

**Barrytown Minerals Project – Southern Block
Fast-track application FTAA-2605-1238**

**Legal submissions of the
Coast Road Resilience Group Inc**

Submitted by email: substantive@fasttrack.govt.nz

28 September 2026

Introduction

Coast Road Resilience Group Inc

1. The Coast Road Resilience Group Inc (**CRRG**) is a local community group established in 2021 in response to an application by Barrytown JV Ltd¹ to mine on the Barrytown Flats.
2. The CRRG has 121 members, 85 of whom are Coast Road residents and ratepayers².
3. The CRRG aims to advocate for the wellbeing of the Coast Road community and environment. CRRG has engaged with the applicant, Tāiko Critical Minerals (**TCM** or **the applicant**), under its different names, and has followed closely the consenting process for mining mineral sands at Barrytown Flats since 2021 and, where permitted, actively participated in the process.

¹ Later TiGa Minerals and Metals Ltd, now Tāiko Critical Minerals Ltd

² The stretch of State Highway Six from Westport to Greymouth is locally known as the Coast Road



CRRG Comments on the Barrytown Minerals Project

4. The CRRG was invited to comment³ on the Fast-track proposal put forward by the applicant.
5. The proposal seeks approval for the mining of the Southern Block (including associated site works) and its rehabilitation, including the construction of a new wetland for the purposes of landscape and ecological enhancement of the site. The Southern Block comprises approximately 408ha on the Barrytown Flats (with mining to occur on approximately 280ha) from Fagan Creek to Canoe Creek (**Proposal**).
6. The CRRG's response to the Panel's invitation to comment consists of the following documents:

No	Document
Legal submissions (this document)	
Legal submission prepared for the CRRG by Ana Coculescu (barrister)	
CRRG comments	
1.	Comments of the CRRG to the Fast-track Panel in relation to the Barrytown Minerals Project Proposal – Southern Block, Fast-track application FTAA-2605-1238
Expert reports	
2.	Expert report of Dr John Bradley on Barrytown Radiation Geophysical Assessment
3.	Expert report of Prof Glenn Banks on Economic Benefit Analysis
4.	Expert report of Mike Geddis on lighting, light pollution, glare and potential effects on nocturnal wildlife including Westland Petrel Tāiko
5.	Expert report of Prof Brian McGlynn on wetlands and hydrology
Amended conditions of consent	
6.	CRRG amendments to the applicant's proposed conditions

Summary of CRRG primary legal submission

7. The CRRG's primary submission, in brief, is that the application does not provide sufficient information for the Panel to reach a decision. This is a result of the paucity of information in the application, particularly with respect to:

³ Minute 2 of the Expert Panel (**Panel**) - Invitation to comment Barrytown Minerals Project – Southern Block [FTAA-2605-1238], dated 31 August 2026



- a. the level of radioactivity of the mineral sands throughout the steps outlined in the Proposal - from mining of the deposit to disposal of waste slurry to the Southern Block, which is likely radioactive;
 - b. the effects on the environment of the Proposal (for example, resulting from the radioactive nature of the mineral sands, including assessing whether the proposed discharge of likely radioactive waste into an unlined mine void which could leach into groundwater manages the risk of radiation contamination; effects of the proposal on the wetland, its hydrology, and potential contamination of the groundwater;⁴ effects on Westland petrel tāiko populations from lighting used at the Proposal; cumulative effects);
 - c. the consequential economic assessment of the Proposal, if the relevant costs of these effects (and of addressing these effects) are taken into account.
8. Without this information, the Panel is unable to assess, among other things, whether suitable mitigation measures were proposed by the applicant as part of the application, or to determine the scale and significance of the cost of these effects (including by taking action) when compared to the Proposal's national and regional economic benefits.
 9. In CRRG's submission, a decision made without this information would give rise to an error of law, as the Panel would not be able to take into account relevant considerations in reaching a decision.
 10. These issues are discussed in more detail below:
 - a. Radioactivity information – insufficient, as the assessment of radioactivity is not credible; some radioactivity information is not included in the application; and some radioactivity assessments are lacking;
 - b. Failure to address known effects of NORMs radiation;
 - c. Unclear what the applicant will extract as part of this Proposal;
 - d. Insufficient information to assess effects and calculate economic benefits;
 - e. Economic benefits analysis incomplete;
 - f. Other environmental effects information lacking with respect to wetlands, lighting, contaminated land and cumulative effects;
 - g. Consenting matrix is lacking clarity, resulting in some consents not being applied for;

⁴ Expert report of Dr Brian McGlynn, paragraphs 62-63 (page 18)



- h. Alternative submission: CRRG amendments to conditions of consent;
- i. Conclusion.

Submission

A. Radioactivity information - insufficient

11. The Proposal contains insufficient information to allow the Panel to make a decision in relation to the radioactivity of the naturally occurring radioactive minerals (NORMs) found in the mineral sand deposits that the Proposal seeks to mine, process and, subsequently, dispose of.
12. The Panel and submitters do not know how radioactive the mineral sands are across the proposed processes they will be subject to. The applicant may also not know.
13. The application does not include any information on how TCM proposes to address the effects the Proposal will likely have on the radioactivity of NORMs. Radiation is already occurring, yet the application does not contain enough information for a baseline assessment. According to CRRG's evidence, further radiation effects arise when the NORMs are mined, transported, processed and, finally, disposed of as part of mine rehabilitation works – as will occur at various stages of the Proposal. No or little information is included assessing radiation at these stages.
14. Without this information, steps to assess the level of radiation and address preventable risks have not been identified in the application or the evidence, and, therefore, cannot be taken. In CRRG's submission, these risks are known and are preventable, if an applicant were to incorporate measures to protect the environment, the people in the local communities and the persons working at the applicant's site. This is however not the case in this Proposal.

