BEFORE A DECISION-MAKING COMMITTEE
OF THE ENVIRONMENTAL PROTECTION AUTHORITY

Under	the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012
In the matter of	an application for a marine dumping consent to dump dredged material at a deep-sea site east of Great Barrier Island
By	**Coastal Resources Ltd** Applicant

Held in Room 4.02/4.03 Karstens, Level 4, 205 Queen Street, Auckland, commenced Tuesday, 4 December 2018 at 10.00 a.m.

Board Committee Members:
Mark Farnsworth (Chair)
Basil Morrison
Gillian Wratt

TRANSCRIPT OF PROCEEDINGS

I N D E X

DAY 5 (4 December 2018)

HOUSEKEEPING

CHAIR: Kia ora tatou, people. This Decision-Making Committee has been convened by the EPA to hear an application from Coastal Resources Limited to authorise the disposal of 250,000 cubic metres of dredge material per annum at the Northern Disposal Area. We are reconvening the 5th day of the hearing and welcome to you all and we have a short commercial break.

MS IOANE: Good morning. My name is Tuf. For those of you who are new today, just a few things. In the unlikely event of an emergency, a siren will sound. The emergency exits are outside by the - you go out, turn right and they're on both sides of the lifts. The toilets are also there, the ladies are on the right and the men are on the left. Just by them there are the exit doors there. Go down the lift and the assembly point is out by the Wilson Carparking just out the back of the building and that's where the assembly point is. No smoking on the premises obviously, just outside.

If there's anything you require, please don't hesitate to come and see myself or Gen.

CHAIR: Thank you for that. I am Mark Fainsworth, I am the DMC Chair. I am assisted in this matter by two Commissioners and I will get them to introduce themselves please.

MS WRATT: Kia ora koutou, I am Gillian Wratt, I am based in Nelson and I am the EPA Board member on the DMC.

MR MORRISON: Morena, Basil Morrison, I live in Paeroa.

CHAIR: Okay. So, welcome to the economists. I have really got to say, that was difficult reading, people. I was going to be good and not say anything but I just couldn't, it was real hard. Thank you very much. We'll move on.

Why don't the three of you come up here, please?

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KIERAN MURRAY

GREG AKEHURST

SUSAN FAIRGRAY

EVIDENCE

CHAIR: You have to give the Chair a wee bit of leeway.

MR MORRISON: It made it a lot easier to sleep. Sorry I didn't say that. Forgive me, I'm a farmer, I don't understand economics.

CHAIR: Before we start, why don't the three of you give a quick introduction of yourselves for the record?

MR MURRAY: My name is Kieran Murray, I am a professional economist and a Managing Director of an economic consultancy firm, Sapere Research Group.

MR AKEHURST: My name is Greg Akehurst, I am an economist and geographer and I am a director of Market Economics.

MS FAIRGRAY: I am Susan Fairgray, I am an urban economist and geographer and I am employed as a consultant by Market Economics.

CHAIR: We are in your hands, Mr Murray, initially.

MR MURRAY: Thank you, Sir. I have prepared a summary statement which I hope is in plainer English than the document we jointly worked on over the weekend.

I was just going to start at paragraph 6, Sir, which begins with a comment on the scope and approach by Market Economics Limited.

I consider the Market Economics Report prepared by Mr Akehurst and Ms Fairgray directly responds to the questions that were raised in my 1 November report for

the DMC and its addendum. I also consider the overall approach applied by Mr Akehurst are sound and fit for purpose. Those comments apply both to the approach to estimating the cost of the alternatives and the approach used to model future demand for dredging.

However, I disagree with several key assumptions adopted by Mr Akehurst. The assumptions I consider more plausible would materially reduce the forecast demand for disposal of dredged material at the Northern Disposal Area.

To assist Mr Akehurst to respond efficiently, I advised him ahead of the economic conference that I agreed with the scope and approach to his report but that I had concerns about key assumptions. I provided him with a written explanation of those concerns just ahead of the conference and we discussed my concerns during our caucus on Friday morning.

I didn't unfortunately because of the time taken receive his revised model and explanation until 3.00 p.m. yesterday just ahead of our 4.00 p.m. deadline and, hence, I haven't had an opportunity in the draft that you have in front of you to respond to that further work.

I have reviewed Mr Akehurst's response overnight and will outline in the summary statement where I consider we have an agreed view, as well as those matters on which we differ and which I think are material to the conclusions to be taken from his report.

In terms of the alternative means of disposal. I understand that Mr Akehurst and I agree that where reclamation is available, it is a lower economic cost option than disposal at the Northern Disposal Area. This is because reclamation avoids the cost of acquiring and trucking in fill from an alternative source to use in that reclamation.

We also agree that future opportunities for significant reclamation within Auckland seem unlikely. There is some scope, it seems, for reclamation in the regions beyond Auckland, and, for example, reclamation is proposed for the expanded Whangarei Marina Disposal to cleanfill is an available option, and would cost less than disposal to landfill. The disposal to landfill were the options initially modelled by Property Economics and Market Economics. I give an example of cleanfill site located close to Pine Harbour which I contacted by phone and which advised me they would take wet dredged material for about $35 a tonne or about $63 a cubic metre.

Trucking costs, however, would make disposing to land significantly more costly than barging to the Northern Disposal Area. As a general rule of thumb, on the numbers that we have done, disposing to land would cost around two to three times the existing cost of dumping at the Northern Disposal Area, unless that land option was close or adjacent to the dredge site which clearly is not the case for the Auckland City marinas.

Mr Akehurst and I agree that current demand for disposing maintenance dredging material at the marinas serviced by CRL has in recent years averaged around 17,500 cubic metres per annum and those numbers are in Table 9 of the ME, Market Economics Report.

We also agree that the Ports of Auckland has, on average, dredged around 38,000 cubic metres per annum. Hence, if the Ports of Auckland were to shift its disposal to the Northern Disposal Area, and existing marinas were to maintain their current practice of the last few years, then that would total 55,500 cubic metres of dredge material.

Mr Akehurst and I also agree that the dredging

proposed for the America's Cup venues would produce a further 70,000 cubic metres of dredged material in total, that is not an annual amount, and that excludes the potentially contaminated material that would be disposed of separately.

Looking to the future in terms of dredging from the existing marinas. Mr Akehurst proceeds with his modelling by assuming that dredging at the existing marinas would be significantly higher in future than in the past and I comment on his approach under two headings; "Capital dredging" and then separately "Maintenance dredging".

Capital dredging, which is dredging to create new capacity or deeper capacity, Mr Akehurst calculates the quantity of dredging material that would be produced from each existing marina if the entire areas zoned under the Auckland Unitary Plan for each marina, but not currently used for marina facilities, were dredged to create new berths and assuming that those new areas would require dredging by 2.5 metres.

The volumes that are produced from that calculation substantially exceed the projections for capital dredging at existing marinas set out in the evidence of CRL. Mr Akehurst refers to the CRL projections for capital dredging as consented volumes. I was not able to verify whether the values are in fact consented. Mr Thompson and Mr Shearer provide evidence on consented values for the marinas modelled by Mr Akehurst but the values stated in their evidence do not match the CRL projections for capital dredging.

Mr Akehurst's reasons that the difference between his calculation and the CRL projections is because the new dredging would be less than 2.5 metres on average as new berths would be created in deeper waters than the

existing average for those marinas. I consider a more plausible explanation of the differences is that there is no expectation that the entire remaining areas zoned for marinas in Auckland will be dredged. That is, it's unlikely that the next least cost option for new marina berths in Auckland is dredging all of the remaining zoned areas.

Unfortunately, Mr Akehurst does not calibrate his model so that it produced a result that is reflective of a planned capital dredging programme. Hence, Mr Akehurst's capital dredge calculation is simply an estimate of the maximum amount that might conceivably be dredged from all existing marinas, assuming the 2.5 metre depth.

Mr Akehurst shows that the CRL's prediction for capital dredging is less than that maximum conceivable volume but, in my view, provides no insight into whether the CRL prediction is reasonable or likely to occur.

For clarity, in the numbers that Mr Akehurst then presents, he adopts the CRL measure for capital dredging, not the higher number produced by his modelling.

Turning to maintenance dredging. In estimating maintenance dredging from existing marinas, Mr Akehurst assumes that all the zoned areas had been dredged to their maximum extent in terms of area, and therefore that expanded area must be maintained. That follows and is consistent with his approach to estimating the capital dredging. And that all existing marinas, except for the Half Moon/Bucklands Beach marinas, would dredge deeper in the future than they have in the past.

The result is an estimate of the quantity of dredging that would be produced if maintenance dredging were maximised at all existing marinas.

To illustrate the impact of those assumptions, five

marinas that we estimate currently produce around 17,500 cubic metres of maintenance dredging would, under Mr Akehurst's calculations, produce over 57,000 cubic metres of maintenance dredging per annum.

In Mr Akehurst's report, it effectively assumed that the additional capital and maintenance dredging occurs at no cost, no marina user would receive a higher bill and as a result consider whether they still wish to utilise the berth.

Following our caucus, Mr Akehurst has added a partial response to some of this increased cost, and that's the material that came through yesterday afternoon.

In that approach, Mr Akehurst factors in only the cost of dredging an existing marina to a deeper depth but not the cost of expanding the areas, nor the cost of maintaining that expanded area. That calculation is most easily seen in the spreadsheets from looking at the estimate for Half Moon Bay/Bucklands Beach. As noted earlier, that marina is assumed not to dredge deeper and, therefore, under the revised calculations from Mr Akehurst, there is no change in cost to the users of that marina. No-one is asked to pay for the dredging of the expanded area, nor maintaining that area. The number of new berths is a comparatively small number relative to the quantities dredged, so charges must be increased somewhere.

Mr Akehurst limits his modelled response to the cost changes to his estimate of household demand for boats; no marina trims the amount it dredges because of the reaction to its users to higher charges. However, the evidence of Mr Shearer is that marinas are currently being dredged less than consented levels because of an unwillingness for users to pay higher costs.

Mr Akehurst includes dredging for three unidentified marinas. These marinas are termed Coromandel, Tonkin and Taylor and Confidential - Auckland. The values provided in the report are those as provided to Mr Akehurst from CRL and do not result from Mr Akehurst's estimates.

Mr Akehurst does assess the total number of berths that would result if those unidentified marinas would require the same average berth space as existing Auckland marinas and also dredged to that average depth of 2.5 metres.

He adds that estimate of the additional berths to his estimate of the berths that could be created if the existing marinas were dredged to their maximum extent, and concludes that the total of those additional marina berths would align with his forecast of expected demand growth for marina berths. He then adds a further contingency value of 200,000 cubic metres, which is not supported by any analysis or reasoning in the reports.

The time period over which Mr Akehurst anticipates dumping at the Northern Disposal Area to ramp up from the existing 17,500 metres to 250,000 cubic metres is not explained in his report.

Demand for new marina berths. Mr Akehurst forecasts demand by estimating the existing number of berths and inflating that number out 10 years by assuming demand for new marina berths grows at a quicker rate than the expected population growth in Auckland.

That approach is reasonable but the results provided yesterday, he introduced an error and continues with the growth assumption that is high relative to the other studies that I have seen and what is known about demand for boats suitable for marina berth.

The introduced mistake is he adds to his base number the estimate of the existing number of berths, the berths

that have not yet been built, such as the berths that would be created for Putiki Bay (Waiheke). So that in his model the existing berths, plus those yet to be built, are then escalated forward or inflated forward and result in an increase in demand, rather than being those additional berths that are yet to be built are in fact an additional supply that can be used to offset that additional demand.

His estimate of the existing marinas and hence, the value projected to increase over time, is also, in my view, overstated by assuming that the existing capacity at marinas is 100% utilised and there's a latent demand or waiting list of some 360 boats that cannot find a berth at any of the existing marinas.

I conducted a telephone poll of the existing marinas and there are berths available outside of the city marinas. I agree with Mr Akehurst that Westhaven and Orakei can reasonably be assumed to be full.

Mr Akehurst then assumes that the demand growth for marinas grows at a faster rate than projected for growth in Auckland population. So, the number of berths per household increase. That growth rate is much higher than the rates assumed in the reports cited in Mr Akehurst's report, those cites are at his footnote 13.

The BECA 2012 study forecast the number of all boats would increase faster than the population growth and that was because they projected a rapid increase in the number of jet skis and windsurfer boards which are of course boats that don't require marina berths.

It projected the growth rate for yachts and launches, that is the relevant category in the BECA report, would grow at a slower rate than population growth because population growth has been driven in Auckland a large part by immigration and immigrants tend

to own a lower proportion of boats than the existing Auckland population.

