges and increasing the capacity of a natural catchment would be supported by this policy, not prevented. As such I disagree with the amendment she seeks.

75. However, to make it clearer that the intention of the policy is not to protect the natural state of the natural or modified feature or system but to protect the ability of the feature or system to mitigate the effects of natural hazards and climate change, I recommend amendment to make it clear this is the case.

⁸⁰ This version includes the recommendations from the hearing reports prepared under s42A of the RMA, all supplementary evidence, and the opening statements

⁸¹ Julie McMinn for Waka Kotahi, para [7.6]-[7.11]

2.8.4. Final recommendation

76. My final recommended amendments to the notified version of the pORPS are:

HAZ-NH-P6 – Protecting features and systems that provide hazard mitigation

Protect the ability of⁸² natural or modified features and systems ~~that contribute~~⁸³ to mitigate ~~mitigating~~⁸⁴ the *effects of natural hazards and climate change*.

77. In terms of s32AA, I consider the change is minor and better articulates how the policy is to be interpreted and is therefore more effective in achieving HAZ-NH-O1 and HAZ-NH-O2.

2.9. HAZ-NH-P7 – Mitigating natural hazards

2.9.1. Introduction

78. HAZ-NH-P7 is discussed in section 12.4.11.2 of the section 42A report, with my analysis in paragraphs [200] to [209].

79. The recommended version of this provision currently reads:⁸⁵

HAZ-NH-P7 – Mitigating natural hazards

Prioritise *risk (in relation to natural hazards)*⁸⁶ management approaches that reduce the need for *hard protection structures* or similar engineering interventions, and provide for *hard protection structures* only when:

~~(1) *hard protection structures* are essential to manage *risk* to a level the community is able to tolerate,~~⁸⁷

(1A) the following apply:⁸⁸

~~(2)(a)~~ there are no reasonable alternatives that result in reducing the *risk (in relation to natural hazards)*⁸⁹ exposure,

~~(3)(b)~~ *hard protection structures* would not result in an increase in *risk (in relation to natural hazards)*⁹⁰ to people, communities and property,

⁸² 00139.199 DCC

⁸³ 00139.199 DCC

⁸⁴ 00139.199 DCC

⁸⁵ This version includes the recommendations from the hearing reports prepared under s42A of the RMA, all supplementary evidence, and the opening statements

⁸⁶ Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

⁸⁷ 00301.050 Port Otago

⁸⁸ Clause 16(2), Schedule 1, RMA

⁸⁹ Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

⁹⁰ Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

including displacement of risk *(in relation to natural hazards)*⁹¹ off-site,

~~(4)~~(c) the adverse *effects* of the *hard protection structures* can be adequately managed, and

~~(5)~~(d) the mitigation is viable in the reasonably foreseeable long term or provides time for future adaptation methods to be implemented, or

~~(6)~~(2) the *hard protection structure* protects a *lifeline utility*, or a facility for essential or emergency services.

2.9.2. Submissions and evidence

80. Mr Brass supports the submission of DOC⁹² seeking an amendment to notified HAZ-NH-P7(2) (in the version above, HAZ-NH-P7(1A)(a)) as follows:

(2) *there are no reasonable alternatives that ~~result in reducing~~ manage or reduce the risk exposure to a level the community is able to tolerate*

81. He notes that this clause sets a significantly lower standard than the notified clause (1). The degree of necessity drops from ‘essential’ to ‘no reasonable alternatives’, and the required benefit drops from ‘manage risk to a level the community is able to tolerate’ to ‘reducing the risk exposure’. He notes that there is no quantitative or qualitative requirement for the reduction in risk exposure – any reduction at all would comply with this clause, no matter how slight, and no matter whether it makes any difference to the community’s ability to tolerate the risk.

82. Ms O’Callahan supports the submission of Port Otago⁹³ seeking an amendment to notified HAZ-NH-P7(3) (in the version above, HAZ-NH-P7(1A)(b)) to provide for hard protection structures that result in a ‘more than minor’ increase in risk. At the hearing Ms O’Callahan noted that it is very uncommon that the construction of a hard protection structure would have no increase in the natural hazard risk, but when balanced against the overall benefit of the risk reduction, she suggests this is appropriate.

83. Ms McIntyre supports the submission of Kāi Tahu ki Otago⁹⁴ seeking that notified HAZ-NH-P7(4) (in the version above, HAZ-NH-P7(1A)(c)) provide greater clarity about adverse effects that must be considered. It is her view that where there is a clear acknowledgement that a particular effect is relevant, it would be more helpful, efficient and effective to include reference to that effect in the policy than to rely on general reference to adverse effects. She also notes that this list could be non-exclusive to avoid inadvertently limiting consideration of other effects.

⁹¹ Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

⁹² Murray Brass for DOC, para [209]-[216]

⁹³ Mary O’Callahan for Port Otago, para [108]

⁹⁴ Sandra McIntyre for Kāi Tahu ki Otago, para [152]-[153]

2.9.3. Analysis

84. Having considered this policy further, I agree with Mr Brass that my amended drafting means that there is no quantitative or qualitative requirement for the reduction in risk exposure. As such I agree with his suggested amendment.
85. In relation to the amendment supported by Ms O’Callahan, I note that this is the same requirement that is included in the current RPS in Policy 4.1.10(c)⁹⁵ and through the development of the pORPS was not flagged as a provision that had caused issues in implementation. I also note that the redrafted version of the policy sets out two separate tests for hard protection structures:
- a. Clause (2) provides an unqualified ability for establishing hard protection structures that protect lifeline utilities or facilities for essential or emergency services.
 - b. Clause (1A) then provides a qualified ability for establishing other hard protection structures, and sub-clauses (a) to (d) set out the qualifying matters.
86. When considering how hard protection structures proposed by Port Otago would be considered under this policy, I note that ‘lifeline utility’ is defined in the pORPS as:
Utilities provided by those entities listed in Schedule 1 of the Civil Defence Emergency Management Act, 2002.
87. Schedule 1 Lifeline utilities includes:
The port company (as defined in section 2(1) of the Port Companies Act 1988) that carries out port-related commercial activities at Auckland, Bluff, Port Chalmers, Gisborne, Lyttelton, Napier, Nelson, Picton, Port Taranaki, Tauranga, Timaru, Wellington, Westport, or Whangarei.
88. Given this, hard protection structures protecting port related activities at Port Chalmers will be subject to clause (2) and will not be required to achieve the requirements of clause (1A).
89. Turning to Ms O’Callahan’s suggested amendment, I agree that requiring a hard protection structure to have no increase in risk including displacement of risk off-site is quite onerous and could unnecessarily prevent the creation of a hard protection structure that achieved the other requirement within HAZ-NH-P7 sub-clauses (a) to (d). As such, I support this amendment.

⁹⁵ Policy 4.1.10 of the RPS 2019 reads:

Give preference to risk management approaches that reduce the need for hard protection structures or similar engineering interventions, and provide for hard protection structures only when all of the following apply:

- a) Those measures are essential to reduce risk to a level the community is able to tolerate;*
- b) There are no reasonable alternatives that result in reducing the risk exposure;*
- c) It would not result in an increase in risk to people and communities, including displacement of risk off-site;*
- d) The adverse effects can be adequately managed; e) The mitigation is viable in the reasonably foreseeable long term.*

90. In relation to the amendment sought by Ms McIntyre, I remain of the view that this addition is not necessary. I consider the relevant adverse effects of the hard protection structures can be considered and managed on a case-by-case basis.

2.9.4. Final recommendation

91. My final recommended amendments to the notified version of the pORPS are:

HAZ-NH-P7 – Mitigating *natural hazards*

Prioritise *risk* management approaches that reduce the need for *hard protection structures* or similar engineering interventions, and provide for *hard protection structures* only when:

~~(1) *hard protection structures* are essential to manage *risk* to a level the community is able to tolerate,~~⁹⁶

(1A) the following apply:⁹⁷

~~(2a)~~ there are no reasonable alternatives that ~~result in reducing~~ manage or reduce the *risk* exposure to a level the community is able to tolerate,⁹⁸

~~(3b)~~ *hard protection structures* would not result in ~~an~~ a more than minor⁹⁹ increase in *risk* to people, communities and property, including displacement of *risk* off-site,

~~(4c)~~ the adverse *effects* of the *hard protection structures* can be adequately managed, and

~~(5d)~~ the mitigation is viable in the reasonably foreseeable long term or provides time for future adaptation methods to be implemented, or

(6) the *hard protection structure* protects a *lifeline utility*, or a facility for essential or emergency services.

92. In terms of s32AA, I consider the change is minor and better articulates how the policy is to be interpreted and is therefore more effective in achieving HAZ-NH-O1 and HAZ-NH-O2.

2.10. HAZ-NH-P8 – Lifeline utilities and facilities for essential or emergency services

2.10.1. Introduction

93. HAZ-NH-P8 is discussed in section 12.4.12.2 of the section 42A report, with my analysis in paragraphs [218] to [221].

⁹⁶ 00301.050 Port Otago

⁹⁷ Clause 16(2), Schedule 1, RMA

⁹⁸ 00137.130 DOC

⁹⁹ 00301.050 Port Otago

94. The recommended version of this provision currently reads:¹⁰⁰

HAZ-NH-P8 – Lifeline utilities and facilities for essential or emergency services

Locate, ~~relocate~~,¹⁰¹ and design *lifeline utilities* and facilities for essential or emergency services to:

- (1) maintain their ability to function to the fullest extent possible, during and after *natural hazard* events, and
- (2) take into account their operational co-dependence with other *lifeline utilities* and essential services to ensure their effective operation.

2.10.2. Submissions and evidence

95. Ms Styles¹⁰² supports the submission of Manawa Energy seeking a new clause be added to the policy as follows:

(3) recognise that there can be a functional and operational need for lifeline utilities and facilities for essential or emergency services to locate in areas of natural hazard risk in some circumstances.

2.10.3. Analysis

96. I disagree an amendment is required. In my view this policy does not restrict lifeline utilities and facilities from locating in areas of natural hazard risk. The intent of the policy is that if they are located in an area of natural hazard risk, that they comply with clauses (1) and (2).

2.10.4. Final recommendation

97. I do not recommend any further amendments.

2.11. HAZ-NH-P9 – Protection of hazard mitigation measures, lifeline utilities, and essential or emergency services

2.11.1. Introduction

98. HAZ-NH-P9 is discussed in section 12.4.13.2 of the section 42A report, with my analysis in paragraphs [230] to [233].

