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**TRANSCRIPT OF PROCEEDINGS**

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**ENVIRONMENTAL PROTECTION AUTHORITY  
HEARING**

**APP203660 - METHYL BROMIDE  
Hazardous Substances Reassessment**

**VIRTUAL HEARING  
on 13 August 2020**

**DECISION-MAKING COMMITTEE:**  
Mr Tipene Wilson (Chair)  
Dr Ngaire Phillips  
Dr Derek Belton

## Hearing Proceedings

Day 03 Thursday 13 August 2020

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**[8.31 am]**INTRODUCTION

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CHAIR: Mōrena tātou, can you guys hear me? Mōrena. My name is Tipene Wilson. I have the privilege of being the Chair of the Decision-making Committee. We will start this morning a little bit different than we did yesterday. We were supposed to be in Tauranga Moana and Ngāi te Rangi being the kāinga there, the Decision-making Committee were going to ask them to open with a Mihi Whakatau and a karakia. Hopefully Ngāi te Rangi is online and if that is the case we will hand the time over to them to open our day.

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Just confirming that we don't have Ngāi te Rangi on the line at the moment? We will take silence that they are running a bit behind.

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As I said, my name Tipene Wilson and I will just ask my colleagues on the Decision-making Committee to introduce themselves. Dr Phillips.

DR PHILLIPS: Mōrena. I'm Ngaire Phillips and I'm a member of the DMC. I have been on the HSNO Committee for about five or six years.

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DR BELTON: Mōrena. I'm Derek Belton, also in the Decision-making Committee and I've been on the Committee for four years.

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CHAIR: Kia ora, tātou. Well, at least as some of you have heard twice already and for the avoidance of doubt we are here to hear the evidence for and decide an application on APP203660 to reassess methyl bromide. As I have said earlier, we do acknowledge that the hearing is being held virtually and was scheduled to be at a number of venues over the course of the hearing. Unfortunately, it was not possible, due to scheduling conflicts, for the DMC or the Decision-making Committee to convene the hearing in person until mid to late September.

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**[8.35 am]**

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Therefore, in the interests of time the hearing was convened with the DMC in attendance virtually. However, you'll all be aware now of the changes in the Covid-19 alert levels - and I assume you are all keeping safe in that regard - we will no longer be using EPA-provided venues for submitters participating. Today was scheduled to be in Tauranga and tomorrow in Wellington. This hearing will now be conducted as a fully virtual hearing. Submitters will continue to receive links to participate via Zoom videoconferencing. Others can observe the hearing by following the links in the hearing page or the hearing tab or link which is a paper on the EPA website.

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5 The hearing is specifically to address the application. The HSNO Act does not permit the Committee to make decisions about other substances that are currently approved or going through their own application process as part of this process, nor is the Decision-making Committee able to assess methyl bromide recapture technologies. I will explain a bit more on that in a little bit. The Committee shall consider and decide any application other than an application which is the subject of a ministerial decision under section 68 of the HSNO Act and shall have, in relation to any such consideration and decision on  
10 any matter, the same amenities and privileges are as produced by a District Court judge. The object of the hearing is for the Decision-making Committee to be as informed as possible on the matter on which we are charged with making a decision.

15 The way proceedings will run is we did hear from the applicant yesterday, who introduced the application and then we also heard from the EPA staff who presented the staff report and then from the submitters who have indicated they wish to be heard. After submitters, the Committee will have final questions and then the applicant will have the right of reply, at which stage the hearing will be adjourned for  
20 deliberation by the Committee.

25 I just note again that the DMC has read all the information provided from the applicant and submitters. The parties have been asked to pre-circulate any additional information they intend to produce at the hearing. It does not need to be read verbatim. Parties should highlight the key matters of the information and we will be restraining excessive repetition or matters we consider irrelevant to the application we are hearing.

30 I note again that the relevant Committee is not to determine the action or the claimed efficacy of alternatives to methyl bromide or alternative methyl bromide recapture technologies.

35 Because the Committee has read the comprehensive information provided there may be few or no questions for submitters. As I have said earlier, that is not a reflection of our lack of interest, more a compliment on the degree of information we have received. You will know this magic number, 6,100 pages of information.

