

BEFORE THE HEARING PANEL

IN THE MATTER

of the Resource Management Act
1991

AND

IN THE MATTER

Natural Hazards – Proposed Plan
Change 8 of the Rotorua District
Plan

**PRIMARY STATEMENT OF EVIDENCE OF MARK CHRISTOPHER IVAMY
BAY OF PLENTY REGIONAL COUNCIL TOI MOANA (SUBMITTER 45)
NATURAL HAZARDS PLANNING**

INTRODUCTION

1. My full name is Mark Christopher Ivamy. I am employed by Bay of Plenty Regional Council Toi Moana (**Regional Council**) as a Senior Natural Hazards Planner. I have held this role since February 2020. Prior to this role I was employed by the Regional Council as a Natural Hazard Advisor from July 2015.

Qualifications and experience

2. I have 20 years' work experience in natural hazard risk management in New Zealand. A key role of my current position is supporting the implementation of the Bay of Plenty Regional Policy Statement (**RPS**) natural hazards provisions. This includes project management of natural hazard modelling and mapping. I provide support to the Territorial Authorities and resource consent applicants on interpreting natural hazard RPS policy and applying the default risk assessment methodology (RPS - Appendix I).
3. Prior to being employed by the Regional Council, I worked at Tonkin + Taylor Ltd as an Environmental and Engineering Consultant for nine years specialising in coastal hazard risk management. This role involved providing technical advice to local government agencies and private companies assessing coastal hazard and climate change risk and designing mitigation options.
4. I hold a Master of Science degree with First Class Honours, majoring in Geography. I obtained this qualification from the University of Auckland in 2004.
5. I attended several meetings with Rotorua Lakes Council (**RLC**) to discuss Regional Council's submission between October 2025 and February 2026.
6. In preparing this statement, I have read the Section 32 Report, the Section 42A Report and relevant accompanying documents, and all evidence prepared for Rotorua Lakes Council and the Bay of Plenty Regional Council.
7. Where I have not expressly stated in this evidence the reasons why I disagree

with other experts or submitters in relation to more minor matters, that should not be interpreted as agreement.

Code of conduct

8. I have read the Expert Witness Code of Conduct set out in the Environment Court's Practice Note 2023 and I agree to comply with it. I confirm that the issues addressed in this statement of evidence are within my area of expertise, except where I state I am relying on the specified evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from my expressed opinion.

EXECUTIVE SUMMARY AND SCOPE OF EVIDENCE

9. My expert opinion covers submission points of the Regional Council related to my subject area of natural hazards planning. I will briefly address matters in the Regional Council submission (45.4, 45.10, 45.13) that have been assessed by RLC in the Section 42A Report (**s 42A**) which I support, and where one matter is still outstanding (45.3 and 45.33).
10. The main points I wish to bring to the Panel's attention are:
 - i. I consider the improvements to the definition to "Acceptable Risk" made in the s 42A Recommended Changes to the text document under the definition section are appropriate.
 - ii. I consider the improvements to the Strategic Direction Natural Hazard Policy made in the s 42A Recommended Changes to the text document under SDNH-P1 subclause 3)b (cultural significance) are appropriate.
 - iii. I consider the new and improved Fault Rupture provisions made in the s 42A Recommended Changes to the text document under NH-PAA, NH-R1 and NH-R2 are appropriate.
 - iv. I consider the new provisions for High Lake Level Resilience Area – Lake Ōkāreka made in the s 42A Recommended Changes to the text document under NH-PBA and NH-R5A are not appropriate. I consider the approach on this matter as notified set out as Option 1 in s 42A under Appendix 2 –

Table 1 to be more appropriate.

BAY OF PLENTY REGIONAL POLICY STATEMENT - OVERVIEW

11. The RPS provides a risk-based framework for managing natural hazards. The objective is to avoid or mitigate natural hazards by managing risk for people's safety and the protection of property and lifeline utilities.
12. RPS Policy NH 4B requires new development to achieve a low ("acceptable"¹) level of risk without increasing the risk outside the development site.
13. The RPS directs Territorial Authorities to ensure development achieves low natural hazard risk through the provisions of city and district plans (RPS Policy NH 12A).
14. RPS Policy IR 1B requires a precautionary approach where there is scientific uncertainty and a threat of serious adverse effects on the built environment.
15. The National Policy Statement on Natural Hazards (**NPS-NH**) came into force on 15 January 2026 and I agree with the policy summary provided in s 42A under section 2.3.1. The NPS-NH follows a broadly similar risk-based approach to the RPS for the management of natural hazards. NPS-NH Policy 5 is especially relevant to Proposed Plan Change 8 of the Rotorua District Plan, which requires decisions to be made on the best available information even when that information is uncertain or incomplete.

ACCEPTABLE RISK DEFINITION

16. I consider the improvements to the definition to "Acceptable Risk" made in the s 42A Recommended Changes to the text document² under the definition section are appropriate. I agree with the evaluation and recommendation for the definition of "Acceptable Risk" given in the s 42A³.
17. In my opinion, the main reasons the recommended changes to "Acceptable Risk" are appropriate (which rejects the BOPRC submission point 45.4) are:

¹ RPS Policy NH2B - Low natural hazard risk being the level of risk generally acceptable.