So, the BECA report has a growth rate of about 50 marina berths per annum and that compares to something just over 200 per annum in the Akehurst assumptions.

The New Zealand Marine Industry Association 2016 projected a growth rate of about 100 yachts and launches a year, less than half the growth rate assumed by Mr Akehurst.

In the report earlier this year by Comer, it was for investigating developments at the Westhaven Marina, it looked at both the New Zealand Marine Industry Association projections and the BECA projections and adopted a similar profile.

Mr Akehurst has introduced, in his response yesterday, a reference to an industry magazine article. I have had a look at that article. The source for the comments in the article was a New Zealand Herald article which interviewed a marine broker who said the purchase price for marine berths has risen significantly, as of course have prices of almost all long-term assets since interest rates have fallen. I suggest that article be treated with some caution.

In conclusion, my view is Mr Akehurst's estimates are best viewed as the maximum dredged material that could be disposed of at the Northern Disposal Area if all zoned areas for existing marinas are dredged to their maximum extent and those marinas are maintained in the future at a greater depth than they have in the past.

The three unidentified marina developments produce the volume stated by CRL.

Existing marinas that currently dispose to land move to disposing at the Northern Disposal Areas. I note that that is a very small component of Mr Akehurst's

assessments and primarily relate to the Whangarei marinas.

All future dredging by the Ports of Auckland are disposed of at the Northern Disposal Area, as is all dredging required for the America's Cup.

And that a further 200,000 cubic metres from sources that neither CRL nor Mr Akehurst were able to identify or project are also disposed at the site.

I would have liked Mr Akehurst to have provided some sensitivity as to those volumes. In a sense, a scenario that would be somewhat less aggressive. I think, for example, his model could, in effect, be run in reverse, to calculate the quantity of dredging that would be required if forecast marina demand were to follow a lower projectory, say the BECA projections, and after allowing for some of that projected demand could be met from some existing capacity within the existing marinas and their already committed new capacity such as the Waiheke marina.

CHAIR: Thank you for that, Mr Murray. We will not ask questions at this time. We will hear from Mr Akehurst now, then we can question both of them, with your leave, people?

MR SLYFIELD: Yes.

CHAIR: We are doing this because I think if we regress to questions, we can get the answer from both teams.

MR AKEHURST: Sure, I understand that. I also have a summary statement that I've prepared and unfortunately, I only just completed it this morning.

CHAIR: Can we pause and get it photocopied? I think we need to.

MR AKEHURST: Yes.

CHAIR: We will just pause and get it photocopied before we proceed.

MR AKEHURST: Apologies for that, it's taken a while.

Hearing adjourned from 10.25 a.m. until 10.32 a.m.

CHAIR: Mr Akehurst, you can start at 4, please.

MR AKEHURST: Okay, starting at 4. CRL has made an application to the EPA for Resource Consent to increase the disposal of dredged marina sediment at the NDA to 250,000 cubic metres from the current consent of 50,000 cubic metres. This is done to meet the future needs of Ports of Auckland, America's Cup bases and marinas in Auckland, Whangarei and the Thames-Coromandel districts.

Based on my assessment of the likely demand for disposal of dredged material over the next 10 years arising from the above, approximately 2.8 million cubic metres of sediment is potentially able to be dumped at NDA.

This is made up of maintenance dredging of existing marinas, to enable their continued operation, capital dredging to expand marinas to meet future projected demand for space, along with their maintenance dredging, maintenance dredging at the Port of Auckland, capital works for the America's Cup bases and a contingency allocation of around 200,000 cubic metres which is around 7%.

My demand assessment has found that future demand for sediment disposal is likely to significantly exceed past disposal volumes. This is due to a combination of factors, including capital works dredging for new marina space and consequently higher ongoing maintenance dredging volumes across these expanded areas.

A change in dredging depths across a few marinas to enable their future effective operation. Note that in some cases, past dredging has been insufficient. And reclamation is no longer being an option for reuse. And additional capital works required to host the America's Cup.

I have also conducted an assessment of the different options for marina sediment disposal, including disposal of the sediment at the NDA via bottom dump barge, transported directly from the sediment sources. A drying of sediment at source and then transporting to landfill. Transporting the sediment to Ports of Auckland, then mixing with cement and then transporting to landfill. And transporting the sediment to the Ports of Auckland, then mixing with cement and then reuse in other applications.

The cost for these options have been calculated across the different sediment source locations currently served by CRL.

Two key findings from that. The cost to dispose at the NDA is estimated at around $47 per cubic metre. The alternative options equate to between five and six times this cost. Drying the landfill option at $290 per cubic metre. Cement mixing and landfill option at $256 per cubic metre. And a partial costing of cement mixing and reuse option is at around $92. That falls outside that five to six times.

In my opinion, the large cost differences between these options mean that sediment disposal via one of the NDA alternatives would result in the applicant facing unreasonable costs in the circumstances. Note that I assumed that the applicant operates on behalf of the user or marina owner and operator.

Alternative options also generate significant travel

demand. Across the ten year period over 130,000 truck movements generating between 8-12 million additional truck kilometres to landfills. This generates a range of other externalities including vehicle omissions which I have estimated at between $2.5 and $3.5 million as well as congestion on the road network.

Some of the assessed options may not be available for sediment disposal. Land drying requires the availability of suitable land and infrastructure at appropriate locations, and that is immediately adjacent to marinas. That's obviously a concern within the inner city marinas.

It also requires - this also requires Resource Consent to be obtained which indeed may not be granted.

The reuse of sediment option is also of limited availability due to no further land reclamation able to occur in Auckland. Re-use relies on currently unidentified potential options that may or may not become available in the future. These also require acceptance through the Resource Consent process.

Consequently, this leaves the availability of the cement mixing and landfill option. This option concentrates all the significant sediment transport volumes at the Port of Auckland on both land and water. I note that, following discussion with Kieran Murray, it may be possible to reuse sediment as cleanfill. However, there are significant costs of either drying and/or adding cement to the spoil to enable this option.

As considered within this assessment, if sediment disposal were to occur in an alternative option, then the resulting price rises could either redistribute underlying demand to other locations (noting that estimated demand reflects the needs for continued effective operation of marinas in the port of Auckland),

or it may be reduced.

Sediment dredging would still need to occur at the Port of Auckland as a fundamental core piece of regional and national infrastructure. Disposal via an alternative option, at five to six times the cost, would mean that these operators would face an unreasonable cost in the circumstances.

Alternative disposal methods would be likely to result in a constraint to activities at marinas. The recreational boating sector as a key driver of demand would face high relative increases in costs, reducing the ability to utilise marinas and result in an increase in unmet demand.

Constraints in this sector would well exceed the loss of consumer benefit from participation in boating activities. It would result in flow-on effects and costs to a wide range of sectors and employees that serve the marina sector. I do recognise that the DMC is not able to consider economic effects however.

Lastly, the assessment has considered potential cost rises at the NDA itself and how this may affect demand for disposal. The cost differences between the NDA and other options are very large, meaning that the disposal costs of this option would need to increase by between 450% and 500% to become comparable to other options.

Moreover, nearly all of the cost components of the NDA option are common to other options, meaning that any overall cost increase would need to be generated predominantly from the CRL administration costs, which make up about 14% of the total. As such, even a large relative increase in the cost of this component would have only a minor effect on the demand for this option. Cost increases of this component itself would be limited by competition within the marketplace from other

potential operations.

There is, however, the potential for transport cost reductions to occur within this option with scale economies through the use of larger barges in the future. Barge transport scale economies are likely to have a larger relative impact on the NDA disposal option than the cement mixing and landfill option as barge transport accounts for a larger share of the cost components of the NDA option.

Just turning to the caucusing, caucusing between Kieran Murray, Susan Fairgray and I took place on Friday last week and resulted in significant additional modelling work over the weekend and yesterday. Through this process we have tested changes to assumptions and carried out some sensitivity testing.

As a result of that work, an unfinished Statement of Position was submitted at 4.00 p.m. yesterday, unfortunately Mr Murray didn't have time to respond to our remodelling, although I understand - he has presented before me, so that's fine.

As a result of caucusing, a few changes have been made. We have reduced the average size for a marina berth by removing the Viaduct Harbour from our calculations. That had about a 16% impact on the average size. We have also reduced the amount of latent or unmet demand that currently exists from around 10% in our original modelling to around 5% now.

We have acknowledged disposal to land as an alternative, although that has not been fully costed by us, but recognised that at least a proportion of dredged spoil, this is a lower cost option than disposal to landfill.

In addition, our further investigations found that we had overstated capacity yielded by future marinas and

we had undercounted some existing marina berths within the wider catchment. These effects partially offset each other such that the overall effect is that future demand and potential supply still broadly match.

So, as a result of our analysis and following caucusing with Kieran Murray, I am of the opinion that the NDA represents the most appropriate location for disposing of the dredging spoil from Auckland and surrounding areas ports and marinas relative to the alternatives.

The demand analysis we have carried out is broadly in line with known dredging consents, implying that the demand estimates relied upon by CRL are appropriate, and support the quantities sought, especially in the medium to longer term.

The results of our analysis clearly show that the price difference between the NDA option and the alternatives is significant, and are likely to impose unreasonable costs on the applicant should the NDA consent application be declined.

Just before we progress, I note that Susan has just been taking some notes from the earlier presentation from Mr Murray and would it be appropriate for her to talk to some of those?

KIERAN MURRAY

GREG AKEHURST

SUSAN FAIRGRAY

QUESTIONED BY COMMITTEE MEMBERS

CHAIR: What I will do, Mr Akehurst, we are going to break the questions down into four broad areas and Ms Fairgray can address under each of the headings.

What we're going to do is we're going to look at

cost and see if we can't get some broad agreement. We are going to look at demand. We are then going to look at contingency. And finally, we're going to look at sensitivity.

Legal counsel, you're invited to question along with us under each of those headings as we go.

So, we will break it up into sections.

Let's just move to costing first. There seems to be reasonably broad agreement between both on costing; is that true?

MR MURRAY: Yes, Sir, I agree. I think it's picked up in Mr Akehurst's summary and mine. The perhaps additional piece of information that's resulted from the caucusing is the written report from Mr Akehurst considers taking alternate costs taking the dredged material to formal landfills.

An option of taking the sediment to cleanfill sites has a lower dumping cost but would also incur trucking costs, sealed trucks if it's wet sludge, or mixing with cement, as Mr Akehurst said and adjusting for those. So, my estimate saying if it goes to a cleanfill site lower dumping cost but adopting Mr Akehurst's trucking costs I get the figures in the draft summary. So, two to three times the cost of the barging.

MR AKEHURST: Yep, I'm comfortable with that.

CHAIR: To me they seem very similar?

MR MURRAY: Yes.

MR AKEHURST: Yes.

MS WRATT: Mr Murray, you've said two to three times and Mr Akehurst four to five times?

MR AKEHURST: Yeah, so, the costing in our report, we didn't cost out the dumping to cleanfill option. So, the costings in the original report were based

around dumping at landfill sites, rather than dumping as cleanfill.

MS WRATT: Does that mean we have a cost range from two to five?

MR MURRAY: Yes.

MR AKEHURST: Well, potentially - the question is, there is a large volume of spoil being extracted and it may be that not all of that is suitable for cleanfill sites. You know, there's not a lot of evidence of product going to cleanfill sites currently out of Auckland, as far as I'm aware. There are, and Mr Murray has identified some, from some of the other marinas, but I fully recognise that it is potentially an option.

MR MURRAY: May I add to that?

CHAIR: Yes, certainly.

MR MURRAY: I do think it is viewed as a range and it does depend on where the material is being dredged from.

So, at the very low end of the range currently at Whangarei, that material is being taken to land, to a cleanfill site called the Bell Block. My understanding is it's not taken as a trucking cost. So, that would be considerably lower than the estimates we have.

Where a cleanfill site can be available and trucked, that's the two to three times estimate that I was outlining, I agree with Mr Akehurst that if the material needs to then be taken into the Port of Auckland and taken to a formal landfill site, then it's up in the five times category.

MS WRATT: Okay, thanks for that clarification.

CHAIR: May I just expand this a little bit further, please? There's a clear differentiation in cleanfill operations between the Auckland base

marinas and the regionally based marinas, isn't there?

MR MURRAY: I think it's likely that the trucking, there would be two differentiations. One is the landfill site itself is likely to be lower cost, the cost of land is lower in the regions than towards the centre of Auckland.

And the trucking costs are likely to be lower in the regions than they are having to take material from central Auckland.