99. The recommended version of this provision currently reads:¹⁰³

¹⁰⁰ This version includes the recommendations from the hearing reports prepared under s42A of the RMA, all supplementary evidence, and the opening statements

¹⁰¹ 00138.149 QLDC

¹⁰² Stephanie Styles for Manawa Energy, page 51

¹⁰³ This version includes the recommendations from the hearing reports prepared under s42A of the RMA, all supplementary evidence, and the opening statements

HAZ-NH-P9 – Protection of hazard mitigation measures, lifeline utilities, and essential or emergency services¹⁰⁴

Protect the *functional needs and operational*¹⁰⁵ *needs* of hazard mitigation measures, *lifeline utilities*, and essential or emergency services, including by:

- (1) avoiding significant adverse *effects* on those measures, utilities or services,
- (2) avoiding, and only where avoidance is not practicable, remedying or mitigating other adverse *effects* on those measures, utilities or services,
- (3) maintaining access to those measures, utilities or services for maintenance and operational purposes, and
- (4) restricting the establishment of other activities that may result in reverse sensitivity *effects* on those measures, utilities or services.

2.11.2. Submissions and evidence

100. Ms McIntyre for Kāi Tahu ki Otago¹⁰⁶ notes that the scope of policy relates to the protection of lifeline utilities and facilities for essential or emergency services and is not clearly limited to natural hazard management measures. She has not recommended specific amendments to address this. She considers it would be desirable to ensure the scope of the policy is clearly confined to hazard management.

101. Ms Collie for Matakanui Gold Limited¹⁰⁷ notes that there is recognition within the pORPS, including HAZ-NH-P9, for the functional needs and operational needs for activities such as regionally significant infrastructure but not for mining. She considers this recognition is disproportionate to the lack of recognition for mining.

2.11.3. Analysis

102. I disagree any further amendments are required. I consider the policy protects the functional needs and operational needs of hazard mitigation measures, lifeline utilities, and essential or emergency services as these are required in order to achieve both HAZ-NH-O1 and HAZ-NH-O2. I do not agree that a similar provision is required within the HAZ-NH chapter to provide for mining activities.

2.11.4. Final recommendation

103. I do not recommend any further amendments.

¹⁰⁴ 00139.202 DCC

¹⁰⁵ 00313.026 Queenstown Airport

¹⁰⁶ Sandra McIntyre for Kāi Tahu ki Otago, para [155]

¹⁰⁷ Anita Collie for Matakanui Gold Limited, para [5.4]

2.12. HAZ-NH-P10 – Coastal hazards

2.12.1. Introduction

104. HAZ-NH-P10 is discussed in section 12.4.14.2 of the section 42A report, with my analysis in paragraphs [242] to [244]. HAZ-NH-P10 is also discussed in my brief of supplementary evidence (11 October 2022).

105. The recommended version of this provision currently reads:¹⁰⁸

HAZ-NH-P10 – Coastal hazards

~~In addition to HAZ-NH-P1 to HAZ-NH-P9 above, on~~¹⁰⁹ any *land* that is potentially affected by coastal hazards over at least the next 100 years:

- (1) avoid increasing the *risk (in relation to natural hazards)*¹¹⁰ of social, environmental and economic harm from coastal hazards,
- (2) ensure no *land* use change or redevelopment occurs that would increase the *risk (in relation to natural hazards)*¹¹¹ to people and communities from that coastal hazard,
- (3) encourage *land* use change or redevelopment that reduces the *risk (in relation to natural hazards)*¹¹² from that coastal hazard, ~~and~~
- (4) ensure decision making about the nature, scale and location of activities considers the ability of Otago’s people and communities to adapt to, or mitigate, the *effects of*, sea level rise and *climate change*, ~~and~~
- (5) apply HAZ-NH-P5 to HAZ-NH-P9.¹¹³

2.12.2. Submissions and evidence

106. Ms McEwan for DCC¹¹⁴ proposes a range of amendments to HAZ-NH-P10 to remove the use of “avoid” as she considers this will impact on the function of the UFD chapter and the ability to give effect to the NPSUD.

2.12.3. Analysis

107. Ms McEwan does not explain how use of ‘avoid’ within HAZ-NH-P10 will lead to potential impacts on the function of the UFD chapter and the ability to give effect to the NPS-UD. I note that the policy is give effect to Policy 25 NZCPS. Finally, I consider the requirement

¹⁰⁸ This version includes the recommendations from the hearing reports prepared under s42A of the RMA, all supplementary evidence, and the opening statements

¹⁰⁹ 00301.051 Port Otago

¹¹⁰ Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

¹¹¹ Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

¹¹² Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

¹¹³ Clause 16(2), Schedule 1, RMA

¹¹⁴ Emily McEwan for DCC, para [21]

to avoid coastal hazard risks is an important consideration when planning for urban development.

108. Finally, as set out in the assessment of HAZ-NH-O1 above, I consider the addition of ‘(in relation to natural hazards)’ is not necessary. Therefore, I recommended consequential amendments are made to clauses (1), (2), and (3) of HAZ-NH-P10 reflecting this change.

2.12.4. Final recommendation

109. My final recommended amendments to the notified version of the pORPS are:

HAZ-NH-P10 – Coastal hazards

~~In addition to HAZ-NH-P1 to HAZ-NH-P9 above, on~~¹¹⁵ any *land* that is potentially affected by *coastal hazards* over at least the next 100 years:

- (1) avoid increasing the *risk* of social, environmental and economic harm from *coastal hazards*,
- (2) ensure no *land* use change or redevelopment occurs that would increase the *risk* to people and communities from that *coastal hazard*,
- (3) encourage *land* use change or redevelopment that reduces the *risk* from that *coastal hazard*, ~~and~~
- (4) ensure decision making about the nature, scale and location of activities considers the ability of Otago’s people and communities to adapt to, or mitigate, the *effects* of, sea level rise and *climate change*, ~~and~~
- (5) apply HAZ-NH-P5 to HAZ-NH-P9.¹¹⁶

2.13. HAZ-NH-P11 – Kaitiaki decision making

2.13.1. Introduction

110. HAZ-NH-P11 is discussed in section 12.4.15.2 of the section 42A report, with my analysis in paragraph [253].

111. The recommended version of this provision currently reads:¹¹⁷

~~**HAZ-NH-P11 – Kaitiaki decision making**~~

~~Recognise and provide for the role of Kāi Tahu as kaitiaki over *wāhi tūpuna*, Māori reserves and freehold land that is susceptible to *natural hazards* by involving *mana whenua* in decision making and management processes.~~¹¹⁸

HAZ-NH-P11 Kāi Tahu rakatirataka

Recognise the rakatirataka of Kāi Tahu by:

¹¹⁵ 00301.051 Port Otago

¹¹⁶ Clause 16(2), Schedule 1, RMA

¹¹⁷ This version includes the recommendations from the hearing reports prepared under s42A of the RMA, all supplementary evidence, and the opening statements

¹¹⁸ 00310.011 The Telecommunications Companies

- (a) enabling mana whenua to lead approaches on the management of natural hazards affected native reserves, and Māori land; and
- (b) including Kāi Tahu in decision-making on the management of natural hazards affecting the values of wāhi tupuna.¹¹⁹

2.13.2. Submissions and evidence

- 112. Ms McIntyre for Kāi Tahu ki Otago¹²⁰ proposes an amendment to the notified version of HAZ-NH-P11. She notes that the intent of the policy was to provide for rakatirataka in respect to decision-making on Māori land susceptible to natural hazards. She agrees that the policy as notified did not make its intent sufficiently clear. Within her evidence she proposes the reinstatement of a modified version of the policy. At the hearing Ms McIntyre acknowledged the discussion we had been having prior to the hearing and at the hearing she supported the modified version of the policy I proposed in my opening statement.
- 113. During the hearing, it was questioned whether the direction within the policy that enables mana whenua to lead approaches on the management of natural hazards risks could create a disjoint between the management of native reserves and Māori land and other landholdings, particularly in situations where activities on one site may exacerbate natural hazard risk on other sites.

2.13.3. Analysis

- 114. As highlighted in my opening statement, within the s42A report I recommended deleting HAZ-NH-P11 as I considered there were already pathways for communities, stakeholders, and partners to be included in the assessment of natural hazard risk.
- 115. On reflection, I agree that a redrafted version of HAZ-NH-P11 better aligns with the direction in the MW chapter. Following several discussions with Ms McIntyre, Mr Bathgate, and Ms Stevens I now recommend a two staged approach to the policy.
- 116. This recommended drafting aligns with the management approaches taken for native reserves and Māori land in the MW chapter (MW-P4 and MW-M5) and the management of wāhi tūpuna in the HCV-WT chapter (HCV-WT-O2 and HCV-WT-M3).
- 117. In relation to the potential for disjointed management, in my view this is one policy in a suite of provisions that need to be read together. All the other relevant provisions within the HAZ-NH chapter will also apply to native reserves and Māori land and these will ensure that any management approach adopted will be appropriate. The purpose of this policy is to highlight that when considering which is the most appropriate method to manage natural hazard risk associated with native reserves and Māori land, it is mana whenua who will lead that conversation.
- 118. In relation to the scope of the suggested amendments, I note that Kāi Tahu ki Otago's submission on HAZ-NH-P11 sought amendments to the policy to enable mana whenua to

¹¹⁹ 00226.048 Kāi Tahu ki Otago

¹²⁰ Sandra McIntyre for Kāi Tahu ki Otago, para [145]-[149]
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exercise kaitiakitaka by ‘involving’ them in decision making and management processes¹²¹. In my view, the recommended amendments set out above go beyond the scope within Kāi Tahu ki Otago’s submission point on HAZ-NH-P11. However, the submission on the pORPS generally sought recognition of Kāi Tahu ki Otago’s rakatirataka, and specifically sought amendments to MW-P4 to enable Kāi Tahu to protect, develop and use land and resources within native reserves.¹²²

119. Given this, I consider the amendments suggested above can be made under the scope provided generally within the Kāi Tahu ki Otago submission and as a consequential amendment to the relief sought within MW-P4.

2.13.4. Final recommendation

120. My final recommended amendments to the notified version of the pORPS are:

HAZ-NH-P11 Kāi Tahu rakatirataka

Recognise and provide for the rakatirataka of Kāi Tahu by:

- (1) enabling *mana whenua* to lead approaches on the management of *natural hazard risks* affecting native reserves and *Māori land*, and
- (2) including Kāi Tahu in decision-making on the management of *natural hazard risks* affecting the values of *wāhi tūpuna*.¹²³

121. In terms of section 32AA, I consider the change recommended is a more effective method of achieving HAZ-NH-O1 and also MW-O1. By recognising and providing for the rakatirataka of Kāi Tahu and enabling mana whenua to lead approaches on the management of natural hazards risks affecting native reserves and Māori land, I consider this provides greater clarity as to how the partnership approach between councils and papatipu rūnaka will be achieved in the context on natural hazard management.

2.14. HAZ-NH-M1 – Statement of responsibilities

2.14.1. Introduction

122. Method HAZ-NH-M1 is discussed in section 12.4.14 of the section 42A report, with my analysis in paragraphs [284] to [289].