² Appendix 4 of the Section 42A Report

³ Section 42A Report Section 3.4.3

- i. The NPS-NH is now in force and introduces risk terminology, including Low Risk. Based on the NPS-NH risk matrix (NPS-NH Appendix 1, Figure 1), “Acceptable” risk is more aligned to the Medium Risk level not the Low Risk level. For a flooding example, Medium Risk = minor consequence during a 1% AEP intense rainfall event⁴. In my opinion, the description of minor consequences (*minor damage to buildings, no loss of use, minimal repairs required, and isolated minor injuries possible*) is a currently accepted threshold for flooding impacts. Therefore, the use of the term “Low” is no longer useful to define “Acceptable Risk” because of the misalignment of these terms in the NPS-NH.
- ii. I agree that a definition for “Acceptable Risk” needs to be relatively broad to apply to a range of different hazards and consequences covered in the natural hazard provisions of the Rotorua District Plan. In my opinion, the natural hazard provisions themselves are the most appropriate place to consider more detailed risk thresholds rather than in the definition section.

STRATEGIC DIRECTION - CULTURAL SIGNIFICANCE

18. I consider the improvements to the Strategic Direction Natural Hazard Policy made in the s 42A Recommended Changes to the text document⁵ under section SDNH-P1 sub-clause 3)d (cultural significance) are appropriate for the reasons outlined in the s 42A⁶, the Regional Council submission point 45.10 and the additional reason set out below:
 - i. I consider it appropriate to take into account cultural significance for the assessment of risk for activities undertaken by tangata whenua because it is a requirement of RPS Policy IW 2B (recognising matters of significance to Māori). However, I do not support the notified version of the strategic direction that implied (meaningly or otherwise) tangata whenua should accept a higher level of risk. Therefore, I agree with the s 42A Recommended Changes for SDNH-P1 sub-clause 3)d.

⁴ Refer to the NPS-NH risk matrix provided in the Section 42A Report given in Figure 2.3.1.1 (page 15)

⁵ Appendix 4 of the Section 42A Report

⁶ Section 42A Report Sections 3.5.2 and 3.5.3

FAULT RUPTURE HAZARD AREA

19. I consider the new and improved Fault Rupture Hazard Area provisions made in the s 42A Recommended Changes to the text document⁷ under NH-PAA, NH-R1 and NH-R2 are appropriate for the reasons outlined in the s 42A Report⁸, Mr Berryman's evidence and the additional reasons set out below:
- i. I consider the new fault rupture provisions package (NH- PAA, NH-R1 and NH-R2) makes appropriate use of the best available information as required by the NPS-NH Policy 5 and RPS Policy IR 1B.
 - ii. I consider the recognition of possible fault rupture hazard areas and the new provisions under NH-R2 provides a practical approach to manage the inherent uncertainty associated with mapping fault rupture hazard.
 - iii. I consider the new building importance category approach is a practical way to consider proportionate risk-based planning when considering the consequences to both buildings and risk to life. I consider this approach aligned with the RPS natural hazard provisions which provide for social, cultural and critical building types to be classified⁹. I consider this approach is also aligned with the Ministry for the Environment's guidance for active fault land use planning¹⁰ and agree with the further assessment provided on this matter in the s 42A Report under Appendix 11¹¹.
20. I note a formatting error in the sub-clause numbering for NH-R2. Sub-clause a) uses letters when it should use roman numerals and sub-clause b) is given as a) by mistake.

⁷ *Appendix 4 of the Section 42A Report*

⁸ *Section 42A Report sections 3.11.2.4, 3.11.2.5, 3.11.2.6 and 3.11.2.8*

⁹ *Refer to RPS Appendix I – Table 21*

¹⁰ *MfE (2003) Planning for development of land on or close to active faults: A guideline to assist resource management planners in New Zealand*

¹¹ *Section 42A Report Appendix 1 – Comparison of proposed building importance typology with other approaches*

HIGH LAKE LEVEL RESILIENCE AREA

21. I support the need for a land use planning method at Lake Ōkāreka to manage flooding risk. However, I consider the new provisions for the High Lake Level Resilience Area - Lake Ōkāreka made in the s 42A Recommended Changed to the text document¹² under section NH-R5A are not appropriate.
22. I consider the approach on this matter as notified and set out as Option 1 in s 42A under Appendix 2 – Table 1 to be appropriate. I agree with this approach as notified for the following reasons:
- i. The NPS-NH Policy 5 requires the best available information to be used even when that information is uncertain or incomplete. I agree with evidence provided by Mr Cochrane and Ms McKay that the 2022 flood-level mapping information is appropriate for implementing flooding risk management provisions. I also agree with the summary and reasons raised by Ms Marshall that the flood-level maps are best referenced outside the plan to allow for regular updates and improvements.
 - ii. The RPS Policy IR 1B requires a precautionary approach where there is scientific uncertainty and a threat of serious adverse effects on the built environment. In my opinion, applying the same consistent flood risk management approach to Lake Ōkāreka and the wider District is an appropriate precautionary approach.

Mark Ivamy

2 April 2026

¹² *Appendix 4 of the Section 42A Report*