40 On to the matter of questions. At the end of each person's presentation I will invite questions to the presenter from the DMC, the EPA staff, the applicant and any witnesses. Yesterday I allowed a degree of latitude in questioning that in hindsight was not appropriate. I reiterate  
45 that I will invite questions of clarification or explanation only. I will decline to have questions put that stray too far into cross-examination, are irrelevant to the matter we are considering or if the questioner starts providing a statement or submission.

5 Please speak clearly when asking or answering questions for audio recording purposes and please also, for the audio record and for the Committee, even though we can see your names, if the persons that are putting a question forward could identify themselves and the organisation that they're part of.

[8.40 am]

10 We are only virtual so I assume from a health and safety perspective you are all taking responsibility in your respective locations for your own health and safety.

15 With respect to media, the hearing will be made public via remote access technology except to the extent that we require to protect any sensitive information. Of course, representatives of the media are free to attend this hearing and we do have some submitters attending this hearing virtually as well. Applications for any of information, at this stage though it is just a screen, can be made in advance to the DMC through the EPA. However, please note, this hearing is being conducted via Zoom, so it will be available online to the public and is recorded both audio visually and transcribed. A transcript of the hearing will be available the next day and will be located in the hearing section of the Methyl Bromide Consultation page. For completeness and context, please provide your presentations to Marree Quinn, who is managing the logistics and so on, so these can be uploaded in the same place. Hopefully those who provided presentations yesterday have had a chance to do that.

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30 The DMC are not available for media interviews. The EPA will be available to provide process information to the media. All media enquiries should be directed via email to [media@epa.govt.nz](mailto:media@epa.govt.nz).

35 We will now go to introductions. If we could ask the EPA team to introduce themselves, please.

MR BAILEY: Tēnā koutou. (Māori content - will be inserted when transcript finalised) I'm Lee Bailey. I'm the senior advisor in the reassessments team at the EPA and I am the application project lead for this application.

40 MR DEEBLE: Kia ora tātou. (Māori content - will be inserted when transcript finalised) I am Ben Deeble. I am a reassessments advisor for the EPA and I've been working on this project as well.

45 MR JACKSON: Tēnā koutou katoa. (Māori content - will be inserted when transcript finalised) My name is Julian Jackson, I work in the Māori policy and operations team within the Environmental Protection Authority.

- MR BAILEY: Also in the room with us we have Milana Blakemore who is a team leader for reassessments, Marree Quinn who is an administrator doing a brilliant job in helping support this hearing this week, we also have  
5 Dan Phipps who is an advisor in the assessments team who will be supporting the DMC to write the decision once they reach that point in the proceedings. Online we also have Phillipa McKenzie, who is a senior solicitor with the EPA.
- 10 CHAIR: Thank you and I do see Dale Holmes there.
- MR BAILEY: My apologies.
- CHAIR: Mr Slyfield.
- 15 MR SLYFIELD: Kia ora tātou. My name is Morgan Slyfield. I am the legal counsel for STIMBR in this matter and my co-counsel, Duncan Bellinger is also on the line. With me are Ian Gear and Don Hammond, who the hearing has heard from already, and also David Sullivan, who the DMC has  
20 heard from as well. There may be other members of the STIMBR team joining us from time to time during the course of the hearing.
- CHAIR: Thank you. It is a little bit messy to do this virtually but we will endeavour to go around the virtual room. I see we have got (inaudible) behind me so, Mr Weiss, perhaps we will start with you in  
25 introductions.
- MR WEISS: Mr Chair, my name is Sam Weiss representing the Bay of Plenty Regional Council this morning.
- 30 MS DIJKSTRA: Tēnā koutou katoa. (Māori content - will be inserted when transcript finalised) My name is Stephanie Dijkstra and I'm a member of the Ngāi Tahu HSNO Komiti. With me at this point in time I also have my fellow Komiti member who is part of Ngāi Tahu whānau, Dr Benita Wakefield and we will be joined later in the day by two more members of our Komiti as well, who I will introduce during my submission.
- 35 CHAIR: Kia ora. We will carry on and hope you can see the screen and we will do this in some sort of logical order.
- 40 MS JONES: Kia ora, I'm Emma Jones, a resident of Mt Manganui and I have an advocacy group called Clear the Air Mt Maunganui.
- CHAIR: Kia ora. Mr Falco.
- 45 MR FALCO: Kia ora. My name is Joe Falco. I'm the General Manager for Nordiko Quarantine Systems, which is a manufacturer and supplier of recapture systems from Australia.