123. The recommended version of this provision currently reads:¹²⁴

HAZ-NH-M1 – Statement of responsibilities

In accordance with section 62(1)(i)(i) of the RMA-~~1991~~,¹²⁵ the responsibilities for the control of *land* use to avoid or mitigate *natural hazards* or any group of hazards are as follows:

¹²¹ 00226.258 Kāi Tahu ki Otago

¹²² 00226.048 Kāi Tahu ki Otago

¹²³ 00226.048 Kāi Tahu ki Otago

¹²⁴ This version includes the recommendations from the hearing reports prepared under s42A of the RMA, all supplementary evidence, and the opening statements

¹²⁵ Clause 16(2), Schedule 1, RMA

- (1) the Regional Council and *territorial authorities* are both responsible for specifying objectives, policies and methods in *regional plans*¹²⁶ and *district plans* for managing *land* subject to *natural hazard risk*,
- (2) the Regional Council is responsible for:
 - (a) specifying objectives, policies and methods in *regional plans*:
 - (i) in the *coastal marine area*,
 - (ii) in *wetlands, lakes and rivers*, ~~and~~
 - (iii) in, on or under the *beds of rivers and lakes*, and
 - (iv) on land in relation to risk (in relation to natural hazards) reduction,¹²⁸
 - (b) identifying areas in the region subject to *natural hazards* and describing their characteristics as required by Policy HAZ-NH-P1, mapping the extent of those areas in the relevant *regional plan(s)* and including those maps on a *natural hazard* register or database,
 - (c) ~~in the coastal environment~~, identifying the coastal hazards as required by ~~CE-P2(3)(4)~~¹²⁹ HAZ-NH-P1A¹³⁰ in accordance with Policy 24 of the NZCPS, mapping the extent of those areas in the relevant *regional plan(s)* and including those maps on a *natural hazard* register or database, and
 - (d) continually monitor natural hazard risk to understand how levels of natural hazard risk change overtime, and where required, update the natural hazard mapping areas identified in 2(b) and (c) above,¹³¹
- (3) *territorial authorities* are responsible for:¹³²
 - (a) specifying objectives, policies and methods in *district plans* for *land* outside of the areas listed in (2)(a), and
 - (b) mapping or identifying via the *natural hazard* register or database, areas identified in 2(a), (b) and (c) above subject to natural hazards and describing the characteristics and the extent of those areas in the relevant *district plan(s)*.

2.14.2. Submissions and evidence

124. Mr Place for QLDC supports a range of amendments to HAZ-NH-M1 that are set out within the QLDC¹³³ submission. Firstly, he seeks additional clarity in HAZ-NH-M1 regarding the

¹²⁶ Clause 16(2), Schedule 1, RMA

¹²⁷ Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

¹²⁸ 00138.155 QLDC

¹²⁹ 00137.135 DOC

¹³⁰ 00301.047 Port Otago

¹³¹ 00138.160 QLDC

¹³² Clause 16(2), Schedule 1, RMA

¹³³ Luke Place for QLDC, para [6.1]-[6.7]

roles and responsibilities of ORC and territorial authorities. He states that the RMA provides insufficient direction in regard to how regional councils and territorial authorities are to divide roles and responsibilities in regard to natural hazards management and that the pORPS should be the tool used to fill this gap. He states that the formal pORPS hearings process provides the only mechanism to formalise these roles and responsibilities within the pORPS.

125. He also suggests that the 'flexibility' in the method would perpetuate the shortcoming of the method and notes that HAZ-NH-M1(3)(b) sets out that territorial authorities will be responsible for describing the characteristics and extent of areas subject to natural hazards in their district plans. Mr Place considers this is not an efficient or effective requirement.

126. Mr Place also highlights that within the HAZ-NH Section 42A report, I recommended the inclusion of the following into HAZ-NH-M1(2):

(d) continually monitor natural hazard risk to understand how levels of natural hazard risk change over time, and where required, update the natural hazard mapping areas identified in 2(b) and (c) above.

127. However, this change was not incorporated in the s42A version of the pORPS.

2.14.3. Analysis

128. Regarding the roles and responsibilities of ORC and territorial authorities, I retain the view set out within the s42A report that these roles should only be clarified with the agreement of both parties. In my opinion it is not the role of the pORPS to set this out in absence of this agreement. I also note that there is nothing preventing a discussion between the regional council and the territorial authorities to clarify these roles and responsibilities outside the pORPS.

129. In relation to the suggestion that the 'flexibility' in the method would perpetuate the shortcoming of the method, I disagree. I consider HAZ-NH-M1(3)(b) allows territorial authorities to determine how best to identify areas subject to natural hazards. I note that within the two district plans that have recently been reviewed in the Otago region, DCC's 2GP has included natural hazard maps, while the QLDC PDP has largely relied on the ORC's natural hazard database to identify areas subject to natural hazards. I consider this demonstrates the benefits of this flexibility. In my view the requirement within HAZ-NH-M1(3)(b) to map or identify (via the natural hazard register or database) areas identified in clause (2)(a), (b) and (c) makes it clear the identification will be done by ORC, and district plans are required to display this information either via mapping or a link to the natural hazard database.

130. I agree in part that it is efficient for district plans to describe the characteristics and extent of areas subject to natural hazards. I consider the extent of the natural hazard area will be shown via the mapping or by reference to the database, and therefore this is not required to be described within the district plan. However, I consider the district plan should describing the characteristics of the natural hazard areas, even if this a brief description within the introduction to the natural hazards chapter, as it provides plan

users with a greater understanding of the risks associated with the potential natural hazard risk.

131. In relation to the inclusion of a monitoring method into HAZ-NH-M1(2), I agree with Mr Place that not including this in the tracked change version of the pORPS was an oversight and I still support this suggested amendment.

2.14.4. Final recommendation

132. My final recommended amendments to the notified version of the pORPS are:

HAZ-NH-M1 – Statement of responsibilities

In accordance with section 62(1)(i)(i) of the RMA-1991,¹³⁴ the responsibilities for the control of *land* use to avoid or mitigate *natural hazards* or any group of hazards are as follows:

- (1) the Regional Council and *territorial authorities* are both responsible for specifying objectives, policies and methods in *regional plans*¹³⁵ and *district plans* for managing *land* subject to *natural hazard risk*,
- (2) the Regional Council is responsible for:
 - (a) specifying objectives, policies and methods in *regional plans*:
 - (i) in the *coastal marine area*,
 - (ii) in *wetlands, lakes and rivers*, ~~and~~
 - (iii) in, on or under the *beds of rivers and lakes*, and
 - (iv) on land in relation to risk reduction,¹³⁶
 - (b) identifying areas in the region subject to *natural hazards* and describing their characteristics as required by Policy HAZ-NH-P1, mapping the extent of those areas in the relevant *regional plan(s)* and including those maps on a *natural hazard* register or database,
 - (c) ~~in the coastal environment~~, identifying the *coastal hazards* as required by ~~CE-P2(3)(4)~~¹³⁷ HAZ-NH-P1A¹³⁸ in accordance with Policy 24 of the NZCPS, mapping the extent of those areas in the relevant *regional plan(s)* and including those maps on a *natural hazard* register or database, and
 - (d) continually monitoring natural hazard risk to understand how levels of natural hazard risk change overtime, and where required, updating the natural hazard mapping areas identified in 2(b) and (c) above,¹³⁹
- (3) *territorial authorities* are responsible for:¹⁴⁰

¹³⁴ Clause 16(2), Schedule 1, RMA

¹³⁵ Clause 16(2), Schedule 1, RMA

¹³⁶ 00138.155 QLDC

¹³⁷ 00137.135 DOC

¹³⁸ 00301.047 Port Otago

¹³⁹ 00138.160 QLDC

¹⁴⁰ Clause 16(2), Schedule 1, RMA

- (a) specifying objectives, policies and methods in *district plans* for land outside of the areas listed in (2)(a), and
- (b) mapping or identifying via the *natural hazard* register or database, areas identified in 2(a), (b) and (c) above subject to *natural hazards* and describing the characteristics and the extent¹⁴¹ of those areas in the relevant *district plan(s)*.

133. In terms of s32AA, I consider the changes better articulate how the method will implement the policies of the HAZ-NH chapter, and are therefore more effective in achieving HAZ-NH-O1 and HAZ-NH-O2.

2.15. HAZ-NH-M2 – Local authorities

2.15.1. Introduction

134. Method HAZ-NH-M2 is discussed in section 12.4.18 of the section 42A report, with my analysis in paragraphs [306] to [313].

135. The recommended version of this provision currently reads:¹⁴²

HAZ-NH-M2 – Local authorities

Local authorities must work collaboratively to:¹⁴³

- (1) assess the level of *natural hazard risk* in their region or district in accordance with HAZ-NH-P2 and APP6, including by:
 - (a) consulting with communities, stakeholders and partners (Kāi Tahu)¹⁴⁴, including with local authorities in neighbouring regions¹⁴⁵ regarding *risk levels thresholds*, and
 - (b) developing a Risk Table in accordance with Step 3 of APP6 at a district or community scale,
- (2) continue to undertake research on the identification of *natural hazard risk* and amend *natural hazard registers, databases, regional plans*¹⁴⁶ and/or *district plans* as required,
- (3) investigate options for reducing the level of *natural hazard risk* within areas of existing development to a tolerable or lower level, including by managing existing use rights under Sections 10 and 20A of the RMA,
- (4) prepare or amend and maintain their *regional plans*¹⁴⁷ or *district plans* to take into account the *effects of climate change* by:

¹⁴¹ 00138.155 QLDC

¹⁴² This version includes the recommendations from the hearing reports prepared under s42A of the RMA, all supplementary evidence, and the opening statements

¹⁴³ 00138.156 QLDC

¹⁴⁴ 00226.258 Kāi Tahu ki Otago

¹⁴⁵ 00013.015 ECan

¹⁴⁶ Clause 16(2), Schedule 1, RMA

¹⁴⁷ Clause 16(2), Schedule 1, RMA

- (a) using the best relevant *climate change* data and projections to 2115,
- (b) taking a precautionary approach when assessing and managing the *effects of climate change* where there is scientific uncertainty and potentially significant or irreversible *effects*,
- (c) providing for activities that assist to reduce or mitigate the *effects of climate change*, and
- (d) encouraging system *resilience*.

2.15.2. Submissions and evidence

136. Ms Wharfe¹⁴⁸ supports the submission of HortNZ which seeks that HAZ-NH-M2 is amended as follows:

Within five years of the RPS being made operative local authorities must work collaboratively to:

- (1) assess the level of *natural hazard risk* in their region or district in accordance with HAZ-NH-P2 and APP6

...

137. She considers that this amendment would benefit the community as it would provide certainty to applicants and reduce potential costs of undertaking a specific assessment.

