

SOUTHERN LINK INLAND PORT HEARING

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ATTENDEES: **PANEL:** Cindy Robinson, Ray O’Callaghan and Steve Abley

APPLICANT:

Marshall Day: Brendon Shanks
Representatives: Sarah Scott, Joanne Dowd, Kevin
Kearney and Grant Driver
Planner: Laura Hamilton

CRAIG & JOANNE INCH: Craig Inch

DUNEDIN CITY

COUNCIL: John Sule and Jon Styles

PANEL EXPERT: Jeremy Trevathan

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[Start of Recorded Material: 0:00]

C ROBINSON: Kia ora koutou

B SHANKS: Kia ora.

C ROBINSON: Is there a phone number there? We've got somebody without a camera on there. Do you know who that is?

Just quickly just do around the room introductions. You will have heard from the Panel over the course of the day. My name's Cindy Robinson, and sitting with me, Ray O'Callaghan and Steve Abley.

On our list of RSVPs, we have the Applicant team. Sarah, you've got a team with you in the room again. Just for the benefit of everybody, can you—

S SCOTT: Yes, good afternoon, Madam Chair. So, Joanne Dowd, Grant Driver, Kevin Kearney, and we have Laura Hamilton from Mitchell Dayshe. John and Megan are not available. That's why we have Laura here. And then Brendon is on a separate window to us.

C ROBINSON: So Brendon, welcome Brendon.

And Dunedin City Council, we have John Sule again.

J SULE: Yes, I'm here as DCC. Yep, observer.

C ROBINSON: And Jon Styles, welcome.

J STYLES: Yes, good afternoon. Thank you.

C ROBINSON: Thank you. And also welcome to Jeremy Trevathan. The Panel hasn't interacted directly with Jeremy today other than through our minutes, so welcome and thank you for participating in the JWS along with Mr Styles and Mr Shanks.

We're expecting to be joined by Mr and Mrs Inch, or one of them, and also Mr and Mrs Stewart. Have we got them online at all? There's a phone number I can see with no visual.

C INCH: Yeah, Craig Inch here.

C ROBINSON: Oh, welcome, Craig. Thank you. We did set a 2:30 start time, so even though Mr and Mrs Stewart haven't yet joined us, we'll carry on. And then Lily, you'll let them in when they link in. Thank you.

Okay, so the purpose of this session or the hearing today is really to provide the Panel with an opportunity for a Q&A with the authors of the Joint Witness Statement for Noise. As we did this morning, Sarah, we may seek some direct responses from the Applicant through you and your company representatives if that's appropriate.

S SCOTT: Yes, thank you.

C ROBINSON: For the benefit of Craig, it's not an opportunity for you to ask questions directly of the experts, but if there are matters that come up that you would like us to clarify, I'm not sure whether you've got a hand raising tool in the context, but happy for you to just wait for a pause in the conversation and indicate to me that you might want a clarification, but it's not cross-examination or necessarily a formal presentation from you.

With that in mind, we'll get underway. I'm going to defer to the engineers at my table first, so who wants to start?

R O'CALLAGHAN: You can kick off first if you like.

S ABLEY: Okay, well again, similar to this morning, thank you very much for your input to all the experts in the Joint Witness Statements and the other reference material. Okay, a couple of questions. I'm going to start with some of the base inputs to the noise modelling. I'm particularly interested to understand, you've obviously used the inputs from the transportation witnesses in terms of their expectation for daily traffic. I'm interested to understand how you've taken that daily traffic number and then converted that into a nighttime or daytime effect. Brendon, maybe that's the right place for you to start.

B SHANKS: Yeah, certainly. In terms of the noise on the public roads, we haven't split that into a nighttime or daytime effect. The standard way of calculating road traffic noise is a 24-hour LEQ, which is the tool that we've used to do that. Part of the reason for that is the baseline traffic data that we have for those roads doesn't provide nighttime and daytime splits. It's an average daily flow, so in adding our traffic on top of the existing traffic, we have used the average daily flows.

S ABLEY: Okay, and I suppose the way that you ... cos clearly more people use the road and are expected to use the slip during the daytime hours than the nighttime hours. Is that correct?

- B SHANKS: Sorry, more people use the road during the daytime than the nighttime. Is that what you're suggesting?
- S ABLEY: Yeah, and specifically the slip. Will the activity at the slip be uniform for 24 hours for every hour or does it have a certain peak or a period?
- B SHANKS: No, there is more traffic expected during the daytime. In our report we do have some peak hour values that were provided by the operational team, and they are greater during the daytime than the nighttime.
- S ABLEY: Right, so the way that the receding environment would receive, the way that you've acknowledged that it's a more sensitive environment during the nighttime than daytime is because you've lowered the standard of acceptability for a nighttime environment versus a daytime environment?
- B SHANKS: In terms of looking at the daytime and nighttime, that assessment's been done based on noise coming from within the site. In terms of the traffic on the public roads, because we don't have the split of day and night traffic for the base, the underlying existing traffic, we've done that as a 24-hour level, so it hasn't distinguished between day and nighttime levels.
- S ABLEY: Okay, has there been any distinguishment between a peak season or an average season?
- B SHANKS: No, and again that's based on the typical approach of using an AADT for road traffic, which is typically how you would look at increases in road traffic/traffic noise.
- S ABLEY: All right, so the average 24 hour is an average 24 hour for 365 days a year?
- B SHANKS: Essentially, yes.
- R O'CALLAGHAN: Can I just explore that a little more?
- S ABLEY: Yeah.
- R O'CALLAGHAN: Brendon, I'm just trying to get my head around the model output, and particularly interested along Dukes Road North. So, inside the site, you've modelled a whole lot of things going on, trucks moving, trains stacking, various things, and then there's trucks on the road. Is the trucks on the road layered into the model and hence the contours or the colours, the feeling that the output from the model and those expected ... in the documentation here, you've got Stage 3, for example. Is that the combination of both trucks

on the road, the 24-hour average layered into the 15-minute average on the site or does the model not work like that; it's one or the other?

B SHANKS: It's essentially one or the other. I mean, we're assessing different things, I guess. From within the site, we're looking at assessing compliance with particular noise limits. With the traffic on the road, the noise limits don't apply; they're exempt from the noise limits. We're looking at the effects of traffic on the road, so how much has the level changed and what will the overall level be, but it's treated separately from noise coming from within the site.