Not credible assessment of radioactivity

15. The proposal does not provide a credible assessment of the radioactivity of NORMs located in the Southern Block at Barrytown, as discussed in the evidence of Dr Bradley.⁵
16. First, this is because the applicant sought to test radiation levels using the wrong tool for the job. The applicant's evidence shows that testing was undertaken using a pXRD, an x-ray fluorescence spectrometer.

⁵ Expert report of Dr Bradley, 28 Sep 2026, Appendix 2 to these submissions.



17. This approach has a number of known shortcomings as pXRF can detect the presence of elements (and even then, only partially) but does not measure radioactivity. This is detailed further below:
 - a. pXRF testing measures elemental concentrations (parts per million (ppm)).
 - b. pXRF does not measure radioactivity - *dose rates* are measured using mSv/year and *activity concentrations* using Becquerels per gram (Bq/g)). In other words, pXRF can detect the quantity of uranium and thorium in a sample, but it does not measure radiation doses or tell the difference between different isotopes of the same element. The result is that a sample can have low uranium mass (ppm) and be dangerously radioactive.
 - c. pXRF cannot detect radioactive daughter products like Radium (which is highly radioactive) or Radon (a gas present wherever there are NORMs, as is the case at the Proposal site) unless they exist in high enough elemental concentrations. These were not detected in the applicant's sample, yet in Dr Bradley's evidence there is radon at Barrytown Flats.
18. Once elements are detected using pXRF, radioactivity can be inferred, as occurred in the applicant's evidence. This has further shortcomings:
 - a. these inferred calculations usually understate measurements of radiation
 - b. the calculations take into account only one of three Uranium isotopes present, while ignoring other daughter isotopes especially radium.
19. pXRF testing is known to be wrong when used on mineral sands that are no longer in secular equilibrium, as is likely the case with respect of the mineral sands deposits the subject of this Proposal.
 - a. Mineral sands are unlikely to be in secular equilibrium when affected by chemical processes, including the action of water.
 - b. The mineral sands deposits at the Southern Block have been affected by water - they are located below the water table.
 - c. The applicant's evidence does not assess whether secular equilibrium is still present. In Dr Bradley's evidence, it is unlikely that secular equilibrium is present for these mineral deposits.⁶
20. Some of these shortcomings can be addressed. Following detection of uranium and thorium elements using pXRF, a radioactivity analysis can be undertaken to

⁶ Expert report of Dr Bradley, paragraph 54 (page 19).



determine radioactivity by measure the isotopes of uranium and thorium. However, no such radioactivity analysis was done on the as-received drill sample.

Radioactivity Information not included in application

21. Some information, while publicly available, is not provided as part of this application.
22. The substantive application refers to waste material (material left following separation at the mineral separation plant (MSP) and WCP facilities) as being transported back to the Southern Block mine and used to fill the mine void as part of rehabilitation work.
23. This material will be significantly radioactive, based on information that the applicant has made public as part of its NZX listing, but that is not included in this application.
24. The information is found in “Draft Barrytown Sands - Feasibility Study”⁷ prepared by Palaris for the applicant in 2023 (**Palaris report**).
25. The Palaris report contains an analysis of a laboratory process mimicking the process at the MSP.⁸ After removal of ilmenite and garnet from the HMC, the remaining “non-magnetic” fraction had a radioactive activity of 12.9 Bq/g.⁹ This is above the threshold in the Radiation Safety Act 2016 which triggers a requirement for a source license from the Office of Radiation Safety.
26. As part of this Proposal, the applicant will deposit that material, together with WCP waste, in the unlined mine void, as part of the Southern Block mine’s rehabilitation.
27. The substantive application does not discuss this finding, include details of the effects of the ionising radiation on the environment or set out any mitigation measures.
28. Dr Bradley’s evidence discusses an analysis of a sample of Barrytown heavy mineral concentrate carried out recently in the USA and published in the (peer reviewed) *New Zealand Journal of Geology and Geophysics* (Bradley et al. 2026) shows similar results as that in the Palaris report with non-magnetic fractions showing high levels of radiation.¹⁰

⁷ The Palaris report is a technical study that can be downloaded from TCM’s website:-

<https://static1.squarespace.com/static/644b46b31e5ec64fb7c97fd9/t/6981408ca78a51643c847681/1770078349009/TCM+-+Website+-+Investor+Info+-+Studies+-+Palaris+-+BJL5790-03+Barrytown+Sands+Project+-+DRAFT+Pre-Feasibility+13Jun23+v8.pdf>

⁸ Palaris report, table 13.7, p129

⁹ Palaris report, table 10.8, p 80

¹⁰ Bradley, JP, , Smith, C, Chouinard, J. (2026) Radiological Properties of Heavy Minerals in the Beach Sand Placer at Barrytown, New Zealand. *New Zealand Journal of Geology and Geophysics*, 69, <https://doi.org/10.1002/jgo2.70050>