138. Mr Place supports the submission of QLDC¹⁴⁹ which seeks additional clarity in regard to the roles of ORC and territorial authorities in implementing HAZ-NH-M2. In particular, he notes that the pORPS does not specify how regularly risk assessments need to be updated to ensure the exemption specified in HAZ-NH-M3(8) and HAZ-NH-M4 remains efficient and effective.

139. Finally, Ms McIntyre¹⁵⁰ supports the submission of Kāi Tahu ki Otago seeking a minor amendment to HAZ-NH-M2 to replace ‘partners’ with ‘Kai Tahu’.

2.15.3. Analysis

140. In response to the amendment supported by Ms Wharfe, I agree that assessing the natural hazard risk across the region in accordance with HAZ-NH-P2 and APP6 will provide a considerable benefit to the community. At the hearing, Mr Payan, Manager of Natural Hazards at ORC, advised that a region wide risk assessment is currently being undertaken by ORC. He noted that the current approach to this assessment is first to screen the natural hazard risks affecting the region. Once completed, the next phase in this work is to develop a prioritised list of higher-risk community areas for potential development of a risk management or adaptation programme. He considered that a 5-year timeframe for assessing the areas of significant risk in the region would be achievable. As such, I support including a 5-year timeframe for this work to occur. Rather than including a 5-year

¹⁴⁸ Lynette Wharfe for HortNZ, para [280]-[290]

¹⁴⁹ Luke Place for QLDC, para [6.8]-[6.10]

¹⁵⁰ Sandra McIntyre for Kāi Tahu ki Otago, para [154]

timeframe for all of HAZ-NH-M2, in my view the timeframe should be linked to HAZ-NH-M2(1) which relates to assessing the level of natural hazard risk in the region.

141. To provide some additional context to the region wide assessment process discussed by Mr Payan at the hearing I note that Mr Payan co-authored the report titled 'Otago Region Natural Hazards Risk Assessment' which was discussed at the 10 May 2023 Safety and Resilience Committee.¹⁵¹ This report states that ORC is undertaking a natural hazard risk assessment work programme, designed as a review and high-level assessment of natural hazard risks for the full Otago region. The purpose of the assessment is to work towards a comprehensive, regional-scale, spatial understanding of Otago's natural hazards and risks. I consider this context is helpful as it demonstrates that this region wide assessment process is already well underway.
142. In relation to how often risk assessments will need to be updated to ensure they are responding to changing circumstances, I note that section 35 of the RMA requires that the ORC monitor and review the RPS, I consider this review cycle is appropriate.
143. Finally, I support the minor amendment to replace 'partners' with 'Kai Tahu' for consistency within the pOPRS.

2.15.4. Final recommendation

144. My final recommended amendments to the notified version of the pORPS are:

HAZ-NH-M2 – Local authorities

*Local authorities must work collaboratively to*¹⁵²

- (1) assess the level of *natural hazard risk* in their region or district in accordance with HAZ-NH-P2 and APP6, including by:
 - (a) consulting with communities, stakeholders and ~~partners~~ Kāi Tahu,¹⁵³ including with local authorities in neighbouring regions¹⁵⁴ regarding risk levels thresholds, ~~and~~
 - (b) developing a Risk Table in accordance with Step 3 of APP6 at a district or community scale, and
 - (c) identifying areas of significant risk within five years of the HAZ-NH chapter being made operative,¹⁵⁵
- (2) continue to undertake research on the identification of *natural hazard risk* and amend *natural hazard registers, databases, regional plans*¹⁵⁶ and/or *district plans* as required,

¹⁵¹ <https://www.orc.govt.nz/media/14219/agenda-src-20230510.pdf>

¹⁵² 00138.156 QLDC

¹⁵³ 00226.258 Kāi Tahu ki Otago

¹⁵⁴ 00013.015 ECan

¹⁵⁵ 00236.088 Horticulture NZ

¹⁵⁶ Clause 16(2), Schedule 1, RMA

- (3) investigate options for reducing the level of *natural hazard risk* within areas of existing development to a tolerable or lower level, including by managing existing use rights under Sections 10 and 20A of the RMA,
- (4) prepare or amend and maintain their *regional plans*¹⁵⁷ or *district plans* to take into account the *effects of climate change* by:
 - (a) using the best relevant *climate change* data and projections to 2115,
 - (b) taking a precautionary approach when assessing and managing the *effects of climate change* where there is scientific uncertainty and potentially significant or irreversible *effects*,
 - (c) providing for activities that assist to reduce or mitigate the *effects of climate change*, and
 - (d) encouraging system *resilience*.

145. In terms of s32AA, I consider the changes better articulate how the method will implement the policies of the HAZ-NH chapter and are therefore more effective in achieving HAZ-NH-O1 and HAZ-NH-O2.

2.16. HAZ-NH-M4 – District plans

2.16.1. Introduction

146. Method HAZ-NH-M4 is discussed in section 12.4.20 of the section 42A report, with my analysis in paragraphs [345] to [352].

147. The recommended version of this provision currently reads:¹⁵⁸

HAZ-NH-M4 – District plans

Territorial authorities must prepare or amend and maintain their *district plans* to:

- (1) achieve policies HAZ-NH-P23¹⁵⁹ to HAZ-NH-P6, ~~and APP6~~ and incorporate the outcomes of the Risk Table established within HAZ-NH-M2(1),¹⁶⁰ on *land* outside the *coastal marine area, beds of lakes and rivers, and wetlands* by managing the location, scale and density of activities that are ~~may be~~¹⁶¹ subject to *natural hazard risk*,
- (2) ~~require implementation of~~ implement¹⁶² *natural hazard risk* reduction measures, including to existing activities in accordance with HAZ-NH-P4,
- (3) protect the role of natural or modified features and systems that provide mitigation from the adverse *effects of natural hazards* in accordance with HAZ-NH-P6,

¹⁵⁷ Clause 16(2), Schedule 1, RMA

¹⁵⁸ This version includes the recommendations from the hearing reports prepared under s42A of the RMA, all supplementary evidence, and the opening statements

¹⁵⁹ 00119.021 Blackthorn Lodge

¹⁶⁰ 00138.158 QLDC

¹⁶¹ 00206.059 Trojan

¹⁶² 00138.158 QLDC

- (4) provide for *hard protection structures* in accordance with HAZ-NH-P7,
- (5) provide for the *functional needs* of hazard mitigation measures, *lifeline utilities*, and essential or emergency services in accordance with HAZ-NH-P8 and HAZ-NH-P9,
- (6) include provisions that require decision makers to apply the precautionary approach set out in HAZ-NH-P5 when considering applications for *resource consent* for activities that will change the use of *land* and which may increase the risk (in relation to natural hazards)¹⁶³ from *natural hazards* within areas subject to *natural hazard risk* that is uncertain or unknown, but potentially significant or irreversible, and
- (7) require a *natural hazard risk* assessment commensurate with the level of risk from the proposed activity¹⁶⁴ be undertaken where an activity requires a plan change or *resource consent* to change the use of *land* ~~which will increase the risk from natural hazards with~~¹⁶⁵ in areas subject to *natural hazards*, and where the application is lodged prior to the *natural hazard risk* assessment required by HAZ-NH-M2(1) being completed, included in the district plan and made operative¹⁶⁶, the *natural hazard risk* assessment must include:
 - (a) an assessment of the level of *natural hazard risk* associated with the proposal in accordance with APP6, and
 - (b) an assessment demonstrating how the proposal will achieve the outcomes set out in Policies HAZ-NH-P3 and HAZ-NH-P4, and
- (8) not require a *natural hazard risk* assessment in accordance with APP6 for resource consent applications, once the *natural hazard risk* assessment required by HAZ-NH-M2(1) has been completed, included in the relevant district plan and made operative, unless otherwise expressly required by the relevant district plan.¹⁶⁷

2.16.2. Submissions and evidence

148. Mr Place for QLDC supports a range of amendments to HAZ-NH-M4 set out within the QLDC¹⁶⁸ submission. He supports deleting HAZ-NH-M4(2) as it requires district plans to implement risk reduction measures, including for existing activities. He notes this is not possible as section 10 of the RMA does not allow district plans to manage existing uses.
149. He also disagrees that ‘implement’ is less onerous than ‘require implementation of’. He considers the words have the same meaning and do not therefore change the application of the amended clause in comparison to the notified version. Finally, he notes that HAZ-NH-P4 is the part of the pORPS that provides for reducing risk, which occurs by managing

¹⁶³ Clause 10(2)(b)(i) of Schedule 1 of the RMA – consequential amendment arising from 00230.013 Forest and Bird

¹⁶⁴ 00236.090 Horticulture NZ

¹⁶⁵ 00138.158 QLDC

¹⁶⁶ 00301.047 Port Otago

¹⁶⁷ 00301.047 Port Otago

¹⁶⁸ Luke Place for QLDC, para [6.11]-[6.15]

existing activities. As such, he considers HAZ-NH-M2(2) should be more directive in the way it addresses existing activities.

150. There was discussion at the hearing about the constraints section 10 of the RMA places on the ability to manage existing activities and, in particular, related to this, the Chair asked that we re-consider HAZ-HN-M4(2) and whether the phrase ‘implement’ natural hazard risk reduction measures, including to existing activities in accordance with HAZ-NH-P4 is appropriate given the legal constraints associated with managing existing use rights.

2.16.3. Analysis

151. On reflection, I agree with Mr Place that HAZ-HN-M4(2) is not required. I note that HAZ-HN-M4(1) requires that territorial authorities must prepare or amend and maintain their district plans to ‘achieve policies HAZ-NH-P3 to HAZ-NH-P6’. I consider this adequately ensures that HAZ-NH-P4 will be achieved within the within the bounds of what a district plan can legal achieve.