CHAIR: But there's another factor, Mr Murray, that comes into play, is there not, and that's the sheer availability of cleanfill sites within the Auckland area?

MR MURRAY: Yes.

CHAIR: And that's, you know, the limit, are they not?

MR MURRAY: Oh, certainly. I didn't intend to imply that there would be, for example, sites that would take all of the dredging of the Ports of Auckland or those sorts of places.

CHAIR: There are a multiple number of factors when you start looking at costs that start to impinge?

MR MURRAY: Yes.

MR AKEHURST: Yes.

CHAIR: So, in general, the statement of Mr Akehurst in his conclusion, I will put a different terminology around it, when you said "most appropriate", that's just actually from a cost viewpoint?

MR AKEHURST: Yes.

CHAIR: You need to be very clear that there are a whole range of other factors that we have to look at.

MR AKEHURST: Absolutely, I fully appreciate that.

MR MORRISON: I am just interested in the current cleanfill sites we've talked about that. What is

concerning me, is that future cleanfill sites will have to go through a very rigorous consent process and the success of that being granted and/or not granted, and if granted the conditions relating to that is something that is, as I see it at the moment, very, very uncertain.

Perhaps, Mr Murray, Mr Akehurst, you could address that because experience tells us to actually find a site for a new cleanfill, having it consented and the conditions associated that leaves considerable unknown costs.

MR MURRAY: I would agree and can give you an example.

So, for example, the Sandpit Marina, the excavations there for dredging were originally sought to be taken to an adjacent cleanfill site. That was declined consent and therefore have been barged to the Northern Disposal Area, as an example of that.

CHAIR: Have you anything to add, Ms Fairgray?

MS FAIRGRAY: Yes, I would like to provide further clarification on the disposal cleanfill site option. We did go and investigate the information suggested by Mr Murray - in relation to the cost of the disposal of cleanfill at the landfill sites, we did go and conduct some further investigations around that option using some of the examples suggested by Mr Murray at the conferencing. And what I consider is that some of the examples that he provided suggested that the cleanfill sites would take the wet material which would actually result in a higher truck transport cost. It would require sealed tankers.

However, when we followed up with Mr Male at CRL for further information around that, it may have been that the information that was provided to Mr Murray on the

phone was possibly incorrect because the sites actually require the material to be dried.

And so, when the drying process is also taken into consideration in that cost estimate, it means that that cost estimate equates, according to my quick estimations, around about $220 per cubic metre. And so, that itself means that that option isn't around two times the NDA alternative. It is around just over four times the alternative, is probably in my opinion a more appropriate range.

CHAIR: Okay, thank you. Counsel?

KIERAN MURRAY
GREG AKEHURST
SUSAN FAIRGRAY
QUESTIONED BY MS ARTHUR

MS ARTHUR: I will ask this completely naive question and, therefore, I shouldn't be asking it, but the thing that strikes me when you're talking about this, is the land costs money but this site, as far as I can tell, there is no cost for the use of this site, the NDA site?

MR AKEHURST: Well, other than the administrative costs of managing the consent.

MS ARTHUR: But, as far as using the land is concerned, there is no cost involved in that? So, there is a free good involved in this which helps reduce the price?

MR AKEHURST: Effectively, yes. I mean, there's costs involved in accessing that free good but the cost of the, I guess, seabed, is not part of the equation.

MS ARTHUR: Right. And then you've got this, talking about externalities and transport and things like that, but we've heard from other witnesses who are very concerned about the effect that this dumping has on the environment and there is a cost on the environment. So, amongst all your economic costings, you haven't put in any costings for the externality effects on the environment or anything like that?

MR AKEHURST: No, that was beyond both our brief and also the timeframe, in terms of including those ecosystems service costs or wider environmental costs, they haven't been included.

MS ARTHUR: Thank you.

CHAIR: Mr Slyfield?

MR SLYFIELD: No questions.

KIERAN MURRAY

GREG AKEHURST

SUSAN FAIRGRAY

QUESTIONED BY COMMITTEE MEMBERS

CHAIR: Shall we move on to demand? There's a wide difference between the two of you on demand.

Mr Murray, you first, why? Just really simply and as brief as possible, why?

MR MURRAY: Two primary reasons. The future is always uncertain.

The second is that there is a sparsity of information available on the future or even existing demand for boats that would require marina space.

So, both Mr Akehurst and I identified the same set of reports. It wasn't like we found alternative forces of information to each other. We have then taken a

perspective or interpretation of those reports.

I agree with the overall approach that Mr Akehurst has taken, of saying when you look to the future, population is growing and, therefore, the demand for marina berth, demand for boats and hence the demand for marina berths, would grow.

Where we're having a different perspective is, what is the relationship between the population growth and that future demand?

The comments I have made are based on the relationships that were in the studies cited by both Mr Akehurst and myself. So, the BECA, which is now a reasonably dated report and dates back to 2012 projected in effect that demand would grow by 50 boats per annum for launches and boats. The New Zealand Marina Industry Association projected in 2016, 100 boats per year additional. Mr Akehurst, he will speak to his forecast, but, by comparison, they average around 200 per year.

CHAIR: You took away one of the questions, I was just going to talk about which is the BECA report being dated and the impact of that. Mr Akehurst?

MR AKEHURST: Can I hop in there?

CHAIR: Yes.

MR AKEHURST: A couple of things spring to mind. One is that the approach that we've taken really looks at population growth and the current relationship between numbers of berths, which is a by-product of boat ownership, and the existing population.

So, if that's held constant and taken into the future, it provides an estimate of the number of potential boats/marina berths that would be required.

What we've also done though, is we've looked at the BECA report. As Mr Murray points out, their boat ownership rates which do change a little bit over time,

we've applied an ownership change rate of about half of that that's quoted in the BECA report. I think they quote, from memory, 0.4% per annum as a shift in ownership rate. And I realise that applies to all boats. We have applied a 0.2% shift to partially take account of, as Mr Murray points out, the fact that it also covers personal water craft and other non-marina type boats.

And then we've simply grown the population into the future and then translated those numbers into what we believe to be an appropriate number of marinas that would be required to meet that demand, plus also to cater for what we've identified as an unmet demand currently.

Now, as Kieran points out, no-one can know the future. You know, if it transpires that we are at, I guess, the higher end of what an appropriate range might be, then the effect of adopting a lower rate may be that the marinas when they come online are catering for growth that's a little bit further into the future than the 10 years that we are looking at. And I note in table 10 in our report we have some timelines in there about when these marinas are coming online.

And, I guess, I would be surprised if they were all designed to be full or to cater for all growth simply within that timeframe that we're looking at. They possibly have a slightly longer view, I don't know.

But, I guess, the effect of reducing that demand projection to a range that covers a smaller amount, is that potentially it just pushes into the future slightly the spoil requirements to meet that future need.

CHAIR: Ms Fairgray? And then we will come to questions.

MS FAIRGRAY: I'd just like to provide some further comment around the BECA report because indeed, it is a report that I looked at quite carefully when

constructing the demand forecasts.

What the BECA report does, is it looks at the current market situation and then makes a projection forward which doesn't appear to be based on the current market situation but to be based on a particular interpretation which does require very large structural shifts within the industry.

When I looked at the forecasts, it was important for me to be able to critically evaluate that and understand what they mean and importantly, what may be required to hold true for those forecasts to materialise in the future.

When you look at the numbers within those forecasts, what that would require is it would require a very large step change in trends to what has occurred in past rates of boat ownership. It would require the rate of marina berths to decrease through time over the next 10 years, if it's interpolated, at a rate of about nearly 2% per year, so the rate of ownership to decrease at nearly 2% a year.

And I found that quite confusing and I didn't consider that to be an appropriate forecast because that's entirely at odds with the past rates of boat ownership in the past trends of marina development which were quoted quite extensively within the same report.

The report, as Mr Akehurst has outlined, does indeed say that the rate of boat ownership will increase into the future and I have adopted in the demand forecasts a conservative, so a rate which is half of the rate of increase of boat ownership into the future that the BECA report has stated, which is 0.2%.

And, to put it into further context, when you look at the past rates of increase of boat ownership, in particular marina berths, that works out to 1.7% in the

future. So, I consider that change which I have used in the future demand forecast is very conservative.

So, on that basis, the BECA report would require very large structural changes in the types of boats zoned and, as well as requiring this, the report didn't provide any analysis or any figures to substantiate this change. So, that is why I considered that the BECA report didn't provide an appropriate basis from which to base a demand forecast.

As Mr Akehurst has outlined, what I instead did was looked at the rates of projected future household growth which are quite considerably higher when you take into account the BECA report was produced nearly a decade ago. So, I have used the most recent household growth rates from Statistics New Zealand and I have projected forward on that basis a more current picture of the current marina market in Auckland we have conducted from a number of sources, triangulated what the current market picture is and projected that forward.

Added within that, I have included initially a 10% latent demand. That was based on more recent reports of the current marina market situation. However, following the caucusing on Friday, I have reduced it down to 5%.

And to put that figure into context, that equates to about 350 berths. The more recent 2018 report from Panuku identified at Westhaven alone an unmet demand of 237 berths. And so, I consider that 350 is an appropriate figure.

While there has been some discussion perhaps that this demand could be met at other marinas, as we all know, location is not neutral and, therefore, what I took into consideration was the location of these planned marinas to see whether that is an appropriate spatial alignment of that demand or whether it could be met at

other locations. And I consider that on that basis a provision - the inclusion of an additional 350 berths from the base year within the forecast is an appropriate and conservative figure.

MR MURRAY: Sir, may I respond?

CHAIR: Yes, of course you may.

MR MURRAY: Thank you. Just a couple of relatively brief comments. Starting at the Westhaven waiting list, the objective we're seeking to understand here is, what is the volume of additional dredging? My understanding is there isn't additional dredging proposed at Westhaven.

So, while there is, and I agree, a waiting list for the inner city marina berths, everybody would like their marina berth very close to the city, that doesn't necessarily give a lot of information as to what dredging would occur in the outer marina berths.

I agree with Mr Akehurst and I thought it was a useful way of characterising the debate around demand, that all projections are showing increasing population in Auckland and, therefore, on all scenarios we would expect increased demand for marina berths.

Mr Akehurst made the point that if demand were lower than he was forecasting or projecting, then that's a shift through time of the demand for dredging material. If it were lower, it would push it further out into the future rather than in the immediate 10 years and I think that's an important factor to think about in trying to bring the information together.

I think the other one to draw attention to in terms of when we're looking at those projections, the BECA report and the Comer report this year, they are also trying to forecast into the uncertain future.

We do have information on the number or some

information on the number of additional berths that have come online since the BECA report and those that are proposed to come online in the next few years. I included those on page 5 at the joint draft statement.

What those numbers roughly line up with, is that BECA, Comer and New Zealand Marine Association's assumptions of 50-100 new boats looking for new berths every year, rather than the 200 or so underpinning Mr Akehurst's projections. But I say it's a shift in - a likely shift in time, not -

CHAIR: Mr Murray, you made a really interesting comment on ethnicity that surprised me and I'm not sure that you can validate it because, you know, some of us live at the sharp end in coastal areas and I'm not sure that's validated but I would be interested -

MR MURRAY: The source for that is the Comer report that was done for Ponuku and it's also commented in the BECA study itself through their interviewing process.

CHAIR: I've read it, it's an antidotal comment, isn't it, really?

MR MURRAY: Yes, it is.

CHAIR: Okay.

MS WRATT: You both agree that what we're looking at is a shift in the timeframe for growth and demand or what the growth and demand might be potentially?

MR AKEHURST: From my perspective, I'm comfortable with the projections that we have produced.

MS WRATT: Sure, yes.

MR AKEHURST: What I'm saying is, if the Panel were to consider that at the high end, then a lower forecast would simply push the demand slightly into the future because Auckland will continue growing

and the demand for berths will continue to increase.

I think the other point that we make in our report which hasn't come up this morning, is with an aging population there is higher disposable income and more desire for larger boats.

We haven't taken any size increase into account with our projections but the reality is that the boats, the average boat size in the future will be bigger than the average boat size that we're basing all our marina size on currently, so there will be a partial conversation there.

MS WRATT: Thank you. Mr Murray, do you have any thoughts that you'd be prepared to put out in terms of where you think the timeframe you think that growth - you know, if you think that the Market Economics is not a conservative estimate, when do you think that estimated growth would happen by? Are you looking at a 5 year period, are you looking at a 10 year period?

MR MURRAY: With the qualification, I haven't done any modelling myself.