Lack of Radioactivity Assessment

29. Some radioactivity information is simply lacking from the applicant's evidence, as no testing was undertaken:
- a. Groundwater at the Southern Block was not tested for radioactivity, when it is known that radioactive elements present in NORMs leach into water. The available evidence is that the groundwater was tested only for heavy minerals, which were present, and are an indication that radioactive minerals could also be present;
 - b. The applicant's evidence does not include a measurement of the radiation of the proposed slurry to be used in the rehabilitation of the Southern Block. The evidence quotes the radiation level in the slurry assessed in an earlier application as measuring 1.17 Bq/g¹¹. Based on the evidence of Dr Bradley, this slurry is likely more radioactive than the mined mineral sands;
 - c. A baseline assessment of the radiation levels of the entire mineral sands deposit at the Southern Block cannot be deduced from a single sample, given that radiation levels vary across NORMs deposits such as those found at the Southern Block. The methodology employed in the applicant's evidence for determining the baseline radiation level in the single sample of a sub-sample of "as-received drill samples" is different from that recommended in jurisdictions with NORM mineral sand mining. For example, the West Australian WorkSafe NORM-V Dose Assessment Guide¹² requires sufficient sample locations to be selected to obtain a statistically significant data base to determine representative natural background radiation levels. It continues with specific instructions for reporting geometric mean radiation levels and associated statistical variation estimates reported as "standard deviation" and "95% confidence interval"¹³ ;
 - d. It is unclear what type of sample was used for testing – whether this was a heavy mineral concentrate (**HMC**) or an unconcentrated borehole sample. The evidence refers to it as "as-received drill sample".

¹¹ Evidence of Mr Bougourd, paragraph 10 (page 3), Appendix L8A to the substantive application.

¹² Section 5.3 of the WorkSafe WA, *Managing naturally occurring radioactive material (NORM) in mining and mineral processing – Guide NORM-V Dose assessment* (February 2023), <https://www.worksafe.wa.gov.au/system/files/migrated/sites/default/files/atoms/files/norm-v-guide-sep23.pdf>

¹³ The ± figures after the radiation estimates in Mr Bougourd's report relate to instrument measuring errors, rather than the estimate in the errors (variability) associated with the level of radiation in the mineral sands. The latter remains unknown.



B. Failure to address known effects of NORMs radiation

30. In addition, the limited information on radioactivity provided as part of the applicant's evidence, fails to address known effects on the environment from mining, processing and disposing of NORMs.
31. The applicant's evidence notes that the level of radiation detected in the as received drill sample is "*well below the New Zealand Radiation Safety Act threshold limit of 10 Bq/g for materials to be categorised as radioactive*"¹⁴. This is also the case for the slurry the applicant proposes to dispose of in the Southern Block mine void; while the slurry from this Proposal was not tested, the applicant's evidence uses data from an earlier application, where slurry was measured as 1.17Bq/g.
32. The statement is correct – the evidence of the applicant does show measurements below the New Zealand statutory threshold requiring a licence.
33. However, Mr Bougourd's statement fails to acknowledge that there are known effects of radiation from NORMs on people and the environment.
34. For instance, with respect to the slurry, in Australia slurry with a measurement of 1.17Bq/g would be classified as radioactive waste and would require special conditions to ensure its safe management and disposal¹⁵. Even in New Zealand, radioactive waste has special requirements for storage and disposal¹⁶ and would not be disposed of in an unlined void, risking that the radiation contaminates land and groundwater, and potentially the sea given the close proximity to the coastal marine area.
35. The risks if this material is radioactive is that it contaminates (among other things) land, groundwater and potentially the sea. CRRG notes that the Resource Management Act 1991 prohibits discharges of radioactive material in the coastal marine area¹⁷, something that could occur as a result of disposing of radioactive slurry in an unlined void within metres of the coastal marine area.

¹⁴ Evidence of Mr Bougourd, paragraph 7 (page 2), Appendix L8A to the substantive application.

¹⁵ Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) (2005) Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing. Code of Practice and Safety Guide. RPS9. 62pp; Western Australia Department of Local Government, Industry Regulation and Safety: Managing Naturally Occurring Radioactive Material (NORM) in mining and mineral processing: Guides. <https://www.worksafe.wa.gov.au/publications/managing-naturally-occurring-radioactive-material-norm-mining-and-mineral-processing>

¹⁶ See, for example, the National Radiation Storage Facility. <https://www.health.govt.nz/regulation-legislation/radiation/additional-information-and-guidance/national-radiation-storage-facility>

¹⁷ Section 15C RMA.



36. The lack of assessment of the slurry leaves the applicant and the Panel without the ability to understand what effects would arise from its disposal in an unlined void/pit and the management of these effects long term.
37. The New Zealand statutory framework is limited to point source radiation sources so does not apply to NORMs. This is a known limitation of the radiation safety regime, and steps are in place to update the Act to align it with international recommendations.¹⁸
38. Internationally, the recommended threshold to take action is when radiation is above 1 Bq/g. This recommendation comes from the International Atomic Energy Agency (IAEA),¹⁹ the International Commission on Radiological Protection (ICRP)²⁰ and other jurisdictions (such as Australia²¹) where mineral sand mining is ongoing.
39. These recommendations are based on knowledge from other jurisdictions around NORMs and the management of environmental effects arising from mining them. Many of these effects can be addressed, provided mine operators acknowledge their existence and take the required action.
40. These effects can be quantified, including in economic terms - as loss of productivity for workers and locals who are impacted by radiation; costs to healthcare system from addressing health issues arising from radiation exposure; costs of remediating radioactive contamination of land and water sources, to name a few. No such information is included in the application or the applicant's economic benefits analysis.
41. The Act's statutory vacuum in relation to NORMs management in New Zealand offers the applicant a shield from responsibility for now. In a practical sense, however, having the knowledge that these effects have been observed time and again in other countries, CRRG submits that it is known that there will be effects, and these will