CHAIR: Kia ora. If anybody else would like to introduce themselves so we can see your names. Ms Smith.

5 MS SMITH: Good morning. My name is Nicole Smith. I'm a member of the Tauranga Moana Fumigant Action Group and a resident of Mt Maunganui.

CHAIR: Kia ora.

10 MS BARCLAY: Hello. I'm Jennifer Barclay from Atmospheric Science Global. Good morning to everybody.

CHAIR: Kia ora.

15 DR TODOROSKI: Good morning, Aleks Todoroski. I've been invited to participate by the EPA. I'm an air quality consultant based in Sydney.

MR BAILEY: My apologies, Aleks. I didn't see you online.

20 CHAIR: Kia ora. That's us for now. Dr Armstrong, I saw you endeavouring to talk earlier. Did you want to introduce yourself?

[8.45 am]

25 DR ARMSTRONG: I'm online, thank you.

CHAIR: Okay, thank you for that. We appreciate that. We'll now go into presentations from submitters, so I'd like to invite Matt Hill from Genera to present.

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### SUBMISSION 127571 - GENERA SCIENCE & INNOVATION

#### MARK DEWDNEY PRESENTING

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MR DEWDNEY: Tēnā koutou katoa, Mr Chairman, members of the DMC and other participants today. Thank you for the opportunity to present our submission. I'm Mark Dewdney. I'm the Managing Director of Genera Biosecurity. With me here today I have Matt Hill, who is our COO. Matt runs all of the operational aspects of our business. I have David Baker with me on my right. David is responsible for our environmental compliance and health and safety performance.

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45 Genera is a 100 per cent New Zealand family-owned business that has provided biosecurity solutions for New Zealand's ongoing border protection and trade since 1975. Genera support the importance of protecting the environment. Our White Paper submission attempts to provide a balanced approach to the ongoing reduction of methyl

5 bromide. We believe we need to balance a range of factors: environmental, export earnings, jobs, communities, health and safety, iwi and other parties' interests. We contend that focusing on any one factor exclusively will result in a worse outcome for New Zealand in making a decision that balances all factors and embraces a continuous improvement philosophy.

10 We believe you need to try and measure methyl bromide in terms of its use per unit of output or outcome for benefit created, acknowledging that this is not a simple exercise and is beyond our capabilities. If we go back to 2010 and then look forward, we can see we have made substantial progress. Genera, supported by MAF at the time, pioneered the use of phosphine for logs in transit to China in 2001. This has reduced approximately 70 per cent of methyl bromide that would have been used if we hadn't acted then and had only used methyl bromide through the subsequent years.

15 We have researched and developed commercial scale recapture technology from scratch and we can now recapture approximately 80 per cent of the methyl bromide in containers, and on average 50 per cent to 60 per cent of the methyl bromide from log stacks within a 30 per cent to 80 per cent recapture range by stack. We have developed a new dosing to concentration method that will reduce the amount of methyl bromide used to fumigate log stacks by approximately 30 per cent to 40 per cent from current levels. This is in a trial phase with a view to it being approved for ongoing commercial use.

20 We encourage continued negotiations with India to accept phosphine. This would reduce approximately 100 to 150 more tonnes of methyl bromide. We continue to invest heavily in improving our recapture technology, evaluating any new technologies that emerge and building and deploying recapture devices and evaluating new fumigants as they emerge. We believe the best pathway forward is to continue to focus on a series of mitigations, for example, if we could convince India to accept phosphine, reduce methyl bromide dosage rates, dose to concentration rather than volume and increase recapture coverage to all ports and log rows, this would collectively reduce the amount of methyl bromide used in the logs exported by approximately 97 per cent to 98 per cent at the end point, as compared to having done nothing since 2010.

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45 There has been a lot of discussion about log exports, but we need to keep in mind all of the other benefits enabled by methyl bromide, such as protecting our borders, enabling import of general cargoes, critical crops and food products and enabling exports of general cargoes, New Zealand fruit and vegetables.