R O'CALLAGHAN: With the noise from within the site, is that including the truck movement at the entry for 15 minutes coming in and out?

B SHANKS: Correct, yeah. Once the truck enters the site, it becomes part of the site noise. We've got truck paths moving around the site as part of our model, but the calculation of the truck noise on the road essentially uses a different calculation method of calculating traffic flows. We've adjusted the percentage of heavy vehicles and the overall number of vehicles to account for the vehicles that would be going to the slip and from the slip.

R O'CALLAGHAN: Step back from those two ways of looking at life, the person sitting in the house, what 272 is it?

C ROBINSON: 273.

R O'CALLAGHAN: 273 Dukes North. Is there one of either of those two that is significantly more noticeable under your modelling predictions than the other? Either the trucks along the road are more noticeable than the operation happening at the slip as modelled or conversely the other way around? How does the individual perceive this noise?

B SHANKS: I mean, I guess the traffic on the road, the absolute level is higher than the levels we're predicting from the site due to the fact they are immediately adjacent to the road, and because the Applicant doesn't have the ability to introduce mitigation measures, barriers between the road and the dwelling. I mean the existing road traffic levels are also higher than the levels we're predicting from the site. The increase that we're predicting along that road at that closest dwelling is five decibels. That predicted level of 54 currently is actually higher than what we're predicting from the site.

- R O'CALLAGHAN: Yeah, so the trucks on the road are the biggest problem with respect to noise at that particular property rather than the activities on the site. Is that a correct statement or a reasonable statement, not in LQ15 or LQ24, but just in terms of noticeable effect by an individual in the house?
- B SHANKS: Well, I mean there are already existing trucks going along that road, so yes, there's obviously an increase.
- R O'CALLAGHAN: Yeah, okay. That helps to understand the split between the two noise emitting activities in a broad sense of the word. Is that reasonable?
- B SHANKS: Yeah, I think so.
- R O'CALLAGHAN: Okay, that's helpful to understand. Thank you.
- S ABLEY: Sorry, if I could, so Brendon, at the end of Stage 3, you're saying that at 273, you're expecting it to be 59DB at 273 Dukes Road North?
- B SHANKS: Correct.
- S ABLEY: That 59 is a function of the operation, not of the vehicles, but the actual operation?
- B SHANKS: No, sorry, that's the predicted level of traffic noise along Dukes Road North, so the combination of existing traffic plus the additional Stage 3 vehicles.
- S ABLEY: Okay, and you described that effect as moderate. I think you've also said it's a desirable upper level, and it could cause some adverse health effects. Have I characterised that correctly?
- B SHANKS: Yes. I guess the other comment is that it's also not an unusual level of noise for a dwelling near a road. There are a lot of dwellings near roads that would receive that level of noise or greater.
- C ROBINSON: In a rural environment?
- B SHANKS: Yes, if the road's busy enough.
- C ROBINSON: Just welcome the Stewarts, and if you could ask them to unmute themselves. Oh, it's Anne Beattie. Oh, okay. Just a pause in proceedings just to welcome the Stewarts. Just noting your link is in the name of Anne Beattie, so is that Anne there that I can see on the screen? You need to unmute yourselves so that we can hear you speak. Thank you.

- K STEWART: Sorry, Anne Beattie is White Road Office Manager, yes. We're in the office on a link.
- C ROBINSON: Okay, can you just identify everybody that's in the room?
- K STEWART: So, Karen Stewart and my husband, Wayne. We live at 273 Dukes Road North.
- C ROBINSON: Okay, thank you. And, yes, you participated in the conference.
- The Panel has made a start. We're primarily just questioning the expert witnesses. It's not an opportunity for you to ask the witnesses directly, but if there's a matter you would like us to clarify, then if you could indicate that to us, we can explore that with you.
- K STEWART: Okay, thank you.
- C ROBINSON: Thank you.
- S ABLEY: Brendon, if we can just keep along that same type of line, talking about 273, so currently extra traffic will take it to 59, and I think you've said that 55 is that upper desirable bounds. Is there anything that could be done to mitigate that effect on 273 to bring it down to that desirable level?
- B SHANKS: I guess the traditional approach with traffic noise is a barrier blocking line of sight. I mean, there'd need to be some modelling done to see how long and high that barrier would need to be in order to mitigate that noise. That's really the only practical approach. I think that there is some effect you can get out of changing the road surface, but I think a barrier is the key mechanism to reduce noise from that section of road.
- B ABLEY: Very good.
- R O'CALALGHAN: Do the other noise experts have a comment on that?
- J TREVATHAN: Just hopping in first maybe, yeah, I agree in terms of a barrier, but noting that that would be a barrier on the site of 273 Dukes Road.
- R O'CALLAGHAN: Yeah.
- J STYLES: I agree with that as well obviously. The other option would be to reduce nighttime traffic. That would reduce the worst of the effect or the worst of the effect happens at night, but that would result in a different proposal, I suspect. That would be quite drastic, I think.

R O'CALLAGHAN: If you did have a barrier on, say, the boundary of 273, would that have any material effect on the noise emission from the operation within the site, so the LQ 15 minute operational as well? Would that reduce the scale of noise received at the dwelling?

B SHANKS: Depending on how high that is, it's not likely because the way the site's been laid out, there are existing barriers to block line of sight to the noise activity as it is. It's possible if it's high enough that you might get a couple of extra DB out of a double barrier effect, but the bulk of that effect has already been achieved by the location of the buildings and the barriers along the site boundary.

R O'CALLAGHAN: Just extending slightly in the Joint Witness Statement, in Question 2.1, it was agreed that there's less safety margin as predicted noise levels to receive is east of the slip. I didn't quite understand why. Is there something about the layout within the site or something about that emission from within the site that triggers the east being more sensitive than the other three sites?

B SHANKS: It's more to do with the type of sources that have been modelled on the western end, I guess close to Stedman Road. There are a lot of different sources that have been modelled, and in our model, we've assumed the worst case essentially for all of those. That's an unlikely scenario to occur on the eastern part of the site. The primary noise sources are the trucks coming onto the site, and then there's contributions from other things, including the forklifts. There's some conservatism built into that, but essentially if there's an increase in the truck movements along that part of the site, then that has a more significant effect on increasing the noise to the east of the site.