¹⁸ See the Radiation Safety Advisory Council's support to amending the Radiation Safety Act to address NORMs and adopt international safety recommendations into the Act, in the Radiation Safety Advisory Council, Annual Report 2024 at page 4. <https://www.health.govt.nz/system/files/2025-08/Radiation-Safety-Advisory-Council-Annual-Report-2024.pdf>

¹⁹ IAEA. 2014. *Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards* (GSR Part 3). (https://nucleus-apps.iaea.org/nss-oui/Content/Index?CollectionId=m_3761d926-c16f-4477-a63b-741a9db1c16c&type=PublishedCollection)

²⁰ ICRP Publication 103 (2007) The 2007 Recommendations of the International Commission on Radiological Protection. <https://www.icrp.org/publication.asp?id=ICRP%20Publication%20103>

²¹ Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) (2005) *Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing. Code of Practice and Safety Guide. RPS9. 62pp*; Western Australia Department of Local Government, Industry Regulation and Safety: *Managing Naturally Occurring Radioactive Material (NORM) in mining and mineral processing: Guides*. <https://www.worksafe.wa.gov.au/publications/managing-naturally-occurring-radioactive-material-norm-mining-and-mineral-processing>



result in moneys being spent to address the impacts on the environment (including on people) retrospectively.

42. In this case, taking preventive action, would be cheaper and proportionate to the economic costs of cleaning up radioactive contamination of land and waters at the Proposal site. CRRG is submitting that, if the Panel is minded to grant consent, the applicant be required as part of consent conditions that it meets NORMs management requirements, as discussed further below.

C. Unclear what the applicant will extract as part of this Proposal

43. CRRG prepared its comments to the Proposal on the understanding that the applicant has not sought consent for the extraction and concentration of rare-earth minerals under this Proposal, based on the current substantive application and its supporting evidence.
44. However, the Proposal documents are unclear on whether the applicant proposes to extract rare earth minerals from the Southern Block mineral sands.
- a. The substantive application states that the applicant proposes to mine “*the core products of ilmenite and garnet and the by-products of zircon and gold*”²²;
 - b. The Economic Impact of Barrytown Minerals Project report²³ states that in addition to ilmenite (59%), garnet (36%) and zircon (2%), 3% of export receipts will come from Critical Mineral Concentrate. There is no other mention in the substantive proposal of exporting critical minerals concentrate;
 - c. The substantive application further states that TCM has entered into a Heads of Agreement with the New Zealand Institute for Minerals to Materials Research for *inter alia* “*future innovation, including opportunities to extract additional high-value materials from the non-magnetic concentrate.*”²⁴ The evidence does not detail what these high-value materials are;
 - d. On the applicant’s website and in its NZX listing profile, TCM displays a diagram showing the proposed extraction processes including the extraction of rare-earth element mineral concentrate for export.

²² Substantive application, paragraph 3.1, page 9

²³ Economic Impacts of Barrytown Minerals Project, report prepared by Sense Partners, dated 9 March 2026, paragraph 26 (p4), Appendix L1

²⁴ Substantive application, paragraph 8.12(c) - Social and development benefits, page 55



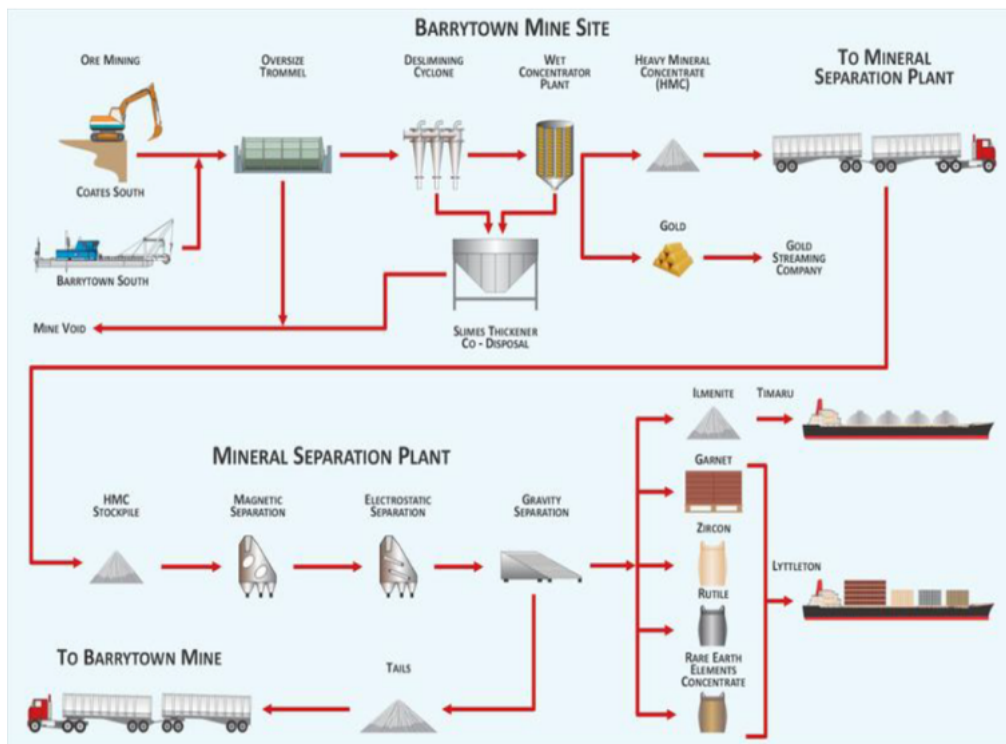


Figure from the TCM website showing proposed extraction and export of rare earth element concentrate – see bottom right