[8.50 am]

5 I would now like to outline Genera's biosecurity operations on ports throughout New Zealand. At Northport, Port of Tauranga and Napier, we fumigate containers and breakbulk with methyl bromide, recapturing 100 per cent of fumigation events, logs under tarp with methyl bromide, logs in ships to India with methyl bromide and logs in hold to China with phosphine. Our team are currently recapturing methyl bromide from log stacks in Tauranga and Northport and are in the process of commissioning a recapture unit in Napier. At Ports of 10 Auckland, Wellington and Nelson we predominantly treat containers and breakbulk with methyl bromide. We are currently recapturing from 100 per cent of those cargoes.

15 I would point out that Genera does not control the operating environment on port. The ports decide where fumigation will take place. The log exporters and stevedores determine location and size of log stacks and fumigation timing is balanced between ship schedules, weather and log movement requirements.

20 Finally, there are a number of proposed and recommended controls in the EPA staff report, July 2020, that we cannot practically implement that I feel I should record today, including, but not limited to, the schedule of recapture targets; the buffer zone distances, which in practice will be unachievable; the recommendation to monitor and 25 apply half of the one-hour TEL value to operational and non-operational bystanders, which is section 13.95; the recommendation to conduct air quality monitoring during general operations, combined with the requirement to assume that any TVOC levels detected are methyl bromide and act accordingly; the requirement to report on the 30 substances measured during air monitoring, given that currently available and suitable equipment lacks this capability; and the proposed requirement for modelling and EPA review of fumigation site risk assessments, which is section 13.121 and 13.122.

35 We have not had the chance to discuss the proposed controls with the EPA, so accept that we may have misunderstood some of the context and intention behind each recommendation. We would like to work with the EPA to better understand their proposals and in partnership 40 look to refine the controls into a suite of controls that can be implemented in the real world operational environment in which fumigation is carried out in New Zealand.

45 Sir, in summary, Genera proposes acceptance that New Zealand needs to balance a range of critical objectives and that some trade-offs are inevitable; certainty of the operating and regulatory landscape for the long term to allow us to invest in building more capacity and capability to continue to reduce methyl bromide usage per unit of output or outcome; that controls are practical, realistic and achievable under a

continuous improvement framework; that any controls or standards established are implemented nationally; and most importantly, that all parties work together, understanding each other's role, objectives and pressures.

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Genera would like to work with the various decision-making groups to ensure that what happens in our various operating environments day-to-day is really well understood and that any proposed controls are achievable in practice. We are here today because a control established in 2010 has turned out to be impossible to achieve. Finally, that we embrace the philosophy of continuous improvement, which history shows will result in real progress over time with the occasional step change breakthroughs. Thank you, sir.

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**[8.55 am]**

CHAIR: Thank you. Anything else from your team or are you now open for questions?

20 MR DEWDNEY: We're open for questions, sir.

#### QUESTIONS

25 CHAIR: Okay. Dr Phillips.

DR PHILLIPS: Thank you very much for your presentation and for your submission, which was really important. I just want to pick up one thing firstly. In your submission - and I think you've just reiterated here - you mentioned that the 5 ppm target is not realistic, is not achievable at this time. In your submission you talked about it was technically feasible, but my interpretation was it was not commercially viable. When would it be? Do you have any idea of when reaching that target would be commercially viable?

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35 MR DEWDNEY: No, Dr Phillips. I'm sorry, I don't. We don't believe it is achievable and even if it were, based on our understanding of the science available and potentially available technologies and the operating environment on port, we believe the logistics challenges would probably also make it unworkable, but our position is we've seen nothing and we're aware of no technologies that will enable the actual achievement of 5 parts per million either.

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DR PHILLIPS: Sure. I guess that leads to my next question, because in fact what your submission is really about is proposing a strategy with multiple approaches or multiple mitigations and a series of mitigations. I think you said if all of those things were implemented successfully, which I know is quite a big task, that you'd achieve something like 97 per cent recapture, effectively 97 because you're reducing doses and this sort of

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5 thing. My question is what sort of timeframe would you envisage all of those being able to be implemented, given that I understand that not all of those things are in your control? But the fact that you've given it a lot of thought in terms of your strategy leads me to think that you may have some ideas.