R O'CALLAGHAN: In other words, the noise attenuation wall along that eastern side, it's doing some work, but it can't quite do as much to keep the eastern side down to the same level of risk as the other sites. Is that where that sits?

B SHANKS: Well, the way that's been designed, it's been designed to block line of sight to those noise sources. Again, it's doing the chunk of its job. If you're to increase the height of it, then it's minimal improvement in the sound attenuation. That's why it's been designed at that height.

It's more, I guess, that the scenarios that we've modelled for the nighttime include one truck coming and going to each of those areas. If you have two trucks coming and going to one of those areas, then there's an increase in noise, whereas at the other end of the site, we've got activities where it's

unlikely that you're going to get double the amount of activity occur in a 15-minute period from a significant noise source.

R O'CALLAGHAN: So, it's linked mainly to the type of operation, the physical operation within that eastern part of the site?

B SHANKS: Correct.

R O'CALLAGHAN: Thank you. I understand, yeah.

S ABLEY: Just while we're talking about operation matters and the reversing alarms, can you explain some of the characteristics of different types of beep, beep, beeps?

B SHANKS: Sure. I mean, I think you'll probably all be familiar with the tonal reversing alarms. I can demonstrate if you like. You've got your beep, beep, beep, beep. Then, you've got the ones that are called squawkers or broad-bander alarms. They're broadband because they cover more frequencies, so they are a [demonstrates sound] sort of sound. Now that sound, from a distance, tends to get lost in the wash of other sounds because it's not as prominent. I mean, you'll I'm sure be aware that you can hear those tonal reversing alarms from a long way away, and they're very prominent. The broadband reversing alarms are preferred in terms of that noise effect.

R O'CALLAGHAN: In your modelling, where you have modelled the reversing alarms, is there one type over another that you've modelled?

B SHANKS: Well, we modelled the tonal ones initially in terms of the sound power that they generate. They only occur for around 20 seconds within a 15-minute period, so in terms of the actual noise level they create, it's not all that significant for a 15-minute period. It's more whether or not that character would attract a penalty for being tonal. That's, I guess, why we've addressed that in the Joint Witness Statement.

C ROBINSON: I see that the Applicant's got their hand up.

S SCOTT: Yes, thank you. That was just me. I just wanted to just provide an update on the commentary in the JWS around broadband or otherwise. The Applicant is willing to agree to a condition that only broadband be used at nighttime. They're confident that they can address that from an operational perspective. There was question marks around whether that was the case, that they're quite comfortable, so I just wanted to tell you that in case it made questioning a little bit more efficient.

C ROBINSON: Thank you.

R O'CALLAGHAN: Would it be acceptable to the Applicant to have no reversing alarm process, and manage the health and safety aspects? We're talking at night, only in the night period, where you manage the potential health and safety risk of trucks reversing by other means. Is that an option or was that, no, that wouldn't work from a health and safety perspective?

B SHANKS: I think if I can just jump in there, the broadband reversing alarms, the character and level of those is not significant enough that it would be something that is likely to cause an issue in terms of noise from the site. I mean, I've got a lot of experience of listening to noise from Port Chalmers at Port Otago, and they've implemented a no tonal reversing alarm policy on their site. The character of that noise is essentially lost in the hum and wash of sound coming from the port, so it's nowhere near as prominent as the tonal alarms.

R O'CALLAGHAN: Oh, okay, thank you. Yeah, all right. Don't need to respond to the earlier question. That's helpful, thank you.

Jeremy, Jon, do you have anything to add on that particular point?

J STYLES: I'll go first this time. No, essentially, you'll read in the Joint Witness Statement that Jeremy and I said that our experience is that eliminating tonal alarms can be very difficult where you're accepting vehicles off the road. Different contractors might be turning up for different products and different things, and it can be difficult, but if the Applicant is willing and capable of essentially eliminating tonal reverse alarms from the site, then that addresses the issue.

J TREVATHAN: Yeah, nothing further to add from my perspective. Brendon's correct that it's the tonal alarms that are of concern, not alarms more generally.

R O'CALLAGHAN: Thank you.

S ABLEY: Brendon, a further question for you. Your modelling has shown that you can achieve 40 DB LAEQ, but you're seeking 45 as the threshold, and I wondered if you could just go through some of the explanation for that.

B SHANKS: I guess it goes back to that comment around the risk with those sources to the east, that it would only take an additional truck movement to one of those areas over what we've modelled to the tip over 40. The way the nighttime noise limit is assessed, it's based on a 15-minute period, and

you're not allowed to average that throughout the night, whereas during the daytime, you're allowed duration averaging ... so if during the daytime, more trucks turned up in a 15-minute period and less in another period, you could essentially average that out to some extent. The nighttime period doesn't allow that, so that's a risk to non-compliance for the receivers at that eastern part of the site. That's the primary reason for seeking the higher noise limit, is that it potentially constrains the truck movements coming on and off the site down that eastern side.

S ABLEY: In terms of operational noise that comes from the activity on the northern residence, 273, what's your expectation for the noise level at 273 just because of the activity, not because of the vehicles?

B SHANKS: I think we've predicted 40. I don't have that in front of me. It's 44 or 45, so it's reasonably close to the limit, but again we have the contributing noise sources at that receiver primarily on the western part of the site. We've assumed a nighttime scenario that has a train idling on the site, straddle activity, the workshop operating, a truck coming on. There's effectively more conservatism in that calculation than there are to the receivers out to the east, cos that worst case nighttime scenario is less likely to happen.

S ABLEY: It's helpful from, I think, the Panel's perspective to ... we talk about probability and conservatism and so forth, but it's often helpful to think about it in terms of out of a range of particular scenarios, what might be the percentile of the scenario that you've developed and then modelled? Could you hazard an estimate for what that might be?

B SHANKS: So, what percentage likelihood is that the modelled scenario that we've included would be to occur? Is that what you're asking?

S ABLEY: Yeah.