MS WRATT: I guess I'm getting into a bit of sensitivity analysis here.

MR MURRAY: If we take perhaps as a lower bound, the BECA projection. They were projecting a growth rate of approximately a quarter of the assumption that drives or are in Mr Akehurst's numbers.

Having read all that material, and particularly the more later work, the 2016 New Zealand Marine Industry Association, that seems to me too low, so that would certainly be a low bound and probably too low bound.

The New Zealand Marine Industry Association 2016 was projecting a hundred boats per annum, so roughly half.

If that was to take as your lower bound assumption, then you're getting approximately half the demand projected from Mr Akehurst.

Now, I can't do the numbers in my head but it would be relatively easy from your scenario. So, we're only looking at, if we take the components in Mr Akehurst's modelling, certainly that doesn't affect the Ports of Auckland or the America's Cup. It doesn't, in and of itself, affect the maintenance dredging. It's only affecting the capital components, either from the timing of those new marinas or the extensions of the existing marinas. I am not sure it's quite linear but, you know, you might say then half of that amount would be pushed out further in time. I am not sure I could do the timeframe off the top of my head.

MR AKEHURST: We would have to put them into the model again.

MR MURRAY: I think it's able to be produced from the work that Mr Akehurst has done, I would think.

MS WRATT: Which, I guess, comes back to the issue of sensitivity analysis and the recommendation, Mr Murray, in your summary that the possibility of looking at remodelling, I guess, with a less aggressive scenario, would that be a reasonable thing to do?

MR AKEHURST: Look, I think it would be a reasonable thing to have a look at, to see how, by putting those lower figures through the process, what the numbers end up looking like.

It simply hasn't been - we simply haven't had time, with all the other changes that we've done, to remodel that but now that the model is setup and we've got a lot more flexibility, we can actually rerun those, just to provide some comfort around that.

MS WRATT: You can presumably look at sensitivity over a 10 year timeframe and also look at what would be the timeframe if you took those more conservative growth estimates to have the demand that you've identified around that 2.5?

MR AKEHURST: I think the thing to bear in mind with all of this, is that our growth projections and our demand forecasting was really used as a way of cross-checking what we knew about, in terms of marinas coming online.

So, in most cases we've ended up, on our estimates, at higher volumes of dredge material from the marinas than we understand is either consented or is in the pipeline.

So, in those situations, we have defaulted back to those consented. And information that's been provided to us, I understand, but we've defaulted back to those as our volumes that we then run through the alternative costings.

So, the demand projections, we were asking the question, is the information that CRL has relied upon appropriate? And then we ran our projections.

So, what we could do is, rerun those projections with the lower estimates of demand coming through and then running that cross-check again, just to get a sense of that time shift that might occur.

MR MURRAY: Can I just add to that? I agree, Mr Akehurst's model doesn't drive off the demand forecast itself, and hence that was my suggestion, almost reversing the process of then saying if it did and you had different demand scenarios and the marinas were built and excavated to meet those scenarios, what would that produce in terms of a profile of capital dredging?

I think it's not the approach that's taken in the modelling but I think it's able to be extracted from the work that Mr Akehurst has done, with some more work.

MS WRATT: I guess, just my response, Mr Akehurst, to your comment would be, using the consented area isn't necessarily, I mean the demand doesn't necessarily match what is consented? That's, again - the consent is on the basis as that's an estimation of what the demand might be?

MR AKEHURST: Yeah true but I would say that's been through a process and people have evaluated that at the time those consents were granted and potentially, they've reached some level of comfort with those demand projections.

MS WRATT: Thanks.

MR MORRISON: Just one question. We heard and we've read evidence in regards to the Whitianga Marina. Have you considered whether the waterways projects, both in Pauanui and Whitianga, they will require dredging over time but they don't fit into the marina? The point being, the boats or the launches that are adjoining the house site are certainly something no greater than a runabout. So, the question of boat numbers, launches, people perhaps of my ilk, my Haines Hunter 5.5 doesn't match it at all but in seriousness, the boat sizes that are being used are far greater in those waterway projects in Whitianga and Pauanui aren't being numbered in this?

MS FAIRGRAY: Yes. We have included those, although we have included those at a very conservative estimate. We have included both the Marsden Cove, the Whitianga waterways as well as the Pauanui waterways. I myself am quite familiar with the

Pauanui waterways channel and particularly the length of the channel relative to the surface area of those waterways. And I absolutely agree, particularly in Pauanui it is a mature estuary environment with a lot of sedimentation around there. We have applied a rate of one centimetre per year on average to dredge that marina area. I think we haven't applied possibly that across the channel, so it is an underestimate of what the dredging would be.

And just to provide some context around those numbers, when I took the past dredging rates across which were known across existing marinas, predominantly around Auckland, that equated to, on average, 4 centimetres per year when expressed on an annual basis.

The rate that we have applied to all other marinas and waterways, such as Pauanui, have 1 centimetre per year is included but it's very conservative, in my view.

CHAIR: A final question from me. Translating demand into what they are looking for in terms of disposal. Mr Murray, you're saying they're asking for too much? The demand is not there?

MR MURRAY: I'm saying, I think, two things. The projections seem to me at the high end of a plausible range. So, they are all the marinas, existing marinas are excavated or dredged to their full available area and the new marinas come on, on-stream and, therefore, that seems to me to bring on demand earlier than I think is a more reasonable forecast.

The second element, which is related to that, is the time profile over which dredging materials would have a demand to be dumped at the disposal area. Mr Akehurst

and Ms Grey will be able to expand, I think, on this. I couldn't establish their assumed time profile from the report. If currently the materials being dumped on average are 17,500 cubic metres per annum, it seems unrealistic to me to think it would go from that volume to 250,000 in a year, and that profile seemed to me, I couldn't find that profile.

CHAIR: You're talking about incremental staging of demand through time?

MR MURRAY: Yes.

CHAIR: Just before you answer, I'm just teasing out, Mr Murray, a little bit further. I just want to address your contingency figure. You made a comment on contingency. Just before you do, I want to tell you why. It seemed imminently sensible to me because you could get a couple of things; a large waves event or a climatic event which could actually see a marina fall to sediment. Contingency I thought was a very wise measure because there are unforeseen events that can impact and require actually very large volumes of material to be dredged. I have experienced it.

MR MURRAY: Sure, Sir. And I think what that goes to is my suggestion on sensitivities. There may also be events that would see demand not be as great as forecast and, therefore, I would prefer a sensitivity analysis, rather than a lump sum contingency.

CHAIR: Okay, good one. Good answer, thank you. Mr Akehurst?

MR AKEHURST: I agree. I mean, I think it's important that a sensitivity, an amount, an allowance for sensitivity, sorry for contingency, is included but I agree with Mr Murray, in that we could actually

run some sensitivity around what the implications of that being a significantly smaller or larger figure would be.

CHAIR: Ms Fairgray?

MS FAIRGRAY: Thank you. I would just like to provide some clarification around the approach. Two areas. The first area is the translation of demand or the translation of the number of marina berths into dredging volumes and the second area is to address possibly what I perceive as confusion around the perceived change in dredging rates of maintenance dredging.

The first, I guess the first issue looks at the capital dredging. The approach that we took was to obtain the consented volumes of capital dredging from CRL and rather than just accepting those volumes and taking them as given, we went through a process to determine the appropriateness of those volumes. As a filter in that process, I sought information from some of the dredges on what the average dredging depth was across an entire marina and I was told on average that equated to 2.5 metres.

So, what I did is I used those volumes to estimate, I looked at the Auckland Unitary Plan to identify what the surface area was of expansion and I then multiplied that by the 2.5 to understand what I thought would be an approximate overall dredging volume to dredge out that, if it were to be dredged at the 2.5 metres.

And it's important that this is just a filtering process because what that would tell me, is it would tell me whether the consented volume was appropriate. And if I came up, the concern would be to me if I came up with a figure that was significantly less than the consented volume, then the question I would be asking to CRL is,

why has so much volume been consented? Why would that marina be above or below that?

What I found was particularly with the marina expansions that the modelled rate was a lot higher than that which is entirely what you would expect, given the average shoreline chart date and profile where water becomes deeper as you expand outwards into the sea.

At that point, I therefore knew that the consented volume that were provided to me by CRL weren't inappropriate. If they had been higher than that number, then they possibly would have been inappropriate.

From that, I then calculated what I thought the average dredging depth would be. So, it was more of a process of consistency, just a checking process.

And what I then did, was I adopted the consented volumes where they were lower and used those in the forecasting going forward, sorry in the calculation of capacity going forward.

Just to clarify, the capital dredging volumes capacity estimates are not using those larger numbers. They are using the consented volumes once I determined whether they were appropriate.

In some cases, there was an iterative process back and forth with CRL to understand the areas that they applied to, whether that included channel areas or whether it just included marina berth areas.

I would like to pick up an earlier comment that was provided by Mr Murray around how that particular profile of dredging fitted with a commercial behaviour model.

What has been suggested is that where marinas have expanded, they require less dredging. That doesn't fit with the commercial behaviour model because you would expect the most costly units to be developed last and you would expect the subsequent units in the future to be at

a more expensive cost than the cheaper units which would be developed first.

However, the issue I find quite confusing with that approach is it doesn't accord with the average chart datum of a shoreline profile. I mean, the marina development typically occurs from the land and expands outwards. And so, therefore, you would expect on that basis, in accordance with that shoreline profile, that the subsequent future expansions would actually be on a cheaper per unit basis which I acknowledge is different to Mr Murray's comments around it not aligning with the commercial model.

However, I think where the economics could come together on that point, is when you consider dredging as a component, as just one sub-component in the development of a marina. It could be that the subsequent units do indeed cost more on a marginal basis through time, given that dredging is only one component.

So, that covers, I guess that covers the approach of how I have translated the volumes into the number of berths.

The second point I'd like to talk about is the marina dredging rates. I guess some of the rates that Mr Murray has quoted earlier that the current rates are 17,500 cubic metres per annum. Those comparisons, there's been an inconsistent comparison, in my view, that is made to the quoted future rates which I acknowledge are higher.

There are a number of reasons for that. Firstly, it's important to understand that the 17.5 rate applies only to a subset of marinas, being those marinas that data was available. And so, the future rates are applied across a much larger number of marinas and therefore a much larger surface area. Of course, you would expect

there to be a higher rate because you are applying it over a much greater area.

Secondly, when I interrogated that data further because of course it was a question that I went back to CRL on, some of the reasons why the past rates didn't reflect what the anticipated future rates would be, was because the data was incomplete. So, for example, it didn't include all of the dredging disposal that had occurred at the NDA. Some dredging disposal had occurred in other locations. And also, some of the dredging had been included for scale economy reasons in the initial capital dredging, for example, Sandspit Arena.

Once those factors had been accounted for and more, I guess more sort of consistent estimations were made of the past dredging rates of the marinas, in all of the marinas except for two marinas there wasn't actually an increase in the rates of dredging.

There was an increase - so, I guess what I'm trying to say, is the increased rates of dredging are limited to two marinas, being Pine Harbour and Hobsonville. And so, it's on that basis forward, I think that's when we have to narrow any kind of focus, as to whether there would be any cost increase arising from that. It simply occurs within two marinas.

CHAIR: Whew! Right, okay.

KIERAN MURRAY

GREG AKEHURST

SUSAN FAIRGRAY

QUESTIONED BY MS ARTHUR

MS ARTHUR: In relation to Ports of Auckland which you've included in your demand but Ports of Auckland are applying for their own consent to dump

and they believe, well, as I understand it, they consider they have a reasonably good chance of getting that. So, Ports of Auckland does actually get their own dumping consent; how does that impact on your figures?

MR AKEHURST: I think both Mr Murray and I have adopted the annual dredgings of around 38,000 cubic metres annually. So, should Ports of Auckland succeed in the explosive dumping ground application, then that would need to come out of our demand projections.

MS ARTHUR: Thank you. I'm not quite sure, the Chair asked you a question about how your projections relate to the 250,000 per annum that's being sought in this consent. I wasn't quite sure whether you got an answer because I certainly wasn't - I didn't feel like I got an answer to that question from either of you.

I mean, I accept this will take over time but, you know, they're asking for 250,000 from the day they get the consent for the next 35 years. So, I would like from both of you really an explanation about, I mean, from the numbers that you've got, is that going to happen in year 1? Is 250,000 ever realistic? What are you really saying in relation to what your demand is and what it is and how many contingencies are there taking out Ports of Auckland, taking out, you know -

MR AKEHURST: Okay, I'll pick those apart one by one, if I may. We don't believe that there will be 250,000 cubic metres going to the NDA next year.