2.16.4. Final recommendation

152. My final recommended amendments to the notified version of the pORPS are:

HAZ-NH-M4 – District plans

Territorial authorities must prepare or amend and maintain their *district plans* to:

- (1) achieve policies HAZ-NH-P2~~3~~¹⁶⁹ to HAZ-NH-P6, ~~and APP6~~ and incorporate the outcomes of the Risk Table established within HAZ-NH-M2(1),¹⁷⁰ on *land* outside the *coastal marine area, beds of lakes and rivers, and wetlands* by managing the location, scale and density of activities that are ~~may be~~¹⁷¹ subject to *natural hazard risk*,
- ~~(2) require implementation of *natural hazard risk* reduction measures, including to existing activities in accordance with HAZ-NH-P4,¹⁷²~~
- (3) protect the role of natural or modified features and systems that provide mitigation from the adverse *effects of natural hazards* in accordance with HAZ-NH-P6,
- (4) provide for *hard protection structures* in accordance with HAZ-NH-P7,
- (5) provide for the *functional needs* of hazard mitigation measures, *lifeline utilities*, and essential or emergency services in accordance with HAZ-NH-P8 and HAZ-NH-P9,
- (6) include provisions that require decision makers to apply the precautionary approach set out in HAZ-NH-P5 when considering applications for *resource consent* for activities that will change the use of *land* and which may increase

¹⁶⁹ 00119.021 Blackthorn Lodge

¹⁷⁰ 00138.158 QLDC

¹⁷¹ 00206.059 Trojan

¹⁷² 00138.158 QLDC

the *risk from natural hazards* within areas subject to *natural hazard risk* that is uncertain or unknown, but potentially significant or irreversible, and

- (7) require a *natural hazard risk* assessment commensurate with the level of risk from the proposed activity¹⁷³ be undertaken where an activity requires a plan change or *resource consent* to change the use of *land* ~~which will increase the risk from natural hazards with~~¹⁷⁴ in areas subject to *natural hazards*, and where the application is lodged prior to the *natural hazard risk* assessment required by HAZ-NH-M2(1) being completed, included in the *district plan* and made operative,¹⁷⁵ the *natural hazard risk* assessment must include:
- (a) an assessment of the level of *natural hazard risk* associated with the proposal in accordance with APP6, and
- (b) an assessment demonstrating how the proposal will achieve the outcomes set out in Policies HAZ-NH-P3 and HAZ-NH-P4-, and
- (8) not require a *natural hazard risk* assessment in accordance with APP6 for resource consent applications, once the *natural hazard risk* assessment required by HAZ-NH-M2(1) has been completed, included in the relevant *district plan* and made operative, unless otherwise expressly required by the relevant *district plan*.¹⁷⁶

153. In terms of s32AA, I consider the changes better to articulate how the method will implement the policies of the HAZ-NH chapter and is therefore more effective in achieving HAZ-NH-O1 and HAZ-NH-O2.

2.17. APP6 – Methodology for natural hazard risk assessment

2.17.1. Introduction

154. APP6 – Methodology for natural hazard risk assessment is discussed in section 12.4.26 of the section 42A report, with my analysis in paragraphs [413] to [471]. APP6 is also discussed in my brief of supplementary evidence (11 October 2022).

2.17.2. Submissions and evidence

155. Mr Farrell supports the submission of Fish and Game, Realnz, and NZSki¹⁷⁷ which seeks amendments to the HAZ-NH chapter. Those submitters consider the methodology in APP6 should not carry any legal weight or set unreasonably low thresholds for determining what is a ‘significant’ natural hazard risk. They consider natural hazard risk thresholds must be undertaken following a transparent community engagement process into the formulation of the risk.

¹⁷³ 00236.090 Horticulture NZ

¹⁷⁴ 00138.158 QLDC

¹⁷⁵ 00301.047 Port Otago

¹⁷⁶ 00301.047 Port Otago

¹⁷⁷ Ben Farrell for Fish and Game, Realnz and NZSki, para [125]-[127]

156. Mr Place supports the submission of QLDC¹⁷⁸ which seeks a range of amendments to APP6:
- a. In relation to step 1, Mr Place considers that clause (3) is ambiguous about which Representative Concentration Pathways (RCP) scenario should be considered and that this will create uncertainty within a framework that ultimately aims to provide certainty about the methodology to be applied in assessing natural hazard risk. He considers that ORC and its technical experts should provide advice on which RCP scenario should be applied when considering hazard likelihood.
 - b. In relation to Table 6 - Likelihood scale, Mr Place considers the table is flawed because its indicative frequencies do not properly identify low frequency events which have the potential to cause significant consequences and therefore pose a high risk.
 - c. Mr Place suggests the removal of matters (1) – (11) within step 2 of APP6, or suggests that they could be reframed to help provide context to Table 7 – Consequence table.
 - d. In relation to Step 3 and Table 8 – Risk table, Mr Place supports the amendments sought by ORC (Hazards Team) as he considers they will ensure long recurrence interval high consequence events would need to proceed to Step 4 (quantitative risk assessment).
 - e. In relation to Step 4, Mr Place considers the supplementary s42A amendment falls short of the submissions of QLDC and ORC. The amendment to Step 4 still means that any event with a ‘major’ consequence and a ‘likely’ or ‘possible’ likelihood, and therefore also identified as being ‘tolerable’, would not require a quantitative assessment under Step 4.
157. The submission by ORC (Hazards team) seeks amendments to Table 8 – Risk Table, seeking either a greater requirement for quantitative risk assessment, or an additional scenario considered a ‘significant’ risk rather than ‘tolerable’ risk. Following the pre-hearing conferencing, I recommended an amendment to step 4 that included an additional requirement to undertake a quantitative risk assessment.

2.17.3. Analysis

158. In relation to the amendments supported by Mr Farrell, I consider the purpose of APP6 is two-fold. First and foremost, it is a framework that will be used to inform future plan review processes where community input will ensure that the risk thresholds in district and regional plans are appropriate for those communities. Prior to that occurring, APP6 provides a framework for undertaking a risk assessment within resource consent processes. When used in these contexts, I disagree any amendments are required.
159. In relation to the amendment sought by ORC (Hazards Team), I agree that amendment could be made to Table 8 - Risk Table to highlight visually when a quantitative risk

¹⁷⁸ Luke Place for QLDC, para [4.13]-[4.50]
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assessment is required. I recommend an additional amendment to Table 8 – Risk assessment to include hatching when a quantitative risk assessment is required.

160. Following a meeting with the ORC (Hazards Team), staff confirmed that the combination of the change in consequence table, amendments to the quantitative risk assessment trigger, and the additional hatching in Table 8 resolves the concerns raised in their submission.

161. In response to the amendments supported by Mr Place:

a. Within his opening statement, Mr Kelly for ORC suggested an amendment to clause (3) of Step 1 of APP6 to direct which Shared Socio-Economic Pathway (SSP) scenarios or Representative Concentration Pathways (RCP) scenarios should be used as part of the APP6 assessment. I support this suggested change and consider it addresses Mr Place’s concern.

b. In relation to Table 6 - Likelihood scale, I disagree that an amendment to the likelihoods in this table is required. I consider that the amendment to Table 8 - Risk Table will ensure that the trigger for a quantitative risk assessment will mean that all ‘Catastrophic’ events will require a quantitative risk assessment regardless of the likelihood. This will ensure the low probability but high consequence events will be robustly assessed.

c. In relation to matters (1) – (11) in step 2 of APP6, I still support the advice of GNS science within paragraph 446 of the s42A report which states:

‘The risk assessment for resource consent applications is generally simpler than that for plan changes owing to the scale at which each of these would be undertaken. It should be acknowledged that additional guidance be provided within APP6 for when the risk-based approach is applied to resource consent applications.’

Given this, I retain the view that matters (1) – (11) are important as they are the primary considerations for resource consent applications triggering a risk assessment requirement in accordance with HAZ-NH-M3(7)(a) or HAZ-NH-M4(7)(a) as set out in Note 2 of APP6.

d. In relation to Steps 3 and 4, my view is that the trigger for a quantitative risk (being the natural hazard events that are captured in the hatched area), which was been support by the ORC (Hazards Team) at the hearing, provides a good balance between ensuring that robust assessments of natural hazard risk are undertaken while not requiring in depth assessment where they are not justified.

2.17.4. Final recommendation

162. My final recommended amendments to the notified version of the pORPS are:

APP6 – Methodology for *natural hazard risk assessment*

Undertake the following four step process to determine the *natural hazard risk*.

Step 1 – Determine the likelihood

- (1) Using Table 6, assess the likelihood of three *natural hazard* scenarios occurring, representing a high likelihood, median likelihood, and the maximum credible event, using the best available information.
- (2) Use Table 6 to assign a likelihood descriptor to the three *natural hazard* scenarios.
- (3) The likelihood assessment shall include consideration of the effect of climate change and Representative Concentration Pathways (RCP) scenarios.¹⁷⁹

Table 1 – Likelihood scale

Likelihood	Indicative frequency
Almost certain	Up to once every 50 years (2% AEP)
Likely	Once every 51 – 100 years (2 – 1% AEP)
Possible	Once every 101 – 1,000 years (1 – 0.11% AEP)
Unlikely	Once every 1,001 – 2,500 years (0.1 – 0.04% AEP)
Rare	2,501 years plus (<0.04% AEP)

Step 2 – *Natural hazard* consequence

Advice note 1: Table 7 shall be utilised by territorial authorities determining the level of *risk* presented by a hazard(s) when undertaking plan change or plan review processes.

Advice note 2: The matters listed in (1) to (11) provide useful considerations for territorial authorities and are the primary considerations for resource consent applications triggering a risk assessment requirement in accordance with HAZ-NH-M3(7)(a) or HAZ-NH-M4(7)(a).¹⁸⁰

Using Table 7 and the matters listed in (1) to (11)¹⁸¹ below, assess the consequence (catastrophic, major, moderate, minor, or insignificant) of the *natural hazard* scenarios identified in step 1 considering:

- (1) the nature and scale¹⁸² of activities in the area,
- (2) individual and community vulnerability and resilience,¹⁸³
- (3) impacts on individual and community health and safety,
- (4) impacts on social, cultural and economic well-being,
- (5) impacts on *infrastructure* and property, including access and services,
- (6) available and viable *risk* reduction and hazard mitigation measures,
- (7) *lifeline utilities*, essential and emergency services, and their co-dependence,

¹⁷⁹ 00138.147 QLDC

¹⁸⁰ 00301.055 Port Otago

¹⁸¹ Clause 16(2), Schedule 1, RMA

¹⁸² 00411.091 Wayfare

¹⁸³ 00411.091 Wayfare

- (8) implications for civil defence agencies and emergency services,
- (9) the changing *natural hazard* environment,
- (10) cumulative *effects* including *multiple* and *cascading hazards*, where present, and
- (11) factors that may exacerbate a *natural hazard* event including the *effects* of *climate change*.