B SHANKS: I mean, I guess that's a difficult question cos it feeds back to the operational team a bit. Essentially, what we've looked at is the peak hour traffic movements to generate the truck movements. We've looked at a rail movement onto the site or rail idling on the site, which again at nighttime we've proposed that that's limited to two a night. To have then that occurring at the same time as the wash area and workshop operating at 100%, I think that's probably a question for the operational team to know how likely that is. I don't think I can give you a percentage. I think I would be pulling a number out of the air. I guess from that point of view, it is a worst case. I'm not sure I'm willing to give a percentage.

- S ABLEY: Well, maybe then it's a question for the operations and the Applicant. How unlikely is it that this worst case scenario may actually eventuate?
- K KEARNEY: The worst case scenario, is the worst case scenario an accumulation of a rail movement and a container movement in the terminal, Brendon?
- B SHANKS: The nighttime scenario we've modelled includes a truck coming into Exchange 1 at the northern part of the site, a truck going to the bulk break and to the warehouse areas on the east part of the site, a train movement. Whilst the train is stationary, there's partly some unloading of the train. There's the workshop operating. There's the wash area operating, straddle movements in and around the container area and the reefer stack's full.
- K KEARNEY: Given the peak hours on Exchange 1 between 10 PM and 7 AM, I think it figures like three or four.
- B SHANKS: It was four an hour.
- K KEARNEY: Yeah, it is four movements an hour, so it's that proportion in relation to two rail movements over an eight hour period. You'd have to combine those two factors to come up with a multiplied factor of the frequency that might occur.
- R O'CALLAGHAN: Sorry, just to clarify, was that four trucks over the nighttime period or was that four in an hour?
- B SHANKS: It's at peak. Sorry.
- K KEARNEY: Yeah, it was a peak hour, so four. Every 15 minutes, there's a truck movement during the night.
- B SHANKS: For the peak hour, we were told for that exchange area, four movements. For a 15-minute period, I've assumed one truck coming and going from the exchange. Obviously, for a 15-minute period, that's four an hour. That's not going to occur all night. That's the peak hour that they're expecting during the nighttime period.
- R O'CALLAGHAN: It helps gives a feel of sensitivity. I appreciate that it would be guessing to put a number on it.
- S ABLEY: I get the impression that it's, or it could be a low probability in terms of you could have to have a lot of concurrent activities taking place at the same time or a number of concurrent worst—

K KEARNEY: I agree.

C ROBINSON: Okay.

R O'CALLAGHAN: Sorry, just one question. With respect to this various activities occurring within the 15 minute, is there a difference here between what would be typically occurring in a Stage 1 versus a Stage 2 and a Stage 3? Stage 3 is a lot bigger scale of an operation than Stage 1, but in Stage 1, you could still have close to the same movements and activities occurring in a nighttime period?

B SHANKS: There's no nighttime activity proposed in Stage 1.

R O'CALLAGHAN: Oh, okay.

K KEARNEY: Stage 2 and Stage 3, they're pitched with these peaks as worse. They're conservative.

R O'CALLAGHAN: Stage 2 then, is Stage 2 level of noise emission expected to be lower than Stage 3?

K KEARNEY: Similar in terms of peaks.

R O'CALLAGHAN: Similar, so two and three are similar? Okay.

K KEARNEY: That's primarily driven because Stage 3 increase in warehousing is small compared to the Stage 1/Stage 2 warehousing in total.

R O'CALLAGHAN: Right. Even if you had a rail link siding in Stage 1, it's not intended that that would be used at night?

K KEARNEY: Our current modelling says it early on in Stage 1, it would be one train a day, five days a week during day shifts.

R O'CALLAGHAN: Okay, thank you.

K KEARNEY: That's plausible, so it's not 'til this site's developed further that we have to look for ... as the rail volume increases looking for other opportunities for rail to operate later in the day, in the evenings.

R O'CALLAGHAN: Thank you.

C ROBINSON: I think my question might be—

R O'CALLAGHAN: Yeah, it's just getting a bit of that scale.

- C ROBINSON: Oh, actually I could ask. Just in terms of the worst case scenario and the concurrent activities, was there anything in those activities that doesn't occur at night or was that an accurate description of the range of activities that occur at night?
- K KEARNEY: That's a good question. It's unlikely for wash activity to occur at night. At the port, the wash activity happens during the day as it does in the Dunedin Depot and Strathallan Street. Similarly, the exchange areas, post-5 PM for the port, most of the road transport movements that occur, the tails that happen in the evening and potentially at night are a lot smaller.
- C ROBINSON: Yeah, do we know just in the material that we've got, what's the expected turnover of those two trains arriving overnight? How long are they? Is there an estimate of how long they're likely to be on site or passing through the site for unloading purposes?
- K KEARNEY: We don't have a good estimation, and the reason for that is that the current port end of the rail turn requires braking and shunt movements of the waggons, whereas with the new Southern Link site, it's one whole rake of 24 waggons. It is a drop off and a pickup without any braking and shunting of the waggons, so we suspect it will be significantly less duration. It's about an hour and a half to two hours, so it might get down to about a 30 minute/45 minute turnaround, but that's very rough.
- R O'CALLAGHAN: Brendon, we notice the proposal was to have, or it's been modelled with the noise attenuation fencing along the full length of Dukes Road North other than where the main entry gate is, but almost opposite 273, the proposal also has an emergency exit out back out on the road. I assume that the emergency exit would have a movable ... it might be a sliding gate or some similar noise attenuation barrier that is moved when the emergency exit is required to be used. Is that the intent? In other words, have you co-ordinated that issue with the proposal or is it solvable so that we don't end up with a proposal wanting one thing, but we end up having a gap in the attenuation fence almost opposite 273 that would probably change your modelling? It might well change your modelling to some degree?
- C B SHANKS: Yeah, look, it's a good question. We've confirmed that that could be possible. I haven't seen the design of exactly how that's possible, but it's assumed as a solid barrier with no gaps.
- R O'CALLAGHAN: Yeah, okay.

S SCOTT: Sorry, if it's helpful, we can confirm that as the intention from the Applicant in terms of that barrier. It'll be solid.

R O'CALLAGHAN: Yeah, thank you.

S ABLEY: Sorry, just to go back to the activities that are happening on the site, the concurrent nature and the conservative nature of the assessment, given the effects that will come from those activities, but it's a low probability of it all happening all at the same time, including the nighttime wash activities, why would you seek a 45 DB threshold to give flexibility in terms of operational activities on top of a conservative assessment?

