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EEZ15 08

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Dear Simon

Request for Further Information from Coastal Resources Limited (CRL)

The Decision-making Committee (the DMC) requests the following further information under section 54(1) of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (the EEZ Act) relating to your application for marine dumping consent (EEZ100015).

The further information is necessary, in the DMC's opinion, to assist it in understanding and determining the application. The requests are detailed in Appendix 1.

In accordance with section 55 of the EEZ Act, within five working days from the date of this request you must either:

- a. provide the requested information; or
- b. write to the EPA agreeing to provide the requested information; or
- c. write to the EPA informing it that you refuse to provide the requested information.

If the DMC receives written confirmation from you that you agree to provide the requested information, we are then required to set a reasonable time by which you must provide the information to us (section 55(2) of EEZ Act).

We anticipate that **25 October 2018** is a reasonable date for providing the further information. If you think you will be unable to provide the information to us by that time, please indicate a date by which you will be able to provide it to us.

These matters may be addressed in the evidence to be submitted by you. If so, please advise separately where this has been done.

Please provide this further information to the EPA. The information will form part of your application and will be made available on the EPA website and provided to other parties.

If you have any questions or further queries please don't hesitate to contact the Project Lead, Amy Selvaraj on 021 676 494 or Amy.Selvaraj@epa.govt.nz.

Yours sincerely



Richard Johnson
Manager, EEZ Applications
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Appendix 1 – Further Information Request

Below are 29 questions forming the further information request to Coastal Resources Limited from the Decision-making Committee. The questions have been grouped under six topics:

- A. Dispersal and resuspension of material dumped.
- B. Information relating to existing activity and the state of the NDA.
- C. Marine mammals
- D. Alternative methods
- E. Hull cleaning
- F. Wave periods

We have also prefaced questions with a background section to explain the context.

A. Dispersal and resuspension of material dumped

Background

Section 5.6 of Appendix 4 to the application, notes that particle size distribution of core samples retrieved from the centre of the NDA indicate a 6% difference in the proportion of silts and clays compared to the material dumped there, and suggests that these losses of fine material are consistent with the predicted loss of 1-5% of material through dispersal.

Over the course of the consent 1-5% of the material would equate to 80,000m³ to 400,000m³. In section 5.4.7 of Appendix 4 to the application, the peak non-tidal current velocities are described as 0.43 m/s near the surface decreasing to 0.12 m/s at the seabed. These values would indicate that dispersed material could reach the NDA boundary in 1-3 hours, assuming it was dumped at the geographical centre, and material did not settle within that time frame. As the application proposes to dump material to within 1000m of the NDA boundary, these timeframes may be reduced accordingly. The extent to which the dispersed material may be transported beyond the NDA is not discussed.

Questions

1. What proportion (out of the total from any one load) of the dumped material is likely to be transported by currents and wave action beyond the NDA at the surface, within the water column, and in movement along the seabed?
2. How will this proportion be influenced by seasonal/weather variations?

Background

In section 5.4.6 of appendix 4 to the application (Beca report), referencing Flaim's 2012 PhD thesis (Flaim 2012), the influence of the tides in the region is noted as being relatively small and contributing approximately 25% of overall flow.

Section 3.7.2 of Flaim 2012 indicates that the tide contributes to cross-shore direction with 25% – 65% of overall flow, and in alongshore with 4% - 25% of overall flow.

Questions

3. Please provide an explanation of the discrepancy between the Beca report and Flaim 2012.
4. What influence does the tidal current have on the dispersal from each dumping event?
5. What influence do these currents have in dispersing sediment outside the NDA?

Background

Section 5.4.7 of the Beca report suggests a seasonality to the currents at the NDA with predominant flow to the Northwest during December to April, and Southeast for the remainder of the year.

Questions

6. Has the impact of the Northwest flow direction, coupled by a flooding tide, been considered in terms of dispersal?
7. If yes, what does the analysis show in terms of dispersal of sediment?

Background

The application states that no short term cumulative effects will take place if >1h is allowed between dumping of two successive loads. This seems to contradict with statements in section 6.3 of Flaim 2012, i.e. that there is increased potential for resuspension when subsequent loads are dumped at the same location, and material has not had time to settle out between loads.

Questions

8. What calculations/studies have been done to show the effect of time between dumps for resuspension of sediment?
9. What do these studies show in terms of the effects of successive dumpings where material from one load has not settled out from a previous dump?