Table 2 – Consequence table

Severity of Impact	Built				Health & Safety
	Social/Cultural	Buildings	Critical Buildings	Lifelines	
Catastrophic (V)	≥25% of <i>buildings</i> of social/cultural significance within hazard <u>zone impact area</u> ¹⁸⁴ have functionality compromised	≥50% of affected ¹⁸⁵ <i>buildings</i> within hazard <u>zone impact area</u> ¹⁸⁶ have functionality compromised	≥25% of critical facilities within hazard <u>zone impact area</u> ¹⁸⁷ have functionality compromised	Out of service for > 1 month (affecting ≥20% of the town/city population) OR suburbs out of service for > 6 months (affecting < 20% of the town/city population)	> 101 dead and/or > 1001 injured ¹⁸⁸
Major (IV)	11-24% of <i>buildings</i> of social/cultural significance within hazard <u>zone impact area</u> ¹⁸⁹ have functionality compromised	21-49% of <i>buildings</i> within hazard <u>zone impact area</u> ¹⁹⁰ have functionality compromised	11-24% of <i>buildings</i> within hazard <u>zone impact area</u> ¹⁹¹ have functionality compromised	Out of service for 1 week – 1 month (affecting ≥20% of the town/city population) OR suburbs out of service for 6 weeks to 6 months (affecting < 20% of the town/city population)	11 – 100 dead and/or 101 – 1000 injured ¹⁹²
Moderate (III)	6-10% of <i>buildings</i> of social/cultural significance within hazard <u>zone impact area</u> ¹⁹³ have functionality compromised	11-20% of <i>buildings</i> within hazard <u>zone impact area</u> ¹⁹⁴ have functionality compromised	6-10% of <i>buildings</i> within hazard <u>zone impact area</u> ¹⁹⁵ have functionality compromised	Out of service for 1 day to 1 week (affecting ≥20% of the town/city population) OR suburbs out of service for 1 week to 6 weeks (affecting < 20% of the town/city population)	2 – 20 dead and/or 11 – 100 injured ¹⁹⁶

¹⁸⁴ 00138.147 QLDC

¹⁸⁵ Clause 16(2), Schedule 1, RMA

¹⁸⁶ 00138.147 QLDC

¹⁸⁷ 00138.147 QLDC

¹⁸⁸ 00138.147 QLDC

¹⁸⁹ 00138.147 QLDC

¹⁹⁰ 00138.147 QLDC

¹⁹¹ 00138.147 QLDC

¹⁹² 00138.147 QLDC

¹⁹³ 00138.147 QLDC

¹⁹⁴ 00138.147 QLDC

¹⁹⁵ 00138.147 QLDC

¹⁹⁶ 00138.147 QLDC

Minor (II)	1-5% of <i>buildings</i> of social/cultural significance within hazard zone <u>impact area</u> ¹⁹⁷ have functionality compromised	2-10% of <i>buildings</i> within hazard zone <u>impact area</u> ¹⁹⁸ have functionality compromised	1-5% of <i>buildings</i> within hazard zone <u>impact area</u> ¹⁹⁹ have functionality compromised	Out of service for 2 hours to 1 day (affecting ≥20% of the town/city population) OR suburbs out of service for 1 day to 1 week (affecting < 20% of the town/city population)	1 dead and/or 1–10 injured
Insignificant (I)	No <i>buildings</i> of social/cultural significance within hazard zone <u>impact area</u> ²⁰⁰ have functionality compromised	< 1% of affected ²⁰¹ <i>buildings</i> within hazard zone <u>impact area</u> ²⁰² have functionality compromised	No damage within hazard zone <u>impact area</u> ²⁰³ , fully functional	Out of service for up to 2 hours (affecting ≥20% of the town/city population) OR suburbs out of service for up to 1 day (affecting < 20% of the town/city population)	No dead No injured

When assessing consequences within this matrix, the final level of impact is assessed on the ‘first past the post’ principle, in that the consequence with the highest severity of impact applies. For example, if a *natural hazard* event resulted in moderate severity of impact across all of the categories, with the exception of critical *buildings* which had a ‘major’ severity of impact, the major impact is what the proposal would be assessed on. If a *natural hazard* event resulted in all of the consequences being at the same level (for example, all of the consequences are rated moderate), then the level of consequence is considered to be moderate.

When this assessment is being undertaken in accordance with HAZ-NH-M3(7)(a) or HAZ-NH-M4(7)(a) the text within Step 2 shall guide the assessment of *natural hazard* consequence.²⁰⁴

Step 3 – Assessing ~~activities for~~²⁰⁵ *natural hazard risk*

Using the information within steps 1 and 2 above, complete Table 8 for each of the hazard scenarios considered, and identify if the risk from each of the scenarios is and Table 8, assess whether the *natural hazard* scenarios will have an²⁰⁶ acceptable, tolerable, or significant *risk* to people, property and communities, by considering:

- ~~(1) the *natural hazard risk* identified, including *residual risk*,~~
- ~~(2) any measures to avoid, remedy or mitigate those *risks*, including relocation and recovery methods,~~
- ~~(3) the long-term viability and affordability of those measures,~~
- ~~(4) flow on effects of the *risk* to other activities, individuals and communities, and~~

¹⁹⁷ 00138.147 QLDC

¹⁹⁸ 00138.147 QLDC

¹⁹⁹ 00138.147 QLDC

²⁰⁰ 00138.147 QLDC

²⁰¹ Clause 16(2), Schedule 1, RMA

²⁰² 00138.147 QLDC

²⁰³ 00138.147 QLDC

²⁰⁴ 00301.055 Port Otago

²⁰⁵ 00138.147 QLDC

²⁰⁶ 00138.147 QLDC

(5) ~~the availability of, and ability to provide, *lifeline utilities*, and essential and emergency services, during and after a *natural hazard* event.~~²⁰⁷

Table 3 – Risk table

Likelihood	Consequences				
	Insignificant	Minor	Moderate	Major	Catastrophic
Almost certain					
Likely					
Possible					
Unlikely					
Rare					
Green, Acceptable <i>Risk</i> : Yellow, Tolerable <i>Risk</i> : Red, Significant <i>Risk</i>					

Notes:

Table 8 above has been included as a region-wide baseline. As set out in HAZ-NH-M2(1) *local authorities* are required to undertake a consultation process with communities, stakeholders and partners regarding *risk* levels thresholds and develop a *risk* table at a district or community scale. This region-wide baseline is to be used in the absence of a district or community scale *risk* table being developed.

~~When this assessment is being undertaken in accordance with HAZ-NH-M3(7)(a) or HAZ-NH-M4(7)(a) the text within Step 3 shall guide the assessment of *natural hazard risk*.~~²⁰⁸

Step 4 – Undertake a quantitative *risk* assessment

While Steps 1-3 will qualitatively categorise *natural hazard risk* based on a community’s understanding and acceptance level of *risk*, it will not provide quantitative understanding of the *risk* a *natural hazard* presents to the built environment, or health and safety.

If the assessment undertaken in Steps 1-3 determines that one of the three *natural hazard* scenarios generate *risk* that is significant, or a tolerable risk with a catastrophic consequence,²⁰⁹ undertake a quantitative *risk* assessment utilising the following methodology:²¹⁰

- (1) Based on the likelihood of a *natural hazard* event within the hazard zone (see Step 1), and including the potential impacts of *climate change* and sea level rise, select a representative range of at least five three²¹¹ hazard

²⁰⁷ 00138.147 QLDC

²⁰⁸ 00138.147 QLDC

²⁰⁹ 00415.002 ORC

²¹⁰ This methodology has been developed in general accordance with the Australian Geomechanics Society, 2007 methodology, which may usefully provide additional guidance. (New footnote attributed to 00138.147 QLDC)

²¹¹ 00138.147 QLDC

scenarios with varying likelihoods to model,²¹² including the maximum credible event.

- (2) Model the Annual Individual Fatality Risk (AIFR)²¹³ and Annual Property Risk (APR)²¹⁴ for the range of hazard scenarios across the hazard zone, and create loss exceedance distributions.
- (3) Analyse loss exceedance distributions and determine losses.
- (4) Assign the risk level ~~Implementing a first-past-the-post principle for the AIFR and APR:~~²¹⁵
 - (a) for areas of new development where the ~~greatest~~²¹⁶ AIFR or APR is:
 - (i) less than 1×10^{-6} per year, the *risk* is re-categorised as acceptable,
 - (ii) between 1×10^{-6} and 1×10^{-5} per year, the *risk* is re-categorised as tolerable, or
 - (iii) greater than 1×10^{-5} per year, the *risk* is re-categorised as significant.
 - (b) for areas with existing development, where the ~~greatest~~²¹⁷ AIFR or APR is:
 - (i) less than 1×10^{-5} per year, the *risk* is re-categorised as acceptable;
 - (ii) between 1×10^{-5} and 1×10^{-4} per year, the *risk* is re-categorised as tolerable; or
 - (iii) greater than 1×10^{-4} per year, the *risk* is re-categorised as significant.
- (5) ~~Following the quantitative risk assessment, a risk level is assigned to the hazard area.~~²¹⁸

AIFR and APR are the selected *risk* metrics as they represent the likely consequences of a wide range of *natural hazards*. For example, some *natural hazards*, generally, do not have the capacity to cause fatalities, but may result in widespread damage to property, while other *natural hazards* have a high capacity to cause fatalities. A first-past-the-post principle to the re-categorisation of *risk* is applied to ensure that decisions are based on the greatest *risk* present between the two metrics.

²¹² The model should include an analysis of uncertainty.

²¹³ Annual probability that an individual most at risk is killed in any one year as a result of the hazards occurring.

²¹⁴ Annual probability of total property loss (relating to permanent structures) as a result of the hazards occurring.

²¹⁵ 00138.147 QLDC

²¹⁶ 00138.147 QLDC

²¹⁷ 00138.147 QLDC

²¹⁸ 00138.147 QLDC

If the level of knowledge or uncertainty regarding the likelihood or consequences of a *natural hazard* event precludes the use of Step 4, then a precautionary approach to assessing and managing the *risk* should be applied, as set out in HAZ-NH-P5.

163. In terms of s32AA, within my supplementary evidence on the HAZ-NH Chapter I included a section 32AA assessment of these recommend amendments.²¹⁹

2.18. Definition – Hard protection structure

2.18.1. Introduction

164. The definition of ‘hard protection structure’ is discussed in section 12.3 of the section 42A report, with my analysis in paragraph [15].

165. The recommended version of this definition currently reads:²²⁰

within the coastal environment, has the same meaning as in the Glossary of the New Zealand Coastal Policy Statement 2010 (as set out in the box below)

includes a seawall, rock revetment, groyne, breakwater, stop bank, retaining wall or comparable structure or modification to the seabed, foreshore or coastal land that has the primary purpose or effect of protecting an activity from a coastal hazard, including erosion

and

outside the coastal environment, means any kind of structure which is specifically established for the purpose of natural hazard risk mitigation, including: any dams, weirs, stopbanks, carriageways, groynes, or reservoirs ~~and any structure or appliance of any kind which is specifically established for the purpose of natural hazard risk mitigation.~~²²¹

2.18.2. Submissions and evidence

166. Ms Bartlett supports the submission of Ngāi Tahu ki Murihiku and considers the s42A amended definition does not adopt Forest & Bird’s request to introduce the notion of “primary purpose” or narrow the definition to flooding risk mitigation. In the absence of those two elements, she states that a dam could qualify as a hard protection structure as it could simply identify that it has been “specifically established for the purpose” of natural hazard mitigation. She seeks the following amendment:²²²

outside the coastal environment, means any kind of structure which is specifically established for the that has the primary purpose of natural risk mitigation, including: any dams, weirs, stopbanks, carriageways, groynes, or reservoirs...