B SHANKS: Again, most of that conservatism is based on the activity that's happening at the western end of the site. The noise limits at those receivers is already 45 because they're within 350 metres of the existing industrial area. Where we're seeking a higher nighttime noise limit is for the receivers to the east out towards Puddle Alley. They currently have a nighttime limit of 40 because they're further than 350 metres from the industrial zone. Those are the areas where they're more susceptible to a change in noise level by an additional truck movement during that nighttime 15-minute period. There's not so much conservatism in the likelihood of concurrent events on that end of the site because it's more controlled by truck movements on and off the site.

R O'CALLAGHAN: With respect to that eastern end, the layout of the site, the design of the activities and the way those activities work within the site, that couldn't be rearranged to provide a greater barrier to noise from the buildings or whatever? There were operational things necessitating the layout that you've proposed that couldn't help you with that noise issue or was that not really explored?

B SHANKS: I think ultimately that's probably a question for the operations team, but my understanding is that the vehicle routes needed to go around the backside of those warehouses to allow access between the warehouses and the container area. The way the warehouses are laid out, they provide the optimum shielding to the noisier activity, which is the container stacking and that part of the site. The noise barrier along the site boundary blocks line of sight to trucks coming onto the site, but I guess it's a question for the operations team as to how they came to that layout more specifically.

R O'CALLAGHAN: Perhaps you could comment on that from the Applicant's side.

K KEARNEY: It's exactly as Brendon just said. We looked at multiple layouts, and realised that the benefit of the warehouse placement, and that's maximum shielding in the format that it's got now with respect to the most sensitive noise sources are tracked by having a northerly construction warehouse line and then also the easterly, albeit that does leave the road transfer main entrance to the site closer to the eastern boundary. We weren't able to protect that.

Look, we've also got in the sequence of the staging from the 2C to 2B to 2A, which is basically from the west to the east, the staging plan to build the warehousing there also surrounds those sound generating sources.

R O'CALLAGHAN: Right, and I guess you're separating to some degree the two activities, aren't you, in a physical sense with your activity in the east relating to warehousing, activity in the west relating to container stacking, etc?

K KEARNEY: Yes.

R O'CALLAGHAN: Okay, yeah. I understand.

S ABLEY: A question for the experts: in terms of the difference between 40 and 45 for nighttime sleep disturbance, what does 45 versus 40 actually mean? What's going to be a practical reality of sleeping?

J STYLES: I'll go first. It's difficult to describe subjectively. The difference between 40 and 45 is obviously five decibels. That's what I would describe as a clear difference, a clear increase in noise level. 45 is at the very top end of what is reasonable for a dwelling that relies on partially open windows for cooling and ventilation. It certainly wouldn't want to be any higher. I think we'd likely be in the territory of saying it might be unreasonable if it went over 45, so we're not quite there, but it is definitely at that upper end.

Sleep disturbance should be managed by compliance with the L max limits, which is the limits for impact noises, very short-term events that the Applicant has reinstated just not too long ago after the Council's comments were received, I think.

Jeremy, do you want to add anything to that?

J TREVATHAN: Yeah, nothing too much. I agree that the guidance talks of 45 at night consistently as that's the upper bound in terms of those more steady state noises. And then this discussion about 40 versus 45 comes up reasonably frequently. It's quite an interesting one because if you're asleep, you're asleep, and what does it matter if it's a bit louder or quieter outside, which

is why I sounded reasonably non-committal in terms of the question of 40 or 45 at those dwellings to the east.

My point here is more about, I guess the necessity of 45 versus 40 in terms of the modelling and what constrained noises Brendon has described. With those nighttime truck movements, I started with Table 8 of Mr Shanks' report, which had seven nighttime truck movements in a peak hour. And then as we've agreed in that Question 1.2, what's been modelled is six of those movements in a 15-minute period of that hour. There's some conservatism there, and then whether the question is, the prediction then is 40, right on 40, and what if it was not six movements, but seven? When you look at the rounding and the real nitty-gritty of it, that would still produce 40. If it was eight movements instead of six, that would round up to 41, but that relies on ... so there's a contribution from the trucks and then it's the contribution from the sound across the rest of the site.

We've set out there how the sound from the rest of the site has been conservatively modelled, so that non-compliance would only happen if the noise from the rest of the site was as has been predicted. If it was even .2/.3 of a decibel lower, that non-compliance wouldn't eventuate. If the question is about flexibility and what if six or seven or eight trucks turned up, I don't think there's a genuine potential for a non-compliance with the 40 limit there. When you look at it from the other perspective in terms of truck movements and what a limit of 45 would enable, you're talking about a lot of movements. 20, 30, 40 minute movements in a 15-minute period would be accommodated by that limit, which feels disproportionate to the problem you're trying to solve and out of proportion with how the nighttime situation in terms of trucks has generally been presented.

R O'CALLAGHAN: Layered into that, if we're just thinking of the sleep disturbance, you've then got these other trucks. It doesn't matter whether they're trucks going into the slip or other people's trucks going further afield, but you've got trucks going along the road. Do they create a greater potential sleep disturbance risk or level or less? Which one dominates the sleep disturbance, if any, if either of them dominate?

J TREVATHAN: Yeah, I think the answer there is specific to the different receiver dwellings.

R O'CALLAGHAN: Let me be specific then, at 273 Dukes North.

J TREVATHAN: Yeah, 273, I agree with how Brendon described the situation at the start. It's complex for 273 because it's quite proximate to the road currently and the

road does carry some heavy and noisy vehicles currently, so it's about a change in what the difference is.

R O'CALLAGHAN: My question is, that change, if we just accept the modelling as being a reasonable estimate of the likely change, is that likely to be a greater activity disturbing sleep at residents at 273 or would it be the operation, the (I'll use the word) constant or consistent operational noise, be it 40 or 45? Let's assume it's closer to 45. Would that be the greater risk of likely to disturb sleep at residents at 273?

J TREVATHAN: They're both relevant in their own way. There's the general noise coming from the site. That would be perceived as this average noise level in the background, and that's where if that type of noise is above that 45 threshold, it will make it difficult to go to sleep, for example, or if you're wake or wakened in the night to go to sleep again. And then there's the one-off sounds, so the noise from individual trucks passing or potential container handling noise, the bangs and clangs, and those are the sounds which, if they're loud enough, will wake you up if you were asleep. Those are the sounds where it's a little more complex because there already are some sounds like that in the environment.