In table 10 of our report, we have some times, years, of development for the expanded marinas. So, that's when the capital, we've assumed in discussion with CRL, when those capital works would occur and obviously, maintenance works from those points on for those expanded

marinas.

So, from that information, we can put together a profile, a timeline profile, that says, and it's lumpy, at what point the numbers reach 250,000. And I think initially, and this hasn't been completely finalised, we've got the first year that it exceeds it occurring in 2022 and then it exceeds it, in terms of the capital works based on that timeline, for the next 5 years, and then we don't have any new capital works in 2027 or 2028. So, in those years, there's a minimal amount of capital dredging and it's just maintenance dredging. In those years, we don't have it exceeding 250,000.

But, again, I'd stress that the timeline is based on the best information currently as to when those new marinas are liable to be undertaken. That may change in response to, as Mr Murray points out, if demand is lower than I'm anticipating and they may be pushed a little into the future but, based on that information, that's what we're looking at.

CHAIR: That saved me asking the extra question, thank you, Ms Arthur.

MS ARTHUR: Mr Murray, you are in vague agreement with that?

MR MURRAY: I'm certainly in agreement that there's a profile over time and there's not 250,000 in year 1.

The question as to what that profile looks like was the question I was also asking you, Mr Akehurst, so it's good to see that. And I just endorse the comment that if demand is different, if it's higher or lower, then that profile would shift through time.

MS ARTHUR: As economists, do either of you have concerns about the fact that this company will end up with a monopoly on dumping? Because there is

just the NDA site and the site that the Ports of Auckland are applying for. Ports of Auckland get their site. I mean, yes, you've identified a few alternatives but they are very expensive or expensive, depending on what you're talking about? It's building rocks a bit.

But, you know, we end up with a monopoly, with one company with the whole right to dump in this particular area; so, does that concern either of you?

MR AKEHURST: I mean, as far as I understand it, should CRL gain their consent, that doesn't actually preclude anyone else from going through the same process to apply for a competing consent. And if there are price rises associated with monopolistic behaviour, then you would assume that that gives an opportunity for someone else to go through that process because this is not a cheap process and make a similar application.

I mean, it is clear that a monopoly is less efficient in the market than full competition but I'm not clear as to whether there are, other than the cost of this process, that there are significant other barriers to be overcome.

MR MURRAY: I think I'd make three comments.

One is, as your earlier question identified, there's not a return to New Zealand society as a whole for the use of that area. As an economist, I would have thought some form of resource cost would be an efficient mechanism but that's not what the New Zealand Government policy is, and that's a policy of legislative debate, not here in terms of my work.

The second issue, I think, was interesting and is something I thought about when reviewing particularly the cost of the alternative options. Currently, at least in

the Auckland region, the Northern Disposal Area is essentially a monopoly now and so, as an economist, I would have expected that the charges for that option would approach the cost of the next best alternative, unless that alternative was price sensitive.

So, if you are the only party that's charging for something and the next best alternative is higher, then you'd lift your price over time.

That suggests to me that because the earlier numbers we went through, that the alternatives are now higher cost than what we're looking at in the Northern Disposal Area, that in fact there were alternatives that were reasonably cost-competitive with the Northern Disposal Area.

So, for the Ports of Auckland, for example, they have had reclamation to date which has been cost effective for them, relative to going to the Northern Disposal Area and seeking some other alternative.

The other scenario is the demand sensitivity, and we've also seen that in Mr Shearer's evidence, that dredging has been lower in his view than is permitted by the consents because the users of those marinas weren't willing to pay the higher cost. And that's a factor that we've discussed a bit in caucusing and Mr Akehurst, in his revised work, has attempted to do some analysis around sensitivity to charges.

They are my comments on the monopoly.

MS ARTHUR: Thank you.

CHAIR: Mr Slyfield?

MR SLYFIELD: No questions from me.

CHAIR: Any other questions from the Panel? (Panel members confer).

We are going to discuss as a Panel later on the need for a further sensitivity analysis, just

to help us in our decision-making. We'd clearly send it to everyone but it just may be something that would help us in our deliberations later on.

Thank you, the three of you, very much. Very interesting, a very interesting morning for us, thank you.

MR MURRAY: I'm glad we didn't send you to sleep entirely.

CHAIR: No, you certainly didn't this time.

MR MORRISON: The presentation was a lot more helpful than reading, thank you.

CHAIR: Why don't we stand up for a few minutes and have about a 5 minute stretch of the legs and we will get into the next one. We have had a pretty long session already and just quickly have - we'll be back here at 11.45, please. I know we don't have a scheduled break but it's been a long session.

MS WRATT: We had a scheduled break at 10.30.

CHAIR: We didn't have it. Back here at 10.45, please, we are adjourned.

Hearing adjourned from 11.38 a.m. until 11.50 a.m.

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CATHERINE CLARKE

EVIDENCE

CHAIR: We are reconvened and we have the planners, he said with some glee!

Ms Clarke, welcome.

MS CLARKE: Thank you, Sir.

CHAIR: I was almost tempted to bring all the planners up at this stage but - are we all here? Yes, we are, good. Okay, Ms Clarke, we are in your hands, please.

MS CLARKE: Thank you, Sir. I have a summary statement which I will just read through.

As you know, I have been engaged by the EPA to prepare an analysis of conditions report. That report provided a detailed assessment of the conditions that were provided by Mr Hay in his evidence dated 25 October and recommended amendments to those conditions.

Just to note, I didn't assess the merits of the application, rather just the appropriateness or otherwise of the proposed conditions in Mr Hay's evidence within the scope of my expertise as a planner.

Obviously, since the preparation of my conditions report, the planners, listed there, have undertaken expert conferencing and prepared a Joint Witness Statement which included another revised set of conditions which was dated 27 November and in that we noted our areas of disagreement.

Since the hearing commenced, there has been continued liaison between the parties regarding these proposed conditions. And last evening, a further revised

set of proposed conditions, dated yesterday, 3 December, was developed by the planners, which has further now narrowed the points of disagreement.

And that is the bundle of paper with proposed conditions of consent dated 3 December that I have tabled with you today.

So, those are the conditions I will address now briefly in terms of just running through some points, so you may wish to have those to hand.

In my opinion, now many of the issues raised and amendments recommended in my conditions report have now been addressed in this latest set of proposed conditions. Therefore, this summary statement briefly comments on the proposed conditions with which I have outstanding concerns, or simply just wish to draw to the attention of the Decision-Making Committee.

So, firstly, definitions. I support the definitions as now proposed. In principle, I support the definition of an "appropriately trained crew member" which you will see highlighted there in blue, as has been proposed by Mr Hay and Mr Shearer. However, I would also support the details of this training being more fully described in a schedule as is proposed in the evidence of Mr Riddell. I am aware that's been raised.

I also support the deletion of the definition of ISQG, which has now been completely taken out. That was the Interim Sediment Quality Guidelines. And now the inclusion of a new schedule 7, with the values, which I consider the inclusion of this new schedule addresses the concerns that were raised in paragraphs 49-51 of my conditions report.

Turning then to proposed condition 1. I continue to consider the word "general" which is highlighted in the document in front of you, should be deleted from proposed

condition 1 for the reasons I previously set out in paragraph 53 of my conditions report. It is highlighted in blue because Mr Hay and Mr Shearer, as I understand, still seek the word to be included.

And I also note there the applicant needs to provide an updated list of the documents to be specifically referenced to in proposed condition 1 which you will be well aware of.

CHAIR: I am presuming your driver for the word "general" is because it creates uncertainty? Because what percentage do you actually add here to, is it 51% of the conditions, 22%? It's an interesting term and I have some reservations about its use in conditions.

MS CLARKE: So, Sir, in my opinion, and as a practising planner, I would say that it was a term that has been used in the past but good practice in recent decisions and roles I've had, it has definitely been deleted because the wording is, as you said, not certain in its effect.

So, just to carry on with proposed condition 1A. I support in principle the inclusion of proposed condition 1A specifying the maximum amount of dredged material to be dumped at the NDA per annum, and now amongst this we have agreed, based on a 2-year rolling average, and that was discussed in paragraph 54 of my conditions report. Obviously, the actual maximum amount in the proposed condition 1A is a matter to be determined by the Decision-Making Committee, as you would have considered this morning.

But actually, I haven't noted there but I just wanted to draw to your attention, while condition 1A refers to a maximum amount, I just will mention also conditions 8 and 9A which impose volume restrictions as

well, that the DMC may have also wished to change or consider in making a determination on condition 1A. So, those have been coloured blue.

So, condition 8, you will see the wording, sorry the number 50,000 in blue and in 9A you will also see the 80,000 in blue. So, those were put forward by the applicant as numbers that were less than the 250,000. Obviously, if you were to impose a lesser number, for instance, those other numbers would probably drop as well. So, I just draw those to your attention.

CHAIR: Right, thank you.

MS CLARKE: Turning to conditions 7A, 7AA and 7B. Within 7A, it provides that no dumping of dredged material from a source site can occur until the EPA has certified sediment and biosecurity characterisation for a source site has occurred in accordance with the methodologies which are described and proposed in conditions 6 and 7, and they then refer to schedules.

Mr Hay and Mr Shearer have sought the inclusion of a 20 working day limit for the EPA to either certify or reject the sediment biosecurity characterisation. I can advise in my discussions with EPA staff to date, that no concerns have been raised regarding this suggested 20 working day limit.

I also support the inclusion of a now new proposed condition 7AA, which now clearly sets out in a condition, a performance standard for the quality of dredged material at the source site that can be dumped at the Northern Disposal Area.

Further proposed condition 7AA provides now the opportunity for the EPA to undertake enforcement action, if they so require, should any dredged material dumped at the Northern Disposal Area not meet this performance

standard. They determined that obviously the sediment characterisation be undertaken with the other conditions.

CHAIR: Use of an Abatement Notice, okay, fine.

MS CLARKE: I consider this new condition addresses the concerns raised in paragraph 70 of my Conditions Report. Further, I also support proposed condition 7B which now requires the consent holder to notify the EPA if they become aware of an incident that could result in a change to the sediment and/or biosecurity characterisation at the source site.

You will be aware those conditions are all in black, which means all parties and expert planners are in agreement.

Condition 10, I continue to support the wording which was recommended in my conditions report which specifies what dredged material is not allowed to be dumped at the Northern Disposal Area. In other words, materials removed by suction dredging or mixed with water to produce a slurry.

However, I have no concerns if the Decision-Making Committee were of a mind to include additional wording referring to all dredged material also being required to be removed by mechanical excavation, as was raised earlier by Mr Riddell and I understand by the DMC in questioning earlier as well.

CHAIR: Just by way of further clarification, should we make it specific that all this material has to come from the sea?

MS CLARKE: We have defined, I thought -

BASIL MORRISON: It wouldn't be helpful if the CRL met with City Rail Link, would it?

MS CLARKE: No.

CHAIR: You might laugh but it's a serious point. We

don't want to put - the DMC doesn't want to make a decision that opens up in a site things we haven't talked about.

MS CLARKE: You raise a point that, to be honest, amongst everything might have been slightly overlooked, I agree. We haven't got a definition of dredged material. We thought quite hard about definitions of "dumping point" and the other definitions in there.

CHAIR: So, it should be "material associated with port marina developments etc.", just so we're specific about what is there? Why doesn't someone help us and give us some words, so that we address this small issue?

MR RIDDELL: The definition of dredged material is material that's come from the CMA.

CHAIR: But if it's a waterway development, that's a problem.

MR RIDDELL: That's a starting point.

CHAIR: If people could think about it, it would be helpful to us, please.

MR MORRISON: We know what it means but it might, in some sort of legal toss up in the future, come down to that.

CHAIR: Carry on, Ms Clarke.

MS CLARKE: Proposed condition 23. I have supported the deletion now of proposed condition 23(2) which was the one that referred to the requirement for biofouling for vessels. And all parties have agreed that goes, so it won't feature in the version that sits here in front of you. I consider imposing this condition duplicates other MMRs and is unnecessary, provided the DMC is satisfied these other management regimes appropriately manage the

potential biosecurity effects of vessels dumping at the Northern Disposal Area.

Condition 24 -

MS WRATT: Can you hold on for a minute? Condition 23 relates to adverse effects on seabirds -

MS CLARKE: Yes. Sorry, what has been deleted from there in a previous version that you don't have, in the previous versions you had in front of you, the condition that you will be aware was raised regarding biofouling of the hulls of vessels which I understand has obviously been discussed in previous days.

MS WRATT: Right, thank you.