10 MR DEWDNEY: There are a lot of parties that would need to be involved to successfully enable all of those mitigations to be applied and it would then take time. As others discussed two days ago, the process of trying to get India to accept phosphine has been going for a long time already without breakthrough, but a breakthrough like that would reduce 100 to 150 tonnes of methyl bromide. We could build a lot more recapture units and deploy them on ports. Realistically, that will take several years to build, to implement, to train and to deploy. Something like a dosing to concentration change though based on successful trial work, proven efficacy could happen very quickly. Reducing dosage rates upfront will require agreement by trade partners and that process takes some time. So I think collectively we are talking about years here but the point we make is if we continue to improve and continue to work then we will continue to reduce the amount of methyl bromide used and we will continue to enable and facilitate the benefits that have been discussed by many submitters that are enabled by methyl bromide.

25 DR PHILLIPS: Thank you for that answer. Just on that dosing to concentrate, could you just explain that a wee bit more?

MR DEWDNEY: Sure, I will ask David Baker to just talk to that point.

30 [9.00 am]

35 MR BAKER: Sure, no problem. So the current method for determining how much methyl bromide you put into a fumigation enclosure such as a log hole or a log rope, is based on the empty volume of the log hole or, for example, the log stack. You measure up the dimensions of the stack that gives you the volume. The set dosage rate, which is, for example, 120 grams for log exports to China in the winter, you then multiple by that by the volume.

40 The reason that we have that methodology historically is because we could not measure the actual concentration within the fumigation cell directly so that was the only practical means of ensuring that we achieve the dosage rate required by trading partners in MPI. MPI have subsequently led the introduction of technology which allows us to measure the concentration in the free air space directly. So rather than applying a dosage based on the empty volume we can now apply the fumigant until our monitoring devices tell us that we have hit the required rate, which in trials to date we have managed to achieve

around a 30 to 40 per cent saving while still achieving the prescribed dosage rate.

5 DR PHILLIPS: What are the next steps? Are you doing more trialling, are you expanding where you do it? Because obviously there are a few variables in there that you need to deal with as well.

10 MR BAKER: Yes, the main thing we need to make sure is that we don't end up with a failed fumigation. So if we are putting less fumigant in we have to achieve a minimum concentration at the end to pass the treatment and if we don't pass the treatment it is a regulatory issue with MPI and plus we have to refumigate and that results in more methyl bromide being applied so we don't want that.

15 We are basically consecutively reducing the amount to be put in until we get a sweet spot where we know we are getting a maximised reduction without risking compromising a treatment. We have done a bit of trial work with the winter rates, which are quite high but we think it will be prudent to also do some trialling in the summer on the lower rates, just so we have confidence that with the lower dosage you are still going to achieve the same outcome.

20 DR PHILLIPS: All right. So what would be the next steps if you found this was a consistent and reliable method that you can use, what would be the next steps that you would need? To get resource consent? What would be the process?

25 MR BAKER: It is effectively MPI approval. It is a change in our methodology so we just have to update our operating procedures and submit them to MPI for sign off. If they are comfortable that the methodology aligns with international best practice and we are not risking compromising treatment outcomes then they will evaluate whether that system could be approved or that change.

30 DR PHILLIPS: This could potentially be fairly short term, relatively speaking?

MR BAKER: Yes.

35 DR PHILLIPS: Maybe one to two years rather than a five to ten year mitigation measure that could be brought in?

MR BAKER: Yes, that is correct.

40 DR PHILLIPS: Okay, all right. Just a question for Matt. I notice that there is a submission from a Matt Hill for the triple fill, are you that same person?

45 MR HILL: Yes, I am Dr Phillips.

DR PHILLIPS: Okay, that is all right. I know you are not presenting on that but I just wanted to make that clear. Thank you, I have no more questions, Chair.

5 CHAIR: Dr Belton.

DR BELTON: Thanks, Chair. Thank you, Mr Dewdney, for that presentation. There is a lot of philosophy in there and we could argue and debate that for a long time but I think that's beyond the purpose of our hearing today. I guess what I am basing that down a bit more on is the continuous improvement and how we work together to achieve that. Arguably this hearing today is a step, from the regulator's point of view, of bringing the parties together to say how can we revise the standard that was set in 2010 that we are now not able to meet.

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[9.05 am]

20 We have gone through a lengthy process already. We have had a significant change in the proposal from STIMBR from application to what was reviewed on Monday night, Tuesday morning. How confident are we that the revised application we got this week can be met by Genera?