C ROBINSON: We need to loop back around, Brendon, whether you can address that primary question in terms of the difference, articulating the difference of sleep disturbance between 40 and 45.

B SHANKS: Yeah, look, I think just touching on what Jeremy's been touching on, we're talking about, I guess, a 15-minute period of when those trucks arrive onto the site too. It's not necessarily that those trucks, that quantity of trucks are occurring throughout the entire night, and it's just a function of how the noise limits are assessed that we have to look at a worst case 15-minute period during the night.

I think I agree in terms of the sleep disturbance with Jeremy and Jon. The health guidance indicates that above 45 is where you start to get the onset of potential health effects. The standards international and the New Zealand standard reference is that as an upper level, it's acceptable for a rural environment. It's a pretty common noise limit to have for a rural environment.

I guess in the context of this environment and the things like the trucks, there are already high noise events that occur. We had a noise logger out on the site, so there are things like vehicles going down the road. There's the rescue

chopper that flies from the nearby aerodrome that generates albeit intermittent, but high noise events.

C ROBINSON: Can you comment on to what extent do receivers of noise in that context become non-sensitised to those, whether they're helicopter movements, train movements, traffic movements? Is there a difference that applies for the source of noise?

B SHANKS: I think that's a highly individual thing. There is a difference in some of those noise sources in terms of how people perceive them. I guess with this noise source, there will be an initial increase in traffic when the slip starts operating, but after that, it will be a slow increase up towards Stage 3. It's not like you're going from current traffic flows to Stage 3 traffic flows overnight. From that point of view, there is potential to effectively acclimatise as the road traffic increases.

C ROBINSON: Jon or Jeremy, do you have anything to add to that? Is there any research? Yes, it's potentially subjective or individualised, but is there a commonly understood scale of what impacts might be more likely to cause sleep disturbance?

J STYLES: It's a really tricky question to answer. Sorry. It does depend on the situation. It depends on the number of events. A lot of the international research talks about the number of events and how frequent they are during the night, but it also really comes back to the level. That's where our assessment has gone. It's gone mainly to the level of noise rather than the character or exactly what's creating that noise.

J TREVATHAN: Yeah, I agree with that, and I guess it is a pretty consistent finding that in terms of the question of acclimatisation or someone's attitude being different about noise from a rescue helicopter versus a truck, there are all those aspects at play in terms of individual's perception of noise, their attitude about the source, its usefulness and how it relates to their life. So, yes, it is correct, but individual responses will vary. I suppose the guidance we've been referring to is based on population level research in terms of averages, normal average people and their responses.

C ROBINSON: We talked earlier about the potential benefits of a physical barrier if we continue to focus on 273, providing some noise mitigation. What about other alternatives such as acoustic insulation and/or the provision of ventilation to enable windows to be kept closed during the daytime or nighttime?

B SHANKS: I'm happy to talk to that. I mean, that's another common approach, I guess, for mitigating for nighttime noise effects. Obviously, that allows a greater reduction of noise from outside to inside, and takes those potential noise effects back down below levels in terms of internal noise levels that are shown in the guidance for sleep health effects.

J STYLES: I agree with what Brendon said. It won't reduce the noise level that we've predicted or that Brendon's predicted for traffic or for the slip, but it certainly will reduce the noise levels inside the dwelling typically by an extra ... it's difficult to say, but maybe by an extra 10 decibels over what's there at the moment. That will be subjectively half as loud - quite a difference.

B SHANKS: I guess the other point to add to that is that that would apply to all noise, not just where the noise barrier would only be effective for noise along Dukes Road. The sound insulation would be effective for noise from within the site along the road, and indeed existing noise sources like the rescue helicopter or other traffic.

J TREVATHAN: I think the other point about a noise barrier would be you need to be realistic about the practicality of it because that dwelling is accessed by a driveway directly off Dukes Road. When you started looking at where you would construct such a barrier in a way to be effective, you would probably end up concluding that closer to the receiver was going to be better, but you'd still have this issue of how you get the driveway through, etc, which would mean ultimately upgrades to the dwelling may potentially be a much more practical way to provide some benefit.

R O'CALLAGHAN: Yeah, can we just lead the conversation to where are these levels assessed? In a consenting terms, the options are physically you could have the site boundary, and I'm meaning more with respect to Dukes Road North. You could have the site boundary, you could have the legal road boundary on the northern side, or you could have where you in your model, you assess these receptors. I think that's some distance off the house.

Brendon, you've advocated in your reports that in your opinion it should be here and set out some reasoning for that, but there is an alternative view that if this is about protecting for the property, that it could equally be, let's say, the northern side of Dukes Road North. Can each of the three of you give a view on where should this level, 40/45, whatever it may be, where should this apply?

B SHANKS: I think when you're talking about the levels to protect dwellings and sensitive receivers, it's pretty well recognised that the notional boundary is an appropriate location for a rural environment. So, that I guess feeds into the intention of the RMA to protect sensitive receivers. I guess I don't think there's any question from Jon and Jeremy that the notional boundary is an appropriate location to assess that kind of noise. If you're looking at protecting land at a site boundary position, then that's a different level of protection. It's a different receiver effectively that you're trying to protect. I mean, I guess Jon and Jeremy might want to chime in there.

J STYLES: Yeah, thanks Brendon. The notional boundary, as Brendon said, is about protecting the (well, what I refer to as) curtilage around a house, the area that people will use frequently and maybe for extended periods. The district plan applies that notional boundary rule to any dwelling, whether it exists now or in the future, and I think that's where the tie-in to the site boundary limit comes in because the site boundary limits are a feature of some district plans. They are a bit of a proxy way of encouraging sites to internalise their noise effects so that the risk of a problem popping up when another new dwelling is established somewhere close is reduced.

That whole issue of potential new dwellings is something that we've dealt with in quite a bit of detail in the joint statement and with the help of Mr Sule from the Council. In this case, because we've gone into that in some detail, it means that the utility of the site boundary noise limit in the 2GP is questionable, I suppose. It may not be required.