MS CLARKE: The parties agreed to delete it. I just want to draw to your attention that it's now gone.

MS WRATT: So that's previous condition 23, in fact?

MS CLARKE: Yes. Previous condition 23 had a sub-clause (ii) that's now been deleted.

MS WRATT: Okay, right.

MS CLARKE: Condition 24, I am aware that the applicant has proffered condition 24 establishing a NDA Liaison Group and, as you will now see in blue in this version, has now proffered condition 24A establishing an NDA Iwi Liaison Group as Augier conditions.

I'm also aware that Ms Undorf-Lay for Sanford Limited also sought the establishment of a technical liaison group which hasn't been included by the applicant in this version.

I consider imposition of conditions requiring the establishment of liaison groups, identifying the invitees and setting out the purpose of those groups, is appropriate. However, I consider any further conditions imposed by the DMC, I should say requiring the

establishment of a liaison group, must be in accordance with section 63 of the Act, that is considered appropriate to deal with an adverse effect on the environment or an existing interest as defined.

CHAIR: Let's just pause there. They've offered up on an Augier basis an iwi liaison group. What if the DMC established they are not an existing party out there?

MS CLARKE: Or that they are not addressing an effect on the environment.

CHAIR: Yeah.

MS CLARKE: I am saying to you, to impose a condition they must meet one of those tests.

MS WRATT: That is for us to impose?

MS CLARKE: Yes.

MS WRATT: That is an Augier condition offered by the applicant. As I understand the legislation, there's no problem with that?

MS CLARKE: That's correct.

CHAIR: That's fine, that's good.

MR MORRISON: A question, so the invitees would only be from Ngati Rehua?

MS CLARKE: That is a question you would want to put to CRL, I haven't proposed this, they have. And it's probably a question you would like to put to them as it's their condition being offered up.

MR MORRISON: I understand that. Other iwi may well be included in an iwi liaison forum?

MR MALE: Correct.

CHAIR: Okay, excellent, carry on.

MS CLARKE: That brings us to condition 25 which is a review condition. All the planning experts have now agreed with the recommendation in my conditions report, and it was also recommended by Mr Riddell

that a review condition is appropriate. I can advise that there has been various iterations of the proposed wording of this review conditions between the planning experts. However, due to time constraints late last night, the exact wording has not been refined and agreed, and I have noted that at the end of condition 25.

However, I can confirm that, in my opinion, the review condition should be expressed generally in the manner proposed as condition 25A, Appendix 3 of my conditions report. Further, I consider the review condition should refer to the purpose of the condition, being to provide for the revision or updating of proposed schedules 2-7 attached to the conditions, and including but not limited to updating or imposing additional primary contaminant or trigger levels in schedule 7.

Moving on to the schedules 1-7 as they now are. The Planners Joint Witness Statement all agreed the schedules form part of the consent and are, importantly, to be treated in the same manner as conditions. Therefore, I consider the key principles of best practice in developing consent conditions should equally be applied to the schedules. This includes certainty and clarity about what is required in the conditions and the schedules. And whether the schedules, like conditions, should not result in any future reservation of power to the EPA or require the EPA to arbitrate or determine matters at some later date.

In summary, at this time, the schedules that are proposed I am completely - I consider are appropriate in principle. However, I consider a full review of the schedules is still required, including by the technical experts, to ensure that they add here to these key principles of best practice in the drafting of

conditions.

And simply by way of example, I consider the inclusion of uncertain wording like "the application of an appropriate dilution factor" or "appropriate decontamination procedures must be followed" don't meet best practice in the drafting of conditions.

And to go further, it imposes uncertainty and would require a determination by the EPA at a later date as to what's appropriate.

So, in short, what I'm really saying is that those conditions, those schedules, I agree with in principle but I still think there needs to be some work to kind of tidy them up or to get them to be more certain so that they meet the tests of conditions.

Next point I want to raise. I recognise that the technical details of the conditions and the schedules is beyond my expertise. So, the following comments I just want to make are just for your information only.

These comments were written last night but things have moved since this morning and I have been receiving email messages as I was sitting here listening to the economists this morning. So, I will update you as I can.

As of last night, I wish to advise at the time of writing this statement I was aware the technical experts, in particular the marine biologists, were still discussing some details in the methodologies described in the schedules. Those are the ones you have in front of you. And I was advised yesterday by Dr Leduc for NIWA for the DMC by email, and I spoke to him on the phone as well, that he disagreed with some matters in the proposed schedules, in particular schedule 6, regarding the use of the gravity corer for obtaining benthic biota samples and the sampling methodology of the benthic biota foraminiferans.

Further, he had suggested some minor amendment to proposed condition 5 regarding the expression of statistical significance and those have not been incorporated into the version of condition 5 in front of you.

However, departing from my script, I am aware that further discussions have been happening this morning and I think that things have moved further on those matters, to the point that Dr Leduc may be more happy with the gravity coring and the wording of proposed condition 5 but that will need to be updated to you formally.

CHAIR: Now, I wondered then, rather than question yourself now, if we could get the other planners to present theirs and we can have the four of you together up here. You could be the rose amongst the thorns.

ANDREW RIDDELL

EVIDENCE

MR RIDDELL: I am happy to start because I don't have a lot to say at this time.

CHAIR: Mr Riddell, thank you very much.

MR RIDDELL: The one thing I have been reconsidering overnight was my suggestion about adding radio activity testing to schedule 2 and whether or not that is in there, the applicant still has to comply with section 20E of the EEZ Act. Therefore, I do not consider it necessary to put it in schedule 2.

I also record that I agree that in condition 1, the word "general" should be removed as a matter of good practice and certainty.

And I'd also record that my recommended condition in relation to grab sampling is no longer supported by the

expert I was relying on.

CHAIR: Okay, fine, thank you. Is that it?

MR RIDDELL: Yes.

CHAIR: Before we come to you, Mr Hay, Mr Shearer, please? There is a microphone in front of you.

CRAIG SHEARER

EVIDENCE

MR SHEARER: I don't have too much to say, Mr Chair. The appropriately trained crew member, I'm okay with that. As the previous speaker said, we discussed, I think it was Catherine Clarke's evidence discussed in more detail in the schedule about what an appropriately trained crew member is. We haven't discussed that yet, have we? So, that's one thing I would like to see.

The general accordance one, which is number one, not a big deal, although I have seen, as I said yesterday, examples of some wind farms that have exactly that wording in it. I have seen, of course, plenty of RMA ones that don't have it in there.

CHAIR: Mr Shearer, best practice seems to be declining in use, does it not?

MR SHEARER: Best practice seems to be, generally it is, yes.

CHAIR: Thank you. I am sorry to illicit that from you.

MR SHEARER: I think my views on 1A and 2 are well-known, so I won't - that is a decision for you to make.

The other one, 10, I support the first version of it, the blue version and the green version, but at the end of the day it is not a big one to us. And if they're combined, that's fine by me.

I think that's all I need to say, Mr Chairman.

CHAIR: Thank you very much, Mr Shearer. Any questions of Mr Shearer? We will come to it later. Mr Hay?

DAVID HAY

EVIDENCE

MR HAY: Okay, good morning. I will start off with appropriately trained crew member. I was hoping to have by this stage a new schedule 8 prepared by Dr Childerhouse which would explain in a little bit more detail what the training was and then the definition could then just be "Appropriately trained crew member means a crew member who has completed specific training in accordance with schedule 8". We will keep working on that today.

CHAIR: Okay, thank you.

MR HAY: The question was raised, you raised it earlier, how do we know it's going to be marine material? One option is we just modify the source site definition slightly, so it would read source site means and we would add marine site from which dredged sediment is intended to be sourced for dumping.

CATHERINE CLARKE

CRAIG SHEARER

ANDREW RIDDELL

DAVID HAY

QUESTIONED BY COMMITTEE MEMBERS

MR MORRISON: Sediment and all capital or is it all one?

MR HAY: It's all one.

MR MORRISON: Sediment can also be capital?

MR HAY: Yes.

CHAIR: Actually, Mr Hay, that might solve that problem very simply.

MR HAY: I am sure my fellow planners will put me right if it's incorrect.

I do differ in terms of general. As a planner that specialises in obtaining and giving effect for clients to resource consents, it has proven problematic in recent times in Auckland. It removes that little bit of variability because don't forget we have had a large raft of documentation coming in. For instance, in the original documentation we did say the disposal period was 1-2 minutes and of course it's less than that. So, it's generally my preference to recommend that "general" is retained.

CHAIR: But, Mr Hay, it's uncertain and the reality is, it's unfettered, quite honestly, it has no boundary? "General" has no boundary.

MR HAY: That's your decision, Sir.

CHAIR: I am just making an observation. We get to discuss it and I will be guided by the collective wisdom on this table.

MR HAY: Yes. In terms of both conditions 5, 8 and 8A, now that we've got agreement on that. I would recommend if the planners were given a few minutes, we might just be able to tweak the wording in them and take out some of that material or put it in the schedules or it's been replicated in the schedules. It's just we haven't had time for that, so I am just blacking that.

MS WRATT: That's 5 and?

MR HAY: 5, 8 and 8A.

CHAIR: Okay.

MR HAY: That makes no change to the intent.

MS WRATT: Can I just ask a question in relation to condition 5? In reading through the earlier draft last night, it just occurred to me there is nothing in there around testing for any invasives. Should there be? We have sediment size, class, abundance of benthic biota, overall abundance in taxa and benthic structure but there's nothing -

MR HAY: May I suggest, that's actually - these are the performance standards that have to be complied with. The testing for invasive species is then covered under 8A and that's during what we're now recommending is the annual monitoring.

MS WRATT: Is invasive included there?

MR HAY: Yes. In fact, 8A, it used to be called benthic and biosecurity monitoring and I think we may have replaced biosecurity with fauna.

Schedule 4 is the biosecurity characterisation methodology for the source site.

MR RIDDELL: I understood that the benthic fauna monitoring, in schedule 6, third part of schedule 6, at that time would be also an exercise in looking for non-indigenous species out at the Northern Disposal Area. A quick review of what's in that schedule, it may be something that needs to be added explicitly in the schedule.

CHAIR: Just someone take a note of that?

MS CLARKE: Just to draw your attention, it's 6C in schedule 6.

CHAIR: It needs a note in the paragraph about biosecurity.

MS WRATT: On a quick skim, there doesn't appear to be any reference there to -

MR SLYFIELD: I am a bit loathe to jump in. I don't know if it assists for somebody to note the

contents of 9AA.

CHAIR: Feel free, counsel, you don't have to sit there mute.

MR SLYFIELD: I don't want to put anything in the minds of any of the planners but I think the intent behind 9AA, and it may or may not have been achieved, is that was sufficiently broadly worded that it would capture the consent holder becoming aware through the monitoring or indeed at any other time. I don't think that necessarily means that there shouldn't be the kind of change that was being discussed with some additional words in schedule 6.

CHAIR: I think it is just an addition of a word that just clarifies that we would be looking for biosecurity issues at the same time as general monitoring. I think it is the addition of a word.

MR HAY: 8A, I think we've somehow dropped it out.

CHAIR: Carry on, Mr Hay.

MR HAY: In 9, you will notice the reference has been added to the NDA Iwi Liaison Group.

CHAIR: Yes.

MR HAY: In terms of 10, I support the wording Ms Clarke put forward earlier.

CHAIR: Thank you.

MR HAY: In 24A, we've confirmed this morning that when we talk about Ngati Rehua, the legal name is Ngatiwai Ki Aotea Trust, so we would add that so it's quite specific.

In terms of the schedules, we worked last evening and this morning to clean them up now that the contents were agreed, except for I think we're still awaiting feedback on the staining.

So, we've now got some wording that can be tabled

potentially in the closing submissions today or earlier. We just haven't printed it out. That takes out some of the should's, some of the uncertainties, and just focuses on the methodology.

MS WRATT: We still have 5D in green which no-one has mentioned. It's the monitoring of suspended sediment concentrations.

MR RIDDELL: There's, I think, about three things where the conditions identify matters which the Decision-Making Committee needs to make a decision on; it's volume, term and plume monitoring.

MS WRATT: Okay.

CHAIR: Sorry, so it's volume?

MR RIDDELL: Volume, the term or the range of 20-35 years.

CHAIR: And?

MR RIDDELL: Sediment plume monitoring. And probably a subset of that is sediment plume monitoring and a sediment plume standard. You might conceivably go for one but not the other.