Vertical Transfer of Material

Flaim's Thesis at 5.8.3 deals with Near-Field Dispersion Calibration by modelling change in bed thickness contours corresponding to load disposed. Even with the model deficiencies (associated with using the Mud Transport Module) – it significantly underpredicts the spatial and temporal extent of dispersion, it is Flaim's conclusion that AMDG can be classified as a non-dispersive site [6.2].

10. Given the projected life of the site coupled with the cumulative amount of material projected to be deposited, what is the risk that the increasing thickness of deposited sediment will in some time in the future be subject to lateral dispersion (by avalanching? side collapse?) sending material beyond the designated zone?

Background

Section 5.4 of the Beca report describes metocean characteristics of the site, based on field studies at the NDA and other studies in the region. The field studies are temporally limited. It is also unclear which geographical area is included in reference to "the region". The implication of seasonal variations on the dumping operations, e.g. how the dredged material is dispersed, is not clear.

Questions

11. How will changing weather conditions, sea state and stratification at the site influence the dispersal of the dredged material through the year?
12. What are the metocean operational limitations for the barges proposed to be used?
13. How many days a year is it anticipated that weather conditions will prevent transport to the site/dumping

B. Information relating to existing activity and the state of the NDA

Background

Section 6.2 of in the 2011 post-monitoring report (2011 report), referenced as Appendix A to Appendix 4 to the application, include images from visual observation of the surface plume up to 34 minutes after dumping. At 34 minutes past dumping the plume is still clearly visible.

Questions

14. Were images obtained beyond 34 minutes after dumping?
15. If yes, please provide these images.
16. If not, what was the reason for terminating visual observations while the plume was still visible?

17. Has observation of surface plumes been documented at the NDA after those reported in the 2011 report?
18. If yes, for what duration were such observations made, and how were the observations documented?
19. Please provide any visual records of the visual extent of the plume taken after 2011.

Background

In section 6.54 of the 2011 report it is noted that on 26 July 2010, underwater video was recorded at nine locations across the NDA, for 3-5 minutes at each site.

Question

20. Please provide all video material of all the sites recorded within the NDA.

Background

To help determine the baseline environmental state and the degree to which any potential sedimentation outside the NDA, as caused by the dumping, may impact on the surrounding environment.

Question

21. What is the natural sedimentation rate in the NDA?

Background

Section 4.7 of Appendix 5 to the application (Bioresarches report) notes that “*no sensitive species or ecosystems have been encountered in the disposal area or are expected to occur in the nearby environment*”.

Questions

22. Identify the databases or other information relied on to form this opinion.

C. Marine mammals

Background

During consultation for the Maritime New Zealand permit (now deemed marine dumping consent EEZ900012) the migration of taonga species through the area is noted (section 3.2.4 of Appendix C to the Beca report).

Questions

23. What data is available on marine mammals in the NDA and their transit route in the EEZ since the MNZ permit was granted?
24. Identify particular times of the year when marine mammals may be more likely to be in the vicinity of the NDA (e.g., during migratory seasons).
25. What operational measure could be implemented to mitigate the risks to marine mammals during these periods?

D. Alternative methods

Background

A relevant consideration for the DMC is alternative methods of disposal. The costs of those alternative methods is relevant.

Question

26. Appendix 6 to the application (Property economics report) indicates cost of landfill option as \$1.4-1.7/ m³, how does this compare to the costs/m³ for sea-dumping?

E. Hull cleaning

Background

The frequency, and method with which the hulls of vessels involved with the dredging and dumping operations are cleaned can impact on the likelihood of spreading unwanted organisms to other locations (barges moving between sites), both within the CMA from operations, and at the NDA.

Question

27. How frequently, and by what method, are the hulls of the vessels used for dumping cleaned?

F. Wave period**Background**

In section 6.1.2 of the Beca report, a current of 0.2m/s - 0/3m/s is noted, relating to the speed required for erosion of the mound to occur. In Appendix B to Appendix 4, this is achieved at 120m depth (0.21m/s) at a wave height of 11.6m. The wave period chosen is 12s, while typical for the area is cited as 9-13s

Questions

28. Why was a wave period of 12s chosen?

29. What is the difference in effect on mound erosion caused by wave period?