- e. In a 30 June 2026 meeting between the CRRG and TCM representatives, TCM stated that the company did not intend to export rare-earth mineral concentrate, and committed to amending the information on their website, including the diagram above, to this effect. This is yet to occur.
45. Clarifying whether the applicant proposes to also extract and process rare earth minerals is relevant with respect to radioactivity and the radioactivity effects on the environment of this Proposal in addition to the baseline. It is in this fraction of the mineral sands that most of the radioactive minerals can be found.
46. If rare earth minerals or other materials are proposed to be extracted, then the application needs to be amended:
 - a. to make it clear that rare earth minerals are also extracted,
 - b. to apply for the relevant consents for rare earth mineral extraction and
 - c. to provide additional assessment of the processes involved, and the consequential effects on the environment, including costs, from radiation effects resulting from this activity.



D. Insufficient information to assess effects and calculate economic benefits

47. As it currently stands, there is insufficient information about radioactivity of the NORMs throughout the proposed process outlined in the Proposal - from mining to disposal at the Southern Block as a slurry, as well as the application not being clear what the applicant proposes to extract.
48. Without this information, it is difficult for the applicant (and, by consequence, for the Panel, since this information is not provided):
 - a. to assess the effects the Proposal will have compared to the current baseline. This will require a baseline assessment as well;
 - b. to put forward measures to address those effects over the entire life of the Proposal, including in perpetuity for the radioactive waste slurry to be disposed of at the Southern Block as part of mine rehabilitation; and
 - c. to consider the costs to the Proposal of addressing these effects, for the purposes of the economic benefits assessment.
49. The applicant appears to assume in its application that the removal of ilmenite, garnet, zircon and gold from the extracted mineral sands will result in a product with less radioactivity. Based on the evidence of Dr Bradley, that is unlikely to be the case, since what remains is a concentrated product with an increased ratio of rare earth minerals that are highly radioactive.

E. Economic benefits analysis incomplete

50. The Proposal does not provide an adequate assessment of the alleged significant regional and national benefits²⁵ the Proposal expects to bring.
51. The Economic impacts of Barrytown Minerals Project²⁶ (**Economic Benefits report**) supporting the application does not include sensitivity testing to account for the volatility in commodity price throughout the life of the mine²⁷ which is important to mining due to the variability in returns as commodity prices fluctuate.
52. The applicant's evidence appears to assume that export revenue and GDP figures show that a proposal's significant national and economic benefit. CRRG's evidence raises questions about that approach.

²⁵ Section 3 Fast-track Approvals Act 2024

²⁶ Economic impacts of Barrytown Minerals Project prepared by Sense Partners, dated 9 March 2026, Appendix L1 to the substantive application

²⁷ Expert report of Prof Banks, paragraphs 16 and following (page 4 and following), Appendix 3 to these legal submissions.



53. The West Coast has been one of New Zealand's principal mining regions for more than a century. Mining brings jobs and revenues, yet parts of the region continue to experience high levels of deprivation. The applicant does not provide evidence to support the assumption that this mine will result in different outcomes²⁸ while bringing in between 53%-58% of the export revenue (which would benefit New Zealand). The rest of the value of the resource will go to company shareholders here and overseas.²⁹
54. Economic benefit analysis has relied on a calculation of net economic benefits in other applications under the Fast-track Approvals Act. The applicant's evidence does not address net benefits at all,³⁰ with no consideration given to costs to the local, regional and national economy of New Zealand when calculating the regional and national benefits.
55. A number of activities that will likely be impacted by the Proposal are not considered at all in the applicant's expert evidence. Examples include:
- Regional impact - impacts on tourism to the West Coast. These are under-researched;
 - Regional impact - impacts on the roading network (especially State Highway 6) resulting from its use as a haul road between the mine site and the MSP processing plant;
 - National and regional impact – costs of environmental matters including those of assessing radioactivity, potentially doing so on an on-going basis, as well as potential costs of addressing effects arising from the mining, handling, transporting and disposing of radioactive material;
 - National impact - costs of carbon emissions from the project.
56. The applicant is asking the Panel to consider the economic benefit resulting from already consented processing plants (WCP and MSP). The Fast-track Approvals Act does not provide for such an assessment. The Act allows economic benefits to be considered for staged proposals, such as this one, based on the ability of future elements to come to pass, not based on benefits arising from already consented elements.

²⁸ Expert report of Prof Banks, paragraphs 26-27 (page 7).

²⁹ Expert report of Prof Banks, paragraph 24 (page 6).

³⁰ Expert report of Prof Banks, paragraphs 29 and following (page 8 and following).