I just want to make one comment about Mr Hay's definition for source site, just one suggestion, and that would be that it actually means "a marine site from which sediment (dredged material is intended to be sourced for dumping)" because if you put "dredged sediment", you then have to go through the whole consent and change all the references from dredged material back again and it's easier to do it just there.

MS CLARKE: I'd agree because it was a matter I raised in my report right at the beginning, that it had been used and described interchangeably through all the original set of conditions. We agreed as a group through the Joint Witness Statement that we

would call it dredged material and that's now been adopted consistently through the document. So, I would also agree with Mr Riddle, that adding the word "sediment", we need to be clear it's the dredged material.

CHAIR: Yes, the dredged material, that's a good suggestion.

MS WRATT: You are saying dredged material and in brackets sediment or just dredged material?

CHAIR: Just take out sediment.

MS WRATT: Take out sediment.

CHAIR: That's fine.

MR HAY: If we can go back to 5D, the reason why as a planner I'm still not supporting it, is I'm struggling to see if it can be (a) practically implemented and I'm still not convinced of what adverse effect we're trying to manage through 5D.

In terms of 58B, again I understand that's a verification of the model, rather than an environmental monitoring consent that's being sought. And, therefore, if it was considered it was necessary, then why, if it was for a verification of the model purpose, would it then be required every five years?

CHAIR: I think we've traversed that area at some length. We will ruminate on it.

MR HAY: In terms of the schedules, how would you like us to progress at this point? Would a printed version -

CHAIR: When Mr Slyfield gives us his final written version, if it has the conditions attached then that would be really good but I'll just check with the Panel to see if that would be appropriate or do you want it earlier?

MR MORRISON: I would be happy for it to be attached.

MS WRATT: Yes, it's not something we will need anything from others on.

CHAIR: We have a lot of initial work to do first, a huge amount to work through, so, Mr Slyfield, if that came with your final written version, we would be more than comfortable with that.

MR SLYFIELD: Yes, I am happy with that, Sir.

CHAIR: Mr Hay?

MR HAY: Yes.

CHAIR: Anything else?

MR RIDDELL: I don't really look like Santa!

MR MORRISON: Mr Chairman, yesterday I really struggled when I was looking at him and straight behind him and then he got to the outhouse part and that was the end of it.

CHAIR: If you wonder why the DMC started to - it's a rather juxtaposition out there.

MS WRATT: Have you got that recorded for the transcript?

CHAIR: Any more from the Panel members?

MS WRATT: I don't think so.

CHAIR: Ms Arthur?

MS ARTHUR: No, Sir.

CHAIR: Mr Slyfield?

ANDREW RIDDELL

QUESTIONED BY MR SLYFIELD

MR SLYFIELD: It might be useful to have one question to Mr Riddell and it's just to make sure that I've understood your position on the sediment plume monitoring which I think is that you very clearly said it's for the DMC to decide.

Am I right in understanding that your position

on it is reliant on the views expressed by Dr Longdill, that that's not something that is being - it's not something that's independently pursued by you as a planner? It's simply what you think is necessary to give effect to Mr Longdill's evidence?

MR RIDDELL: Yes, that's one of the matters that I had in my summary statement yesterday under the heading of "Conditions" where I'm relying on expert advice that they should be in there.

MR SLYFIELD: Thank you. That was the only question I had.

CHAIR: Okay, people, it's exactly 12.30. That brings us very much on time for our break. That should give legal counsel the time to get a few thoughts together and have lunch hopefully.

MS ARTHUR: Do you want to do closing submissions, given -

MR SLYFIELD: I am in your hands, Sir. To some extent, it strikes me it may be useful for the DMC to hear something in the nature of a summary from the applicant.

CHAIR: Yes, we definitely would.

MR SLYFIELD: And that will help shape your deliberations, depending on the delivery of the final written closing. So, that's what I had in mind but I am open to -

CHAIR: Look, I think that's helpful to us and my Panel is giving me a clear indication, so we are going to break for lunch. We will assemble back here at 1.30, thank you very much. And, planners, thank you very much, that must be a record in terms of feedback from planners.

MR SHEARER: It is great we generally agreed.

MS CLARKE: We worked well together, Sir.

Hearing adjourned from 12.30 p.m. until 1.30 p.m.

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CLOSING SUBMISSIONS ON BEHALF OF DEPARTMENT OF CONSERVATION BY MS ARTHUR

CHAIR: Ladies and gentlemen, we're reconvened.

MS ARTHUR: I've drafted up something very quickly, Sir.

CHAIR: Great, thank you. (Document distributed).

MS ARTHUR: It's in big print so I can read it.

As noted in the presentation earlier, there really are only three matters that are outstanding. There's a few tidy ups that have to be done and the schedules need to be looked at just to make sure that they look a little bit more like conditions. Other than that, there's really only three matters.

The first matter is the amount of dredged material. We have reached an agreement that a two year rolling average would work. So, it really is the question of whether it's 250,000 cubic metres per year or not.

And you're going to have to assess that based on all the evidence you've heard, including what the economists said. And I'm not going to help you any further on that one.

In relation to term, the 35 year application. As I noted in my opening yesterday, there is clearly a provision in the Act which sets out a difference for consent dumping, for a dumping consent, compared with other consents. The maximum period is 35 years but the Act does indicate that you can set less than 35 years but, again, that's up to you to decide on the basis of the information you've received.

In relation to the sediment plume, which is the

proposed condition 5(d) and condition 8B, the Director-General remains of the view that this is an issue which should be addressed through conditions. The potential impact of sedimentation is an issue raised by those opposed to this application. The benefit of monitoring and verifying the model is to show that there is no adverse effect beyond the boundary. This is not a "suck it and see" adaptive management approach. Instead, it seeks to confirm what the applicant has said will happen. If there is a breach for whatever reason, then there should be a condition against which enforcement action can be taken.

I just want to make the following points:

It is notable that Dr Longdill recommended for both the monitoring of, and the application of compliance levels for, the suspended sediment plume.

Dr Longdill noted that whereas the monitoring could be applied both within and outside the disposal area, the appropriate location for the setting of a compliance level would be at the boundary of the disposal area.

A frequency of approximately one monitoring campaign every 5 years at a time of peak disposal volumes was proposed by him as a balance between the logistical effort of the monitoring and the deemed benefits of the monitoring data.

Dr Longdill noted that the compliance level at the boundary could be informed from the modelling result, as that has been the information relied upon for the assessment of effects at this hearing. He highlighted that the time period of measurement and model result should be considered when setting such a limit, and that the figure referenced in his evidence was based on a model result, which represented a monthly average value. Since that evidence, further model results have become

available, including those which represent more instantaneous values.

In respect of the plume monitoring, it is also worth remembering that only measured suspended sediment data and plume monitoring available is that in 2011 which was submitted as part of the application. Both Dr Longdill's evidence and the joint statement of the experts have highlighted limitations associated with that data.

It is also notable that during 2011, the plume monitoring report had been subjected to review by NIWA. The 2011 review, which was submitted as part of the application for the hearing, reached a conclusion, and I have set that all out there and it is just the bits that are involved that we have emphasised.

No subsequent plume monitoring results have been available since that 2010 survey and the associated NIWA review. Dr Longdill sets out his justification for periodic plume measurement campaigns to be required by way of conditions during his appearance before this Committee.

Just in conclusion, I would like to thank all the parties and the EPA staff and the Decision-Making Committee for the positive way that this application has been dealt with. The efforts of all parties to try and reach agreed conditions has been much appreciated.

CHAIR: Any points of clarification only from the DMC? This is a legal closing rather than evidence that's been put before us.

MS WRATT: No, that looks clear to me.

CHAIR: Mr Slyfield?

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SUBMISSIONS ON BEHALF OF COASTAL RESOURCES LIMITED
BY MR SLYFIELD

MR SLYFIELD: I don't have a written document to hand you, so what I will endeavour to give you is a snapshot on key matters that have been the subject of evidence that you heard during the course of the hearing, and I might preface that by saying it's certainly not my intent to respond to all of the submissions that you have heard. I will touch on some of the submissions that you have heard. I am deliberately going to avoid making any statement to you in relation to cultural effects, pending the information that you are going to receive from Ngati Rehua in due course.

Perhaps a good place to start would be an easy one, and that's the topic of biosecurity. You've had from the planners today an agreement that they no longer consider there's any need for the clean hull standard to be referred to in conditions. From a legal perspective, I endorse that approach. I think it reflects where the hearing has taken things, and that is effectively to say there are other controls in place, some of them are in the Auckland Unitary Plan that you've heard about, some of them are operated by other Regional Councils, as you heard from Waikato Regional Council, for example, that deal with those issues adequately without you needing to do anything in this consent.

So, that's all I wanted to say on that aspect.

It doesn't deal, of course, with the entirety of the biosecurity topic. That's really just dealing with the

biofouling aspect of it. There is an element that you do need to deal with but that's not a contentious element, and that's what if an invasive species is in fact transported to the site and manages to survive there?

In case I need to say it, the applicant's position on that is that the conditions you now have before you are an adequate way to manage any adverse effect arising on that front by requiring any detection of invasive species to be reported to MPI and I think we ended up with the Regional Councils referred to in that condition also, and that's on the basis that those are the parties on whose shoulders it would then fall to take some step in relation to what pest management control to adopt.

Perhaps if I then turn next to the various topics of effects and start with oceanography because, again, this is a relatively non-contentious position, in my submission. Namely, you've had evidence from three experts on oceanography. You've had Mr Andrews, Dr Longdill, Dr Pederson, and all three of those experts have agreed that the information that you have in front of you is adequate for making an informed decision on the environment of interest.

In particular, they've all agreed that of the sediment or dredge material, I should say, to be dumped, 95% will settle in a short order on the seabed and we're left with up to 5% in the water column and that can remain suspended for some time.

Logically, I'm going to move next to deal with the issues that that suspension of sediment seems to have created for this hearing.

And I start with a very simple submission, which is that in order to impose a condition requiring the suspended sediment to be monitored or a condition requiring a threshold that the applicant will be required

to meet at the boundary in terms of suspended sediment, you would need to be satisfied that that was for the purpose of managing an adverse effect.

Now, it has been submitted to you that that is the purpose of the condition, and that was the submission you've just heard. That's a submission with which the applicant disagrees and the reason the applicant disagrees with that and maintains that it is not for the purpose of managing an adverse effect, is because every adverse effect that this application gives rise to is the subject of, I don't know how else to put it, end of pipe or a tail end condition.

So, there is a condition dealing with effects on benthic biota and that is really where the rubber hits the road, if you'll forgive me that colloquialism.

The fact that suspended sediment will be in the water column is not in and of itself an adverse effect. It is a question of what is the environmental repercussion of the presence of that suspended sediment? Either it is having an effect on fish or marine mammals or other biota in the water column or it is having an effect when it settles on the seabed.

In my submission, the evidence that you have in front of you enables you to conclude that - sorry, effects of the former sort, effects on fish, marine mammals or anything in the water, are negligible and effects on the seabed are all absolutely adequately managed by the imposition of a standard of sedimentation that is allowed at the Northern Disposal Area boundary.

Put simply, I say you don't need to go any further than that and add an additional control on the suspended sediment itself.

Allied to that, perhaps it's useful if I just pick up on the descriptions you were given about what this

condition does in DOC's, Department of Conservation's, closing remarks. It said, "The benefit of monitoring and verifying the model", this is the suspended sediment condition imposed, "is to show there is no adverse effect beyond the boundary". My submission is, you're already in a position to do that without this condition.

It goes on to say, "It confirms what the applicant has said will happen". And in response to that, I say, again, the conditions that you have been proffered by the applicant and that are supported by all the planners collectively enable that as well.

Finally it says, "If there is a breach for whatever reason, then there should be a condition against which enforcement action can be taken". As a principle, that's entirely agreed and you'd expect as much but, as to whether this needs to be a separate matter that could potentially be enforced, the applicant still has trouble with the notion that it is managing an adverse effect. It's managing something on the way to having an adverse effect but the adverse effect is already managed by the conditions you've been offered.

Perhaps to round that out, I might say that I think what became apparent from Dr Longdill's evidence and some of the questions I was putting to him, is that if you were minded to impose a condition of the sort that he has advocated for or given evidence in support of and is being advocated for on the Department of Conservation's behalf, you're in a position of some difficulty because it requires a considerable degree of technical content that simply has not been prepared for you. And that's not content that you can find in the wording of condition 5(d) as it presently stands or in the wording of condition 8B as it presently stands.

So, I won't say any more on that. The applicant

does remain of the it's not necessary to have a suspended sediment condition and relies on Mr Andrews' evidence where he was emphatically of the view that this is sufficiently difficult to achieve, that it is in practice not achievable.