²¹⁹ Paragraphs [26] – [29] of my supplementary evidence on the HAZ-NH Chapter dated 11 October 2022

²²⁰ This version includes the recommendations from the hearing reports prepared under s42A of the RMA, all supplementary evidence, and the opening statements

²²¹ 00223.117 Ngāi Tahu ki Murihiku, 00230.006 Forest and Bird

²²² Maria Bartlett for Kāi Tahu ki Otago, para [28]-[29]

167. Mr McMinn supports the submission of Waka Kotahi which seeks that the definition of “hard protection structure” include reference to “riprap”.²²³

2.18.3. Analysis

168. I agree with the changes supported by Ms Bartlett. I consider that this amendment will tighten the definition of hard protection structures, the ensure the enabling provisions within the HAZ-NH chapter associated with hard protection structures are only used for structures with a primary purpose of natural risk mitigation.

169. In relation to the addition support by Ms McMinn I note that the list included with the definition is not exclusive. However, I agree that including reference to ‘riprap’ clarifies that this type of structure is captured by the definition.

170. Following her appearance at the hearing I asked Ms McMinn if she could provide a definition of ‘riprap’ to clarify what would be included within this term. She provided the following definition:

Riprap is a permanent layer of large, angular rocks, concrete or boulders typically used to armour, stabilize, and protect the land surface and margins of waterbodies against erosion and scour in areas of concentrated water flow or wave energy.

171. I consider it would provide greater clarity to the definition of ‘hard protection structure’ if this definition of ‘riprap’ was also included within the pORPS.

2.18.4. Final recommendation

172. My final recommended amendments to the notified version of the pORPS are:

within the coastal environment, has the same meaning as in the Glossary of the New Zealand Coastal Policy Statement 2010 (as set out in the box below)

includes a seawall, rock revetment, groyne, breakwater, stop bank, retaining wall or comparable <i>structure</i> or modification to the seabed, foreshore or coastal land that has the primary purpose or effect of protecting an activity from a <i>coastal hazard</i> , including erosion

and

outside the coastal environment, means any structure that has the primary purpose of *natural hazard risk* mitigation, including:²²⁴ ~~any dams, weirs, riprap²²⁵, stopbanks, carriageways, groynes, or reservoirs and any structure or appliance of any kind which is specifically established for the purpose of natural hazard risk mitigation.~~²²⁶

173. I recommend a new definition of ‘Riprap’ be included as follows:

²²³ Julie McMinn for Waka Kotahi, para [7.1]

²²⁴ 00223.117 Ngāi Tahu ki Murihiku

²²⁵ 00305.002 Waka Kotahi

²²⁶ 00223.117 Ngāi Tahu ki Murihiku, 00230.006 Forest and Bird

a permanent layer of large, angular rocks, concrete or boulders typically used to armour, stabilize, and protect the land surface and margins of waterbodies against erosion and scour in areas of concentrated water flow or wave energy.²²⁷

3. HAZ-CL – Contaminated land

3.1. HAZ-CL-O3

3.1.1. Introduction

174. HAZ-CL-O3 is discussed in section 12.5.3 of the section 42A report, with my analysis in paragraphs [494] to [495].

175. The recommended version of this provision currently reads:

HAZ-CL-O3 – Contaminated land

*Contaminated land and waste materials are managed to protect human health, Kāi Tahu ~~mana whenua~~²²⁸ values and the *environment* in Otago.*

3.1.2. Submissions and evidence

176. Ms Wharfe for HortNZ considers HAZ-CL-O3 should be amended to acknowledge that there are a number of ways to manage contaminated land. She seeks that the objective be reframed so that the focus of the objective is on ‘not harming’ rather than ‘protecting’ human health, mana whenua values and the environment in Otago.²²⁹

3.1.3. Analysis

177. I retain my view as set out in the section 42A report, which is that the objective of ‘protecting’ human health, mana whenua values and the environment in Otago is consistent with the NESCS and supports the active outcome directed management approach of the pORPS as a whole.

3.1.4. Final recommendation

178. I do not recommend any further amendments.

3.2. HAZ-CL-P14

3.2.1. Introduction

179. HAZ-CL-P14 is discussed in section 12.5.5 of the section 42A report, with my analysis in paragraphs 510 to 514. HAZ-CL-P14 is also discussed in my first brief of supplementary evidence, where I recommended an additional clause to acknowledge that the identification and management of closed landfills and contaminated land at risk from the effects of climate change should be prioritised.

180. The recommended version of this provision currently reads:

HAZ-CL-P14 – Managing contaminated land

²²⁸ 00226.264 Kāi Tahu ki Otago

²²⁹ Lynette Wharfe for HortNZ, para [292]-[301]

Actively ~~m~~Manage²³⁰ contaminated or potentially *contaminated land* so that it does not pose an unacceptable *risk* to people and the *environment*, by:

- (1) assessing and, if required, monitoring *contaminant* levels and environmental *risks*,
- (2) protecting human health in accordance with regulatory requirements,
- (3) avoiding, as the first priority, and only where avoidance is not practicable, mitigating or remediating, adverse *effects* of the *contaminants* on the *environment*, ~~and~~
- (4) requiring closed *landfills* to be managed in accordance with a closure plan that sets out monitoring requirements and, where necessary, any remedial actions required to address ongoing *risks*, ~~and~~
- (5) prioritising the identification and management of closed landfills and contaminated land at risk from the effects of climate change.²³¹

3.2.2. Submissions and evidence

181. Horticulture NZ seeks to include an additional sub-clause to determine whether significant adverse effects to people or the environment will result from the hazardous substances in or on land. Ms Wharfe for Horticulture NZ highlights that the section 42A report omitted to analyse this submission point. Ms Wharfe continues to support the amendment sought by Horticulture NZ.²³²
182. Ms Taylor for Ravensdown considers that clause (2) of the policy repeats the requirement already stated in the policy chapeau (being to manage activities so they do not pose an unacceptable risk to people). On this basis, she considers there is no need to repeat the requirement that human health is to be protected. She also considers the remaining part of clause (2) should refer to the specific ‘management action’ required, being implementation of relevant regulatory requirements (i.e., the NESCS).²³³
183. Mr McCullagh for the Fuel Companies considers the direction within clause (3) to ‘avoid adverse effects as a first priority’ contradicts the important recognition in the policy that contaminated land should be managed so that it does not pose an unacceptable risk to people and the environment. He seeks that the clause (3) be reframed so that the focus of the clause is on avoiding ‘unacceptable risk on the environment’.²³⁴

3.2.3. Analysis

184. In response to the relief sought by Ms Wharfe, I disagree this amendment is required. The RMA definition of contaminated land refers to ‘land that has or is likely to have *significant* adverse environmental effects’. Given the chapeau of this policy clearly sets out to manage ‘contaminated or potentially contaminated land’ and thus by definition

²³⁰ 00510.061 The Fuel Companies.

²³¹ 00223.119 Ngāi Tahu ki Murihiku.

²³² Lynette Wharfe for HortNZ, para [302]-[309]

²³³ Carmen Taylor for Ravensdown, para [8.2]-[8.5]

²³⁴ Gavin McCullagh for the Fuel Companies, para [33]-[38]

manage significant adverse effects, I consider further amendments unnecessary. I retain the view set out in my section 42A report.

185. In relation to the suggestion from Ms Taylor, I disagree there is an element of repetition within the chapeau and clause (2). I consider the chapeau relates to managing contaminated or potentially contaminated land and clause (2) sets out one of the management methods that will protect human health. I retain the view set out in my section 42A report.

186. I do not support the amendment sought by Mr McCullagh as I consider reference to 'unacceptable risk' replicates the contents of the chapeau which states: 'Manage contaminated or potentially contaminated land so that it does not pose an unacceptable risk to people and the environment'. I consider it is the role of clauses (1) to (5) to set out the management methods to achieve this. I retain the view set out in the section 42A report.

3.2.4. Final recommendation

187. I do not recommend any further amendments.

188. In terms of section 32AA and the recommended amendments to the chapeau of HAZ-CL-P14, I consider this change results in greater certainty for the application of the provision, and ensures that it includes a broad suite of management responses depending upon circumstances. As such, I consider the change results in a provision that is more efficient and effective at achieving HAZ-CL-O3.

189. In relation to the recommended new sub-clause in HAZ-CL-P14, a section 32AA evaluation is contained in my first brief of supplementary evidence.²³⁵

3.3. HAZ-CL-P15

3.3.1. Introduction

190. HAZ-CL-P15 is discussed in 12.5.6 of the section 42A report, with my analysis in paragraphs [521] to [525].

191. The recommended version of this provision currently reads:

HAZ-CL-P15 – New contaminated land

Avoid the creation of new *contaminated land* or, where this is not practicable, minimise to the smallest extent practicable²³⁶ adverse *effects* on the *environment* and *mana whenua* values.

3.3.2. Submissions and evidence

192. Mr Taylor for DCC seeks an exclusion from the policy for wastewater discharges to land. He considers it is a more restrictive policy position than the NZCPS for coastal discharges.

²³⁵ Paragraphs [33]-[35]

²³⁶ 00313.027 Queenstown Airport.

On this basis, the pORPS would appear to prefer discharges of treated wastewater to coastal water over discharges of treated wastewater to land, which is contrary to the direction of proposed LF-FW-P15(1).²³⁷ Mr Taylor seeks the following relief:

With the exception of wastewater discharges to land, avoid the creation of new contaminated land or, where this is not practicable, and for wastewater discharges to land, minimise adverse effects on the environment and mana whenua values.

193. Ms O’Sullivan for Queenstown Airport considers the term ‘minimise’ could be broadly interpreted and possibly applied inconsistently in the decision-making process. She considers that if the intention of the provision is to provide an ability to manage adverse effects by avoiding, remedying or mitigating to achieve a specific outcome, then this should be explicitly stated.²³⁸ Ms O’Sullivan seeks the following changes:

Avoid the creation of new contaminated land or, where this is not demonstrably practicable, avoid, remedy or mitigate ~~minimise to the smallest extent practicable~~ adverse effects on the environment and mana whenua values.

194. Ms Hunter for Oceana Gold considers that ‘remedy or mitigate’ would be more appropriate than ‘minimise to the smallest extent practicable’ and seeks the following changes:²³⁹

Avoid the creation of new contaminated land or, where this is not practicable, ~~minimise to the smallest extent practicable~~ manage land so that adverse effects on the environment and mana whenua values are reduced, remedied or mitigated.

195. Mr McCullagh for the Fuel Companies seeks that HAZ-CL-P15 be deleted and replaced with a policy that manages hazardous facilities where adequate controls are not provided by other legislation.²⁴⁰ The proposed wording for this policy reads:

Manage the use and development of land for hazardous facilities where analysis demonstrates adequate controls are not provided by other legislation.