F. Other environmental effects information lacking

Wetland

57. The Proposal does not provide an adequate assessment of its effects on the existing wetland, and does not address whether the effects management hierarchy was applied³¹. In CRRG's evidence the Hydrology Assessment supporting the application contains minimal analysis of the existing wetland and rivers at the Proposal site.
58. In Dr McGlynn's evidence, there is no recognition in the application that the Barrytown Flats are natural wetlands and any other uses are difficult to implement,³² therefore the site the subject of the Proposal should be restored as a wetland following completion of mining.³³
59. The partial restoration of the site to a wetland once the proposed mining is completed is likely insufficient to offset wetland loss, with the application and its supporting evidence underestimating the natural wetland extent³⁴ and the Panel needing to engage independent experts to assess the wetland so as to determine the adverse effects.
60. The Proposal will alter fundamentally this area, resetting soil and subsurface hydrology, geochemistry and ecosystem development.³⁵ The adverse impacts are difficult to quantify given the decimating the effects of the Proposal. If the Proposal proceeds, this will lead to near total loss of wetlands in the mined area, and potentially in adjacent areas too.³⁶
61. In CRRG's submission, as supported by Dr McGlynn's evidence, the entire area should be returned to wetland.³⁷

Lighting, light pollution and glare

62. The Proposal does not provide sufficient information with respect to light effects, to allow an assessment of its effects on Westland Petrel tāiko, as outlined in the expert report of Mr Geddis³⁸.

³¹ Expert report of Dr Brian McGlynn, paragraph 40 (pages 13-14)

³² Expert report of Dr Brian McGlynn, paragraph 20 (page 6)

³³ Expert report of Dr Brian McGlynn, paragraph 27 (page 10)

³⁴ Expert report of Dr Brian McGlynn, paragraphs 28-29 (page 10-11)

³⁵ Expert report of Dr Brian McGlynn, paragraphs 36-37 (pages 11-12)

³⁶ Expert report of Dr Brian McGlynn, paragraph 39 (page 12)

³⁷ Expert report of Dr Brian McGlynn, recommendations and paragraphs 69-71 (pages 20-21)

³⁸ Expert report of Mike Geddis on lighting, light pollution, glare and potential effects on nocturnal wildlife including Westland Petrel Tāiko, dated 27 September 2026, Appendix 4 to these submissions



- a. The application does not include details of the lighting to be commissioned but only a design brief. This makes it difficult to assess its suitability³⁹.
 - b. Applying ordinary standard, as proposed by the applicant, is not enough, as these are assessed based on human vision rather than impact on wildlife.⁴⁰
 - c. Furthermore, the applicant has not shown how what measures were taken to avoid light effects on the wildlife, including Westland Petrels tāiko.⁴¹
63. In Mr Geddis' evidence, any consent should include a condition for a lighting management plan to guide design⁴² while managing effects on wildlife, in particular Westland Petrels tāiko which have a flight path within proximity to the Proposal site⁴³ and require seasonal controls to address fledgling period.⁴⁴

Contaminated land

64. The Proposal does not address management of contaminated land and does not seek consents under the *Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS)*.
65. The site on which the Proposal is located, the Southern Block, is a former gold mine, as acknowledged by the applicant's substantive application.⁴⁵ Mining industries are listed in the HAIL list,⁴⁶ making this site subject to the NESCS under cl 5(7)(b). The Proposal is to disturb the soil at the Southern Block, which falls within the activities requiring NESCS consent under cl 5(4)(a).
66. No detailed site investigation of land contamination was provided as part of the application, so the NESCS continues to apply requiring consents. No application was made for consent under the NESCS, and, as a consequence, no information is provided to assess land contamination at the Southern Cross or measures address land contamination as it seeks to disturb land where a HAIL activity has been undertaken.

³⁹ Expert report of Mr Geddis, paragraph 10.1 (page 13)

⁴⁰ Expert report of Mr Geddis, paragraphs 10.2 and 8.4 and 7.1 (pages 13 and 9 and 7)

⁴¹ Expert report of Mr Geddis, paragraphs 10.2-10.3 (page 13)

⁴² Expert report of Mr Geddis, paragraph 10.5 (page 13)

⁴³ Expert report of Mr Geddis, paragraphs 7.3 and following (page 7 onwards)

⁴⁴ Expert report of Mr Geddis, paragraphs 9.5 (page 11) and conditions 13-14 (section 11 at page 14)

⁴⁵ Substantive application, paragraph 5.3-5.4 (pages 14-15)

⁴⁶ Ministry for Environment, Hazardous Activities and Industries List (HAIL), October 2011
<https://environment.govt.nz/assets/Publications/HAIL.pdf>



Cumulative effects

67. No consideration of cumulative effects from this Proposal together with the effects from earlier consents.

G. Consenting matrix lacking clarity

68. TCM's Barrytown minerals project relies on an interplay between this fast-track application and several resource consents already issued by Grey District Council and West Coast Regional Council.
69. It is unclear what each consent covers and if, indeed, as the applicant has sometimes stated, earlier consents have already addressed some issues.
70. The granted consents cover:
- a. the Central (Coates) block for mineral sand mining and processing (RC-2023-0046, LUN-3154/23, *Coast Road Resilience Group Incorporated v West Coast Regional Council* [2024] NZEnvC 238). The Environment Court consent orders also cover consents, and corollary conditions, for the Wet Concentrator Plant (WCP);
 - b. relocation of the WCP within the fast-track application area (LU3473/25 and LU3489/25³, RC-2025-0170-01); and
 - c. the Mineral Separation Plant (MSP) at Rapahoe (LU3329/25).
71. The CRRG submission contains two visual aids, prepared by the CRRG, summarising the consents in flow-chart and map form.⁴⁷
72. The complexity arising from the suite of consents applicable to the entire project will give rise to difficulties for the applicant, regulators and the public to know what consents are in place and what consents aren't; what conditions apply to which component of the project. This will make compliance and enforcement challenging. This arrangement also adds to the cost of the Proposal – as direct costs of monitoring and compliance, as well as potential future costs around enforcement.
73. An error resulting from this complex matrix of consents has arisen as part of this application, whereby the application references a GDC consent for the Mineral Separation Plant (MSP)⁵ that incorrectly states it was granted for 20 years, when actually the relevant consent conditions referring to duration has been removed.⁴⁸