J TREVATHAN: Yeah, I don't have anything significant to add there. The levels of 40 or 45 that we're talking about are linked by the research into protecting sleep at nighttime. Is it envisaged that they are applied close to dwellings? Yeah, and then as Jon alludes to, the issue of otherwise vacant rural land is a much more complex one that some plans attempt to, as Jon explained, have a proxy for. I guess a situation like this shows that a case by case assessment is in the end the most sensible way to approach an issue like that, because here having another limit which applies at that northern Dukes Road boundary directly, that's also the area which is most directly affected currently by traffic from Dukes Road, which for some other configurations of sites wouldn't be the case. The fact that the dwelling is only 40-ish metres from the road means there's nothing gained and a lot of complexity added if you tried to have a boundary plus a notional boundary limit in that situation.

- S ABLEY: Just in terms of the 40 and the 45, and we talked earlier about it, sleep being an individual thing and whether or not you're asleep or it's waking you up and getting back to sleep, and we'll talk about large populations and research and standards and so forth. This particular community has selected 40 DB as being its limit. Could you surmise that maybe it's selected a lower limit because that's reflective of the way that this community considers nighttime sleep more important?
- B SHANKS: I guess I would point out that some of the receivers do currently have a 45 DB nighttime limit, so it's not exclusively 40. The dwellings that are closer to the existing industrial area have a current nighttime limit of 45, which has also been considered acceptable by the community. That's not to say that there isn't the choice of a lower nighttime noise limit; however, the limit of 45 has been considered reasonable at the other nearby dwellings and is considered reasonable by the appropriate guidance.
- R O'CALLAGHAN: Just a question to the Applicant. Have you given consideration to doing onsite mitigation at 273 Dukes Road North just to deal with the closer proximity issues of this particular dwelling relative to the site?
- G DRIVER: Yes, so we have continued talking with the owners of White Road, and the Stewarts live in the house and are getting closer to a solution, I guess, that's going to address their concerns and find a suitable solution to both. We've made progress with that. We've not got to a final agreement on that yet, but there's definitely been conversations that are happening. Those options do have some other mitigation factors and other motivating factors that we can put in place to reduce the effect on White Road LOBS [? 1:18:17] operations and the Stewarts, where they live.
- R O'CALLAGHAN: We could let that then play for a while.
- C ROBINSON: Yeah, I mean perhaps Mr and Mrs Stewart, just to ask you to confirm whether that is the case and those conversations are ongoing.
- K STEWART: Yes, we've had conversation. Nothing worked out, but yes, ongoing.
- W STEWART: Mainly with the horses. Our biggest concern with the noise is with the house.
- C ROBINSON: Sorry, can you ... apologies, I can't ... is that Mr Anderton?
- W STEWART: No, Wayne Stewart speaking.
- C ROBINSON: Oh, Wayne Stewart, sorry.

- W STEWART: Yeah, I know you're talking a lot today about the dwelling with the noise and that, but one of our major concerns is with our horses, with the noise, with our foaling unit being right beside the main road. It hasn't been talked about today, but that's why we're negotiating now. That's our biggest concern is with our foaling unit being right beside the road with the noise.
- C ROBINSON: Okay, well, we've got evidence from you or from White Road around those effects and the Applicant's provided its own evidence. Those are matters the Panel's considering, but we are heartened to hear that there is a dialogue continuing, and the message I guess from the Panel is that we strongly encourage those discussions to continue to try and work out a way forward to address the impacts on both the residential aspect and the foaling operation, if that's at all possible.
- W STEWART: The talks there are going quite well. We're both going in the right direction, so yeah, I think hopefully we can resolve it.
- C ROBINSON: That's good to hear.
- R O'CALLAGHAN: Keep it rolling.
- C ROBINSON: Yeah, keep it rolling.
- S ABLEY: Mr Styles, I thought I saw you reaching for your microphone before, if you wanted to contribute to that earlier conversation or has the moment passed?
- J STYLES: No, look, I was going to just briefly mention the fact that I've placed some weight on that 2 GP limit of 40 decibels at night for the receivers more than 350 metres from the industrial zone. When plans are written, those limits that are lower than the upper maximum levels are quite often selected because they can have the effect of managing the cumulative noise from different sites coming together and exceeding that 45. They also provide a higher level of amenity and a greater, I guess, margin between a comfortable noise level and something that's going to disrupt your sleep and reduce your amenity on a more frequent basis. I think that it's quite important that that 40 is recognised for what it is and the exceedance above that is carefully looked at. That's been a theme through the review that Mr Winter did that I assisted with, and then the comments in the Joint Witness Statement as well.
- S ABLEY: Thank you.

R O'CALLAGHAN: I haven't been through the conditions in detail. Is there an intent here to have a noise monitoring programme? You've obviously got a Noise Management Plan or your Operational Management Plan and dealing with noise, but is there a layer in here where there is monitoring, offsite monitoring at receivers? What's the current process intention here with respect to these conditions?

B SHANKS: Yeah, so we discussed, and in the draft operational noise management plan, there is a table that sets out some ideas about when that could occur. We discussed that in the conferencing around when it's appropriate to undertake that monitoring. I think there was a question around whether it was appropriate to conduct that monitoring prior to commencement of a stage. We, I guess, agreed that that's not particularly practical because to actually conduct the monitoring of the stage, that activity needs to be operating essentially. If I bring up the Joint Witness Statement, there was some discussion around when was appropriate to undertake that monitoring, and it's effectively when there's a noticeable or significant change in the operation on the site, so each of the stages. If there is a change in operation in the future, then monitoring would be undertaken to reconfirm compliance.

R O'CALLAGHAN: From Council's perspective, would there also be another layer that would be if there are noise complaints, then monitoring shall be carried out and a noise report issued that then assesses the background of those complaints and as it related to exceedances of thresholds? Is that the likely intent of the monitoring?

J STYLES: I can answer that. Look, I think that part of that requirement for monitoring and then that part of the operational noise management plan that will facilitate that engagement with neighbours is really important, but it gets a little bit detailed because not every noise complaint needs to have noise monitoring attached to it as a consequence because the complaint might be about a really easily identifiable event that the port says, 'That was out of character, our machine malfunction or something happened'. That's the only time you'll hear it. We don't need to go and monitor it.