Perhaps it's a useful point to comment on marine mammals and where we've ended up on marine mammals because that's not such a contentious issue.

There have been some refinements that have occurred during the course of the hearing, including things like the 300 metre distance from marine mammals and the condition on appropriate training for marine mammal spotters.

The only issue that you are left with that's in any way contentious in relation to marine mammals is the issue of effects of noise. We heard from Professor Jeffs about that. The submission that he advanced to you, I would submit, leaves you again in a position of some difficulty because, at the end of all of that, he was unable to proffer a condition that he could support in terms of marine mammal noise effects. So, you're left without the ability to simply pick up something and impose it, even if you were minded to. But, in the applicant's case, we rely on the evidence of Dr Childerhouse whose evidence is there is no condition necessary to deal with those adverse effects, for reasons that I think you well traversed with Professor Jeffs, in terms of the existing noise environment and how small a component of that environment this will add.

These aren't coming out in any particular order but that might be a suitable time to move on to benthic ecology. It's inescapable, due to the inherent nature of what's proposed, that there will be an adverse effect on benthic ecology. That's been transparent from the

outset.

The mechanisms by which the applicant is proposing that those be managed are, as I said in opening, to define a perimeter beyond which there will be no adverse effect.

The only area about which there seems to be any residual doubt on this topic is in respect of the forams, I'll call them that, and I won't endeavour to advance that any further. There is advice being sought by the experts on ecology and I'm hopeful that that will result in them being able to communicate through me a final position on what you might find appropriate by way of conditions of consent.

The issues that did seem to be coming up in relation to benthic ecology that have been resolved helpfully related to statistical significance, and that's been resolved in the set of conditions that the planners have presented to you today, and issues around the appropriateness of the particular core sampler, the gravity core sampler that the applicant has used, and that has also been resolved.

So, in my submission, you have a relatively light workload in relation to the benthic ecology topic.

Perhaps allied to that, can I say this, that the degree of assurance that the applicant maintains you can take from the evidence, in my submission was most persuasively revealed when you heard from Dr Andrews about the level of sedimentation that may occur beyond the NDA boundary. His evidence to you was that, at most, there would be 1/10th of a millimetre of sediment settling on any point beyond the NDA boundary as a result of the dumping activity.

To put that in other words, it would take 10 years of dumping at the maximum volumes permitted as sought by

CRL in order to result in 1 millimetre of sediment settling anywhere beyond the NDA boundary.

He described that degree of suspended sediment that could potentially traverse the NDA boundary as a numerical artefact, rather than a physical one, and I think that's a fair statement.

I want to turn to the other topic that we had evidence on this morning, and that's economics. I'll endeavour to make your job a little simpler on that front. In my submission, while economics is plainly referred to in the purpose of the Act, there is one place where it absolutely has to be taken into account by you under the provisions that you're working under, and that's under section 62(1)A which you might recall is the provision that requires you to refuse an application if you consider that the waste, or in this case dredged material, may be reused, recycled or treated without imposing costs on the applicant that are unreasonable in the circumstances.

There are a few things to say about that based on the evidence that you've had from the economists. The first of them is to really confirm something that I said in opening to you, which is the options for reuse, recycling and treatment here are extremely limited. Most of the alternatives that have been considered are disposal alternatives, not reuse, recycling or treatment. The only one that is a reuse seems to be the reclamation option.

The evidence that you have about that option, and indeed other options, is that they would impose costs that are substantially higher than the costs of dumping at the NDA. And that's in the order of, at the bottom end of the range, two to three times the level of cost and, at the upper end of the range, something in the

order of five times the cost.

I hasten to add that the way the Act has been written, simply has not anticipated an application of this sort where a global consent for dumping would be held by one party and they would operate effectively as a marine landfill, letting others bring their material in and certifying that it's appropriate or cleanfill, I should say in this case, and allowing it to be dumped provided it meets certain conditions.

And that's because the Act, in the section I just referred you to, talks about imposing costs on the applicant which, as Mr Murray has quite properly observed, wouldn't be the case in relation to any of these alternatives because the parties undertaking the dredging would simply have to go somewhere else and it wouldn't be under CRL's consent.

Be that as it may, I think where that leaves you is, you have a clear indication in the legislation that's trying to get you to join the dots in terms of the costs of what is before you and consider what the costs of the alternatives are.

And, in my submission, it is in the spirit, if not the letter, of the provision that you undertake the exercise in the way that has been written by the economists, that you do look at those other options in the round and look at the costs associated with them.

That's all I wanted to say on the costs side of it and I want to move on to the demand side because, in my submission, it's on the demand side that the question is more significant for the application.

Underlying the demand assessments that you have been offered by the economists, is a question, there's an embedded question here, about whether the application ought to be for the amount that CRL has sought, the

250,000 cubic metres per annum.

Mr Akehurst's evidence to you is that the demand is lumpy. I didn't take it from anything Mr Murray said that he disagreed with that proposition. And Mr Akehurst's evidence to you is that 250,000 cubic metres of demand will be reached in 2022, 4 years from now.

On the basis of the questioning of assumptions underlying some of that economic analysis, I think the end point you get to with the evidence you've heard today is an agreement that, at most, what might happen with the demand is it is time shifted from 2022 to some later point in time. Whatever it is time shifted by, I took it from both economists that they were agreed that you would nevertheless get to 250,000 cubic metres of demand and certainly, you would get to it well inside the lifetime of this Consent Application.

Given the evidence before you about the lumpy nature of the demand, in my submission that doesn't give you a great deal of manoeuvrability on that issue. As a matter of logic, you might ask yourselves is it possible to identify a smaller amount, for example, than the 250,000 and grant consent for the smaller amount, yet step it up to 250,000 into the future? I think the difficulty with any approach of that sort, would simply be that we have such an inexact understanding of when that line would be crossed that you couldn't reliably pick a date that would be reasonable.

For those reasons, the applicant maintains 250,000 cubic metres is an appropriate amount to have in the consent. It accepts that it won't be 250,000 cubic metres next year but, on the basis of what it can see on its books next year, it will nevertheless be a substantial uplift over what's presently going out to the Northern Disposal Area.

That's all I wanted to say on the economic evidence you had today.

In terms of the duration which I think is closely related to that, the submission is a relatively simple one. The Act provides for a 35 year term. It's accepted that it does so with some differentiation between different kinds of consents that can be granted under the Act. Nevertheless, the provision is there for you to grant a 35 year term. And the evidence that you have from Mr Male, and indeed from other dredging operators, is there is a degree of certainty needed in terms of how the costs of administrating this consent are allocated.

Inevitably, that certainty can accommodate, I dare say, any term you choose to impose but it would be contrary to the application before you in its fundamentals to be considering granting anything less than a considerably long-term, can I put it that way, and the applicant maintains a 35 year term is appropriate in the circumstances.

There were some submissions you heard that I will briefly respond to from Ms Undorf-Lay for Sanford and NIMPL, I apologise I can't recall what that acronym stands for, North Island Mussels Limited, something along those lines. As was already discussed in exchange today, the liaison group that has been offered by the applicant is offered as an Augier condition, and that is what provides your legal ability to impose a condition of that sort. It is offered in the form that you see in the conditions before you today and no more than that.

So, to the extent that Ms Undorf-Lay's presentation sought a range of additional factors for that liaison group, none of those have been accepted by the applicant and that's because they're not justified, in the applicant's view.

The applicant certainly does not agree with the characterisation that Ms Undorf-Lay made of the exchange that had happened between her and the applicant. And I will say no more on that topic.

She did, interestingly, in addition to proposing changes to the liaison group, put forward an offsetting condition for your consideration. The EEZ Act doesn't anticipate conditions of that sort and, in my submission, there's a fundamental problem with a condition of that sort because, by its nature, an offsetting condition is not to manage an adverse effect of the activity, which is of course the only jurisdiction you have. So, to that extent, that's not supported by the applicant either.

In terms of the detail of any submissions on the conditions of consent, I think I'll leave anything until the written submission that you get in due course from me. But the high level of agreement that has already been achieved largely means that I think what you'll get from me is, if anything, some editing and a retention of all of the substantive content in these, other than on those conditions that are still marked as live conditions.

And so, I think that simply leaves it for me to reassert what I said to you in opening, which is that, in my submission, you have before you what amounts to the best available information for your determination of this application and there is not any uncertainty or inadequacy here that would require you to exercise or to favour caution and environmental protection in the way in which the Act envisages.

Subject to the refinement that's yet to occur through further discussions and Ngati Rehua's input and so on, those are the submissions for the applicant.

CHAIR: Points of clarification?

MR SLYFIELD - QUESTIONED BY COMMITTEE MEMBERS

MS WRATT: Thank you, Mr Slyfield. Just a couple of things for clarification. In terms of biosecurity, early in your statement you commented that CRL consider that is adequately covered with the reporting condition. I still have a question, subject to any revision that might be provided, there is still nothing in there that identifies how you will identify if there is a biosecurity issue at the NDA?

MR SLYFIELD: Yes, and that's been taken on board and I think the planners have a clear idea in their mind about how that will be achieved and I think that you'll find in due course that that's supported by the applicant.

MS WRATT: Great, thank you. My second point, your comment around oceanography, that any condition would require technical content that hasn't been provided to date.

I take it there you are referring to the suggestion of a limit at the NDA boundary of 0.2 micrograms per litre and that that isn't - there is a lack of technical information in terms of why that is an appropriate limit in terms of any adverse effects?

MR SLYFIELD: I'd put it slightly differently, Commissioner. I'd say, I think I understand where the 0.2 has come from. The issue is that it's expressed as 0.2 above background and there is no reading for background. So, first of all, you have to have some background reading and the protocol for doing that isn't part of the set of conditions in front of you.

Secondly, as I understand it, the micrograms per litre metric is a measure of suspended sediment, yet I think what was described to you by Dr Longdill when he was on the videolink was not a measure of suspended sediment because he was talking about having monitoring equipment of some sort on strings at the NDA boundary and he gave some idea of how many there would be.

But, if I understood him correctly, what he was describing was something that would measure turbidity at the boundary, not suspended sediment, and there is not a direct relationship between those two things.

So, you're left with an idea but not the means to implement it, if that idea was to have traction with you, in my submission.

MS WRATT: Okay, thank you. Finally, the third one was, in relation to the liaison group or groups, you commented that that was an Augier condition. There's actually two conditions there. One is the iwi liaison group?

MR SLYFIELD: Yes.

MS WRATT: And the other was, whatever it was termed, an industry liaison group.

MR SLYFIELD: Yes.

MS WRATT: Do you consider both those to be okay? The way it was presented was that the iwi liaison group was the Augier?

MR SLYFIELD: I think it's the same for both of them.

MS WRATT: Those are my question, thank you, Mr Chair.

CHAIR: Right. Just a little pause for a second while we get the appropriate person in to close for us.

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CLOSING REMARKS

CHAIR: Well, people, this brings us to the conclusion of the hearing and this hearing is now adjourned. We have put in place some timelines to receive further information and a written closing. We will assess all the information and we will come to a point when we can determine we have enough information to actually close the hearing. This is different from the RMA, we have to make sure we can reach that point when we determine that we have adequate information and the uncertainties have been addressed etc.

Can I just note that the hallmark of this hearing has been the diligent way parties have worked together. I haven't seen that before. It's been really, really interesting. And, as a result of that, we've made really good progress. You've worked co-operatively and where possible have reached consensus views, so that we are faced as a DMC with a very narrow range of points of disagreement that we have to address in our deliberations.

There's even been a bit of humour and, Andrew, you did provide a beauty for us and I've really got to single that out, well done. It's really nice to have a bit of humour in a hearing, it breaks the tension of the day and it's really good.

So, we thank you sincerely to all the parties for the way you have conducted yourselves.

And finally, I've really got to single out the EPA staff, thank you all, one and all, for what you've done, especially in the lead-up to the hearing. It's an

interesting process, we have had to read information as it's come in, we've had to formulate questions. I've been brought to heel by my Panel members in terms of what we can do and the types of questions. It's been a really interesting process, especially from someone who's spent all his life in RMA hearings. So, this has been a lot of fun. I know I shouldn't say that.

And I've got to thank my two Panel members, they've been great to work with.

So, we're all adjourned for the day and you will be hearing from us in due course. Thank you very much and safe journey home.

MS GREGORY: As is appropriate for an EPA hearing, we will close as we opened with a karakia.

(Closing karakia conducted by Erica Gregory)

CHAIR: Safe journey home, people.

Hearing adjourned at 2.14 p.m.