⁴⁷ CRRG comments, dated 28 September 2026, paragraph 11 (page 5)

⁴⁸ Minute 4 of the Commissioner hearing the MSP consent application, dated 22 December 2025, notes that condition 42 was removed from the consent and the consent is now granted in perpetuity.



Consents not applied for or lacking information

74. There are a number of consents which have not been applied for and are not yet in place, such as consents for the processing, storing and transporting rare earth mineral concentrate as a non-waste product at the MSP, and discharge consents relating to the Southern Block proposal.
75. The Proposal does not provide sufficient information for the Panel to be able to grant the following consents:
 - a. transporting waste material from the MSP to the mine the subject of this Proposal;
 - b. the WCP receiving MSP waste material;
 - c. this fast-track project seeks a 35-year approval, although the operation of the mine is supposed to last only 14 years. The long-term adverse effects from the presence of the WCP for this timeframe have not been adequately considered by previous consent applications.

H. Alternative submission: CRRG amendments to conditions of consent

76. As noted above, CRRG's primary submission is that there is insufficient information for the Panel to make a decision on this application, and accordingly this will constitute an error of law.
77. However, if the Panel is nonetheless minded to grant consent, CRRG submits in the alternative that such a consent should incorporate conditions that address, among other things:
 - a. radiation management for mining of NORMs;
 - b. transport, incorporating the transport conditions from the Central Block consent with operation hours restricted so as not to allow no mining or trucking on Saturdays or Sundays;
 - c. Westland petrel/tāiko and avian management;
 - d. lighting management;
 - e. dust management;
 - f. mine rehabilitation;
 - g. Community Liaison Group and community agreement; and
 - h. bond.



Radiation management for mining of NORMs

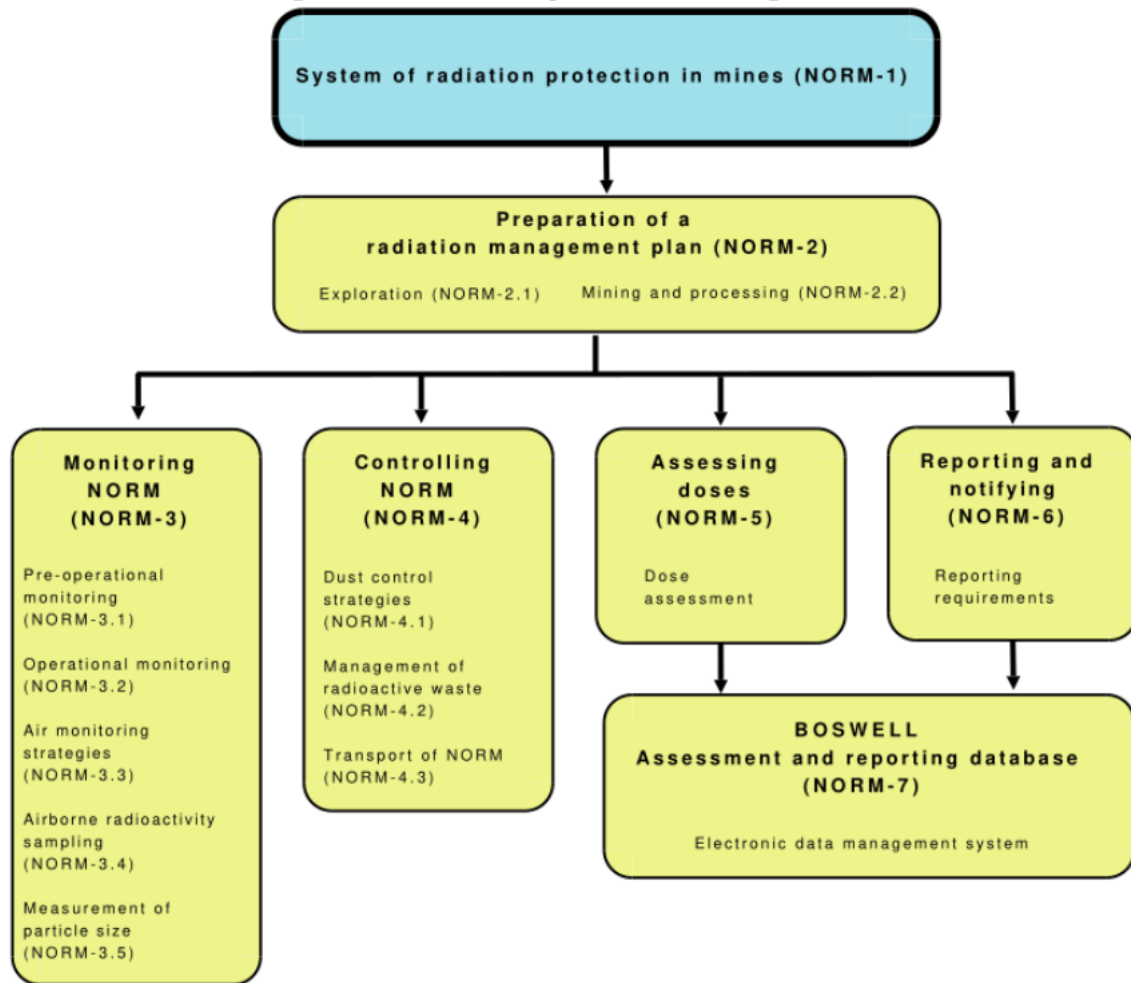
78. CRRG submits that the consent conditions for the Proposal must address radiation management from NORMs. Since New Zealand's regulatory framework for NORMs is not up to date with international radiation safety recommendations, the changes CRRG supports align with:
- a. WorkSafe Western Australian *Managing naturally occurring radioactive material (NORM) in mining and mineral processing: Guides* (2023) (**WA Guides**)⁴⁹ and
 - b. the New Zealand Ministry of Health *Compliance Guide: Management of Naturally Occurring Radioactive Material (NORM) in Mining and Mineral Extraction make up the regulatory framework for NORM* (June 2026) (**Compliance Guide**).
79. The Compliance Guide supports early action by mine operators:
- Typical occasions for assessments are: while planning mining and processing operations.* (section 3.1)
- Control measures, including facility and process plant design, and dust suppression and extraction.* (section 3.2)
80. Meeting the requirement of the Compliance Guide would ensure that the activities undertaken at the Proposal are assessed for radiation at least once consent is granted and the applicant exercises the consents.
81. The Compliance Guide is a high level overview document. It does not address details of the implementation of a radiation safety plan nor the management of radiation safety during mining and mineral processing, which is why the CRRG supports conditions that align with the WA Guidelines as well.
82. Western Australia has, comparatively, a long history of mineral sand mining. The WA WorkSafe has produced a comprehensive suite of 12 guides providing detailed and comprehensive guidance for managing naturally occurring radioactive material in mining and mineral processing⁹ The diagram below, taken from the first guide⁵⁰ provides an overview of the inter-relationship of the NORM guides with respect to mining and mineral processing operations.