In other cases, monitoring will be a requirement. I think it's important that the management plan is set up in a way that's capable of making that distinction and looking at each complaint on its merits and saying, 'Well, is this something that deserves some monitoring?' Part of the reason for that is that monitoring is complicated. You've got to wait for the port to be doing

that activity again, and it might not happen every day. You've also got to wait for the weather to be suitable, and you've also got to get a person out there with the equipment and all the rest of it when they're available. So, it's challenging monitoring. The requirement definitely needs to be there, but the managed plan needs to be careful about how it requires it.

R O'CALLAGHAN: Do you see that being managed in a consenting terms through the management plan?

J STYLES: Yes, I think that's the best place for it, but the condition that requires the management plan could be directive about what that management plan has to deliver on. It might say, for example (and I'm just shooting from the hip here), that the management plan should set out when noise monitoring is required or the triggers for noise monitoring or some other words like that in response to complaints as well as on a scheduled basis perhaps.

R O'CALLAGHAN: Yeah.

B SHANKS: Yeah, I guess I agree with Jon on that. I think the noise management plan is a really effective tool for dealing with these kind of issues. As Jon said, it is complex, and I think the management plan is the best place to address that.

J TREVATHAN: Just also when you get to it in the Joint Witness Statement Q6. 2, there's also another type of monitoring that's discussed in the draft Noise Management Plan and that we discussed in that section of the JWS. Mr Styles has been describing monitoring in terms of, I guess Mr Shanks getting his sound level metre and going out to site and physically being in attendance and measuring levels. In that Q6. 2, it's also proposed that there'll be continuous noise monitoring on site, so that has a slightly different purpose because it's not the same as someone physically attending and observing what's going on from receiver positions. The discussion there is about a form of continuous monitoring which can detect abnormal activity on the site, so potentially this is around container handling, bangs and clangs of a level that suggest there's something that should be addressed in terms of training and management or equipment. It's proposed that that's a continuous thing in perpetuity, which will give some comfort that those aspects are proactively managed such that there's increased comfort that the noise limits will be complied with at the receivers.

C ROBINSON: Can I just ... 10 minutes?

R O'CALLAGHAN: Yeah, that's a good idea. Oh, before we do, we're focused on 273, but we've also got the other residents over here at 244.

C ROBINSON: Yes, we've got Mr Inch. No, 54.

R O'CALLAGHAN: No, sorry, 54. Just flipping directions from Dukes Road North across to issues around at 54 Rutherford Road, is there a similar type of problem, not problem, but issues floating around with respect to 54 Rutherford Road? The noise contours in the map, are those levels driven by truck activity on the main roading system around Stedman and the bend, etc, or is it from the operational noise within the site?

B SHANKS: The noise contours, so those noise maps, show noise occurring on the site. It's to do with, I guess, the type of activity that would need to comply with noise limits. Again, it's controlling the noise outside the site. I guess for 54 Rutherford Road, the designated rail corridor is I guess the main noise source (potential noise source). There's limited scope to actually mitigate noise from that by the Applicant, so from a noise limits point of view, it's the noise coming from the site that is relevant.

R O'CALLAGHAN: The attenuation wall around the big pond, yes, it's there to do a job, but it can't block all the noise and there's still emittance of noise across to that property?

B SHANKS: Correct. I mean, there's obviously a practical issue with having a barrier when you're trying to get a train onto a site. In terms of where that barrier could go, there was some overland flow considerations as well on that western edge of the site. The barrier is there to contain the noise as far as possible around the rest of the site, but obviously allowing an opening for the train to come onto the site.

R O'CALLAGHAN: The contours, the noise assessment, the modelling, that's dominating and influenced, I guess, by those activities over on the western side, which in your reports you've layered a lot of those activities all occurring simultaneously.

B SHANKS: Correct. There is more conservatism in the predictions at that end of the site for that reason, among others.

R O'CALLAGHAN: Yeah.

C ROBINSON: That property is within that 350 of the industrial zone as well.

- B SHANKS: Correct.
- C ROBINSON: And has the influence of the rail being effective of the slip and the road.
- B SHANKS: Yes.
- R O'CALLAGHAN: What is the current limit that would apply under the district plan? Is that 45?
- C ROBINSON: 45.
- B SHANKS: Yes.
- R O'CALLAGHAN: So, you're modelling it that that property would estimate that you'd be within that 45 [overspeaking]?
- B SHANKS: Yeah, it's close to the 45; however, as we've discussed, there's more conservatism at that end of the site because of the operational scenario that we've modelled and some other factors.
- C ROBINSON: Okay.
- R O'CALLAGHAN: Yeah.
- C ROBINSON: I think as we did this morning, the Panel's just going to take a 10-minute break. We'll just switch off our camera and mic and just do a bit of our own stock take, and then we'll join back in and hopefully wrap things up with you. Thank you.
- B SHANKS: Thanks. Thank you.
- [Break in hearing].
- C ROBINSON: Thank you. Look, we don't have any additional questions to those we've already asked. Perhaps just check in with the Applicant whether there was anything else that you wanted to add.
- S SCOTT: No, thank you. We're all good here.
- C ROBINSON: In terms of the agreed changes to conditions and updating of the noise management plan, is that something that you will attend to over the coming days and incorporate in the updated suite of conditions for the 18th?
- S SCOTT: We weren't envisioning lodging an updated draft Noise Management Plan because of course we're not getting that certified by you, but we will be

looking carefully at whether the drafting of the condition for the Noise Management Plan around what it is required to include is sufficient.

C ROBINSON: Yeah.

S SCOTT: I'll have a think about whether we need to provide you with an updated draft Noise Management Plan. I hope that's not the case, but we'll see where we get to.

S ABLEY: Yes, the conditions.

C ROBINSON: Okay, yeah, it is more the what rather than how aspects of it that we'd like to see on the 18th.

S SCOTT: Yes.

C ROBINSON: Okay, well, thank you very much to everybody for your work and for the engagement with the Panel this afternoon. We'll close out today and we'll see the Applicant team again tomorrow on freshwater issues. Thank you.

S ABLEY: Thank you very much.

R O'CALLAGHAN: Thank you.

J SULE: Thank you. Bye.

[End of Recorded Material: 1:24:54]