196. Ms McIntyre for Kāi Tahu ki Otago seeks to replace ‘mana whenua’ with ‘Kāi Tahu’ to improve consistency.²⁴¹

3.3.3. Analysis

197. In response to the relief sought by Mr Taylor, I note that the RMA defines contaminated land as:

...land that has a hazardous substance in or on it that –

- (a) has significant adverse effects on the environment; or*
- (b) is reasonably likely to have significant adverse effects on the environment.*

²³⁷ James Taylor for DCCpara [86]-[90]

²³⁸ Kirsty O’Sullivanfor Queenstown Airport, para [11.3]-[11.7]

²³⁹ Claire Hunter for Oceana Gold, para [12.4]-[12.6]

²⁴⁰ Gavin McCullagh for the Fuel Companies, para [35]-[36]

²⁴¹ Sandra McIntyre for Kāi Tahu ki Otago, para [154] and Appendix 1

198. I understand that Mr Taylor considers that depending on the treatment process, the disposal of wastewater to land has the potential to contaminate land through the build up of trace metals. Section 107 of the RMA specifically provides for such circumstances. It directs consent authorities to withhold granting of a discharge permit where significant adverse effects may arise. I therefore disagree with the proposed amendments and consider the discharge of wastewater to land would not meet the threshold of ‘contaminated land’ as defined by the RMA.
199. In relation to the amendments suggested by Ms O’Sullivan and Ms Hunter, as stated in the section 42A report, I consider requiring remediation and mitigation only allows actions to be taken after the effect has occurred. The purpose of the policy is to avoid creating any new contaminated land. For this reason, I do not consider the amendments sought are appropriate.
200. Mr McCullagh highlights that it is the release of hazardous substances that can potentially contaminate land and that the policy would be better focused on the management of these substances. I understand that this reflects the purpose of the Hazardous Substances and New Organisms Act 1996. However, HAZ-CL-P15 seeks to give effect to HAZ-CL-O3 which aims to protect human health, Kāi Tahu values, and the environment in Otago. By avoiding the creation of contaminated land, the release of hazardous substances and the potential to contaminate land are also avoided, and human health, Kāi Tahu values, and the environment are protected. On this basis, I disagree with the relief sought by Mr McCullagh.
201. I support the minor amendment suggested by Ms McIntyre and agree that this change achieves consistency with other provisions in the pORPS.
202. I have also recommended a consequential amendment replacing ‘minimise to the smallest extent practicable’ to ‘minimise to the greatest extent practicable’ to ensure consistency across the pORPS.

3.3.4. Final recommendation

203. My final recommended amendments to the notified version of the pORPS are:

HAZ-CL-P15 – New contaminated land

Avoid the creation of new *contaminated land* or, where this is not practicable, minimise to the greatest extent practicable²⁴² adverse *effects* on the *environment* and ~~mana whenua~~ Kāi Tahu²⁴³ values.

204. In terms of section 32AA, I consider the amendments provide greater certainty for the application of the provision and therefore improve its efficiency. While the qualifier for ‘minimise’ recommended in the section 42A report may be less effective at achieving HAZ-CL-O3, I consider that seeking to ‘minimise’ (reduce by the greatest possible amount or degree) adverse effects on the environment and mana whenua values might not always result in the most efficient outcomes as significant expense may be required to

²⁴² 00313.027 Queenstown Airport.

²⁴³ 00226.267 Kāi Tahu ki Otago.

reduce the effect to the greatest possible amount or degree. Therefore, I consider the recommended amendments result in a more appropriate method to achieve the outcome sought in HAZ-CL-O3.

3.4. HAZ-CL-P18

3.4.1. Introduction

205. HAZ-CL-P18 is discussed in section 12.5.7 of the section 42A report, with my analysis in paragraphs [531] to [533].

206. The recommended version of this provision currently reads:

HAZ-CL-P18 – Waste facilities and services

When providing for the development of facilities and services for the storage, recycling, recovery, treatment and disposal of *waste* materials:

- (1) avoid adverse *effects* on the health and safety of people,
- (2) minimise to the smallest extent practicable²⁴⁴ the potential for adverse *effects* on the *environment* to occur,
- (3) minimise *risk* associated with *natural hazard* events, and
- (4) restrict the establishment of activities that may result in reverse sensitivity *effects* near *waste* management facilities and services.

3.4.2. Submissions and evidence

207. The Kāi Tahu ki Otago submissions, and evidence of Ms McIntyre, seeks amendments to HAZ-CL-P18 to provide greater clarity as to the adverse effects that must be considered. Specifically, Ms McIntyre seeks to include reference to avoiding the adverse effects of waste treatment and disposal on Kāi Tahu values and avoiding locating new waste treatment and disposal facilities in or near wāhi tūpuna.²⁴⁵

3.4.3. Analysis

208. I note that I addressed this submission in paragraph 533 of the section 42A report. I state:
It is my opinion that an amendment to the policy is required to ensure that the environmental protection provided by other policies within the pORPS are considered when applying this policy. I consider this amendment should require that the potential adverse effects of the activity are managed to ensure the values of the receiving environment, whether that be a landscape, biodiversity, or Kāi Tahu value, are not compromised.

209. However, no change of this nature is included in the tracked change version of the chapter. As set out in my opening statement, on reflection, I consider the architecture of the pORPS is such that all the relevant provisions of the document are to be read together

²⁴⁴ 00226.270 Kāi Tahu ki Otago, 00230.140 Forest and Bird

²⁴⁵ Sandra McIntyre for Kāi Tahu ki Otago, para [152] and Appendix 1
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and considered on their merits. Given this I consider the relevant environmental or cultural protection provided by other policies within the pORPS will be considered when applying this policy. As such, I disagree any amendment to the policy is required.

210. I have also recommended a consequential amendment replacing 'to the smallest extent practicable' with 'to the greatest extent practicable' to ensure consistency across the pORPS.

3.4.4. Final recommendation

211. My final recommended amendments to the notified version of the pORPS are:

HAZ-CL-P18 – Waste facilities and services

When providing for the development of facilities and services for the storage, recycling, recovery, treatment and disposal of *waste* materials:

- (1) avoid adverse *effects* on the health and safety of people,
- (2) to the greatest extent practicable,²⁴⁶ minimise the potential for adverse *effects* on the *environment* to occur,
- (3) minimise *risk* associated with *natural hazard* events, and
- (4) restrict the establishment of activities that may result in reverse sensitivity *effects* near *waste* management facilities and services.

212. In terms of section 32AA, I consider the change recommended in the section 42A report is more efficient at achieving HAZ-CL-O3 as it clarifies the intent of the policy and provides greater certainty.

3.5. HAZ-CL-M7

3.5.1. Introduction

213. HAZ-CL-M7 is discussed in section 12.5.10 of the section 42A report, with my analysis in paragraphs [547] and [548]. This method was recommended to be retained as notified.

214. The notified version of this provision reads:

HAZ-CL-M7 – District plans

Territorial authorities must prepare or amend and maintain their *district plans* to provide for the development of facilities and services for the storage, recycling, recovery, treatment and disposal of waste while achieving the outcomes listed in HAZ-CL-P14 to HAZ-CL-P16.

3.5.2. Submissions and evidence

215. Ms Wharfe for HortNZ notes that the submitter seeks a specific reference to the NESCS in the method as it is district councils who implement this instrument, but this relief was

²⁴⁶ 00226.270 Kāi Tahu ki Otago, 00230.140 Forest and Bird
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not supported in the section 42A report. Ms Wharfe considers that clarity for plan users is required, and seeks the following wording to be added:

Territorial authorities are responsible for implementing the National Environmental Standards for Assessing and Managing contaminants in Soil to Protect Human Health (NESCS) when land use change, subdivision or earthworks are undertaken.

3.5.3. Analysis

216. I disagree that the additional wording is required to clarify the responsibility for implementing the NESCS, as this is set out in clause 4 of the NESCS itself.

3.5.4. Final recommendation

217. I do not recommend any further amendments.

3.6. HAZ-CL-M8A

3.6.1. Introduction

218. HAZ-CL-M8A is discussed in paragraphs [30] to [35] of my first brief of supplementary evidence. Following the pre-hearing meetings on the HAZ-CL chapter, I recommended an additional clause be added to HAZ-CL-P14 and a new method be added to the HAZ-CL chapter related to the identification and management of closed landfills and contaminated land at risk from the effects of climate change, in response to a submission from Kāi Tahu ki Otago.

219. This recommended provision reads:

HAZ-CL-M8A – Prioritisation and action plans

Otago Regional Council and territorial authorities, in consultation with Kāi Tahu and the community, must together:

- (1) identify closed landfills and *contaminated land* at risk from the effects of *climate change*,
- (2) assess the risk and the potential effects of release of *contaminants*,
- (4) develop and implement action plans to avoid release of *contaminants* from the identified closed landfills and *contaminated land*, prioritising sites at greatest risk, and
- (5) review sites and their level of risk every five years.²⁴⁷

3.6.2. Submissions and evidence

220. In her evidence, Ms McIntyre for Kāi Tahu ki Otago notes that reference to prioritisation of sites at greatest risk has not been incorporated into the method, despite inclusion of the word ‘prioritisation’ in the method heading. Ms McIntyre considers a risk-based

²⁴⁷ 00223.119 Ngāi Tahu ki Murihiku.

approach to managing this issue is appropriate and recommends an amendment to incorporate this into HAZ-CL-M8A.²⁴⁸

3.6.3. Analysis

221. In response to Ms McIntyre, I agree that prioritising sites at greatest risk from climate change is a necessary addition.

222. I also note that there is an error in the numbering of the subclauses in the proposed method in my supplementary evidence, which is also reflected in the supplementary evidence version of the pORPS. This error is corrected in the amended recommendation below.

3.6.4. Final recommendation

223. My final recommended amendments to the notified version of the pORPS are:

HAZ-CL-M8A – Prioritisation and action plans

Otago Regional Council and territorial authorities, in consultation with Kāi Tahu and the community, must together:

- (1) identify closed *landfills* and *contaminated land* at risk from the effects of *climate change*,
- (2) assess the *risk* and the potential *effects* of release of *contaminants*,
- (3) develop and implement action plans to avoid release of *contaminants* from the identified closed *landfills* and *contaminated land*, prioritising sites at *greatest risk*, and
- (4) review sites and their level of *risk* every five years.²⁴⁹

224. A section 32AA evaluation for this new method is contained in my first brief of supplementary evidence.²⁵⁰ I consider the further change recommended in this reply report is minor, but will increase the effectiveness of the method in achieving HAZ-CL-O3 by prioritising those high-risk sites.

²⁴⁸ Sandra McIntyre for Kāi Tahu ki Otago, para [151] and Appendix 1

²⁴⁹ 00223.119 Ngāi Tahu ki Murihiku.

²⁵⁰ Paragraphs [33]-[35].