⁴⁹ <https://www.worksafe.wa.gov.au/publications/managing-naturally-occurring-radioactive-material-norm-mining-and-mineral-processing>

⁵⁰ Department of Mines and Petroleum (WA), NORM-1 Applying the system of radiation protection to mining operations (2010) https://www.worksafe.wa.gov.au/system/files/documents/2025-04/MSH_G_NORM-1.pdf



Figure 1.1.: Relationship to other NORM guidelines



83. These guides are based on decades of experience managing radiation risk in sand mining in WA. It would be reasonable to use these detailed guides when planning, agreeing on and implementing a radiation management plan, undertaking sampling of mineral sands in situ, field and plant radiation monitoring, and during mineral processing and site rehabilitation.
84. If the Panel is minded to grant consent to the application, CRRG submits that conditions of consent require compliance with these guides with oversight from the Office of Radiation Safety.

Community consultation conditions

85. CRRG also submits that the consent conditions should include clear community consultation obligations.



86. The CRRG disagrees with the applicant's assertion that "*throughout the process of gaining these required authorisations, the company has undertaken extensive consultation with the local community...*"⁴. This has not been the CRRG's experience in relation to the MSP and WCP relocation. The consent application for the Central Block was publicly notified, allowing CRRG to participate fully in the process. The other consents (for the MSP and re-location of the WCP) were not publicly notified so CRRG had no opportunity to participate.
87. CRRG also requests that the Technical Advisory Group be consulted regarding compliance with the NORMs guides referred to above.⁵¹

I. Conclusion

88. The lack of information, in CRRG's submission, does not allow the Panel to assess the effects of the Proposal, of any actions proposed to avoid, remedy, mitigate those effects, which in turn would impact the Panel's ability to compare effects to the economic benefits of the Proposal and, ultimately, make a decision.
89. If the Panel is minded to continue its consideration of the Proposal, CRRG submits in the alternative, that the Panel should:
- a. seek independent expert advice on this matter from both a geophysicist and a health scientist; and
 - b. impose consent conditions on the Proposal informed by independent expert advice to address safety concerns around the transportation, return and admixing of the radioactive waste back at the Southern Block mine site, including environmental monitoring during and after the rehabilitation process.
90. If the Panel is minded to grant consent, CRRG proposes amendments to the applicant's proposed conditions,⁵² included in Appendix 6 to these legal submissions.



Ana Coculescu

For Coast Road Resilience Group Inc

28 September 2026

⁵¹ Condition X.3 (a) in CRRG amended conditions of consent, Appendix 6 to these legal submissions

⁵² Appendix P1 to the substantive application



Index of appendices to these legal submissions

Appendix No	Document
CRRG comments	
1.	Comments of the CRRG to the Fast-track Panel in relation to the Barrytown Minerals Project Proposal – Southern Block, Fast-track application FTAA-2605-1238
Expert reports	
2.	Expert report of Dr John Bradley on Barrytown Radiation Geophysical Assessment
3.	Expert report of Prof Glenn Banks on Economic Benefit Analysis
4.	Expert report of Mike Geddis on lighting, light pollution, glare and potential effects on nocturnal wildlife including Westland Petrel Tāiko
5.	Expert report of Prof Brian McGlynn on wetlands and hydrology
Amended conditions of consent	
6.	CRRG amendments to the applicant's proposed conditions