MR DEWDNEY: Thank you, Dr Belton, I think there are two areas I will respond on. One is that we capture percentages and the second is the philosophy around working together and continually improving. In terms of the recapture percentages, we measure what we are able to recapture and it was discussed quite extensively on day 1 the variables that impact on the amounts that can successfully be recaptured with existing technology. The major variables being the stack size, the amount of time that you recapture for, the freshness of the media, the temperature, the humidity and the individual characteristics of the wood, and each of those contribute individually and collectively to the amounts that we can recapture.

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40 We can and we have recaptured above 80 per cent on stacks. We average over the measurements that we take around 50 to 60 per cent on average over a variety of commercial stack sizes. But there are some stacks that we will recapture where we will only achieve 30 per cent and so this really comes to what is the purpose of the target?

45 Our goal is to recapture as much as we possibly can and to continuously finetune our technology and our techniques to lift that number, but if a level was being set upon which we had to achieve to retain our licence to operate and to have successful met criterion then it has to be at the lower end of what we can achieve in reality. That is, I think, the philosophy behind why 30 per cent was recommended by STIMBR at

the end because we know that that is the lower end of what we can currently recapture. But our goal is to continuously recapture more.

5 In terms of the philosophy behind continuous improvement, we think this process is a very good process that is running now because it is getting the issues on the table. It is giving people an opportunity to share their individual goals and individual pressure points. What we are used to in any business or any situation is if there is a problem to be solved get all the people who have a vested interest in it and have them all into the same room, facilitate a problem solving session and work out a way forward. We believe that there is a huge benefit to doing that after this process with the likes of Genera, MPI, the councils and other parties who all have genuine roles and responsibilities in this area, to work together to find a pragmatic set of solutions.

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15 DR BELTON: I think we can all agree with that. Coming back to the regulator's point of view again, though. So we do this, we have done this -- this is the second time in ten years, it seems the requirement to revise a standard to actually bring all the interested parties together to move forward, from the regulator's perspective to do that do you need to set the standards for a duration and levels that are going to encourage that? You have given us the figure on the 30 per cent for the level, what about the duration?

25 [9.10 am]

MR DEWDNEY: I think the ideal solution here is to think about how the notion of continuous improvement can be embedded into any regulatory framework, embedded operationally. So increasing levels of achievement over time but without setting a bar that becomes impossible to jump over.

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35 DR BELTON: Yes, okay. All right that is probably enough on that for now. I will pass on to others. Thanks, Chair.

CHAIR: Thank you. On page 2 of your guide paper, you talked about having an overall strategy which includes a series of reduction and so on to reduce the amount of methyl bromide released to air by approximately 97 per cent but the strategy shows recapture from 5 per cent of that 97 per cent so you will appreciate, if I am correct in that, that the part that we as a Committee are responsible for, as it relates to this application, is very small.

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45 However, I am curious to have heard over the last couple of days of the 80 per cent recapture application based on the applicant's understanding of what Genera's technology was capable of. We are not debating the right or wrong of that but it has now been revised to 30 per cent. I am interested in the timeframes given that you are in the

field of recapture, so the treatment and recapture using methyl bromide. At what timeframe do you anticipate where 80 per cent of the capture could occur in log stacks and the 97 per cent of reduction in methyl bromide released to air? Are you able to say?

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MR DEWDNEY: We are not able to definitively put a timeframe on when it would be technically possible to recapture 80 per cent of the methyl bromide from all of the log stacks that are presented to us on ports. I don't believe that achieving 80 per cent on all of them with the technology that we have available today will ever be achieved. Simply the stack sizes and what is happening under the stack is just too great to achieve 80 per cent using our existing technologies.

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We are always looking for new technologies, we are always looking to improve our existing technologies. Improvements in our existing technologies we believe will be incremental and in small percentages, but we may find a new technology at some point that enables a breakthrough change. We continue to evaluate new technologies as we learn about them and as they are presented to us but we have not seen one yet that would enable that level of recapture, being 80 per cent, on large stacks that are in a port operating environment as it operates at the moment. So it's just impossible to say yes, we will get to 80 per cent on all stacks by X time.

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25 CHAIR:

Okay. Please don't take this as an enquiry or a criticism of your process. That's not the intent of this question. You did say, though, that your recapture range is from 30 per cent to 80 per cent with an average of 50 per cent to 60 per cent. So, I'm interested in how feasible it is to set up your operating processes so that there are more 80 per cents than 30 per cents.

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[9.15 am]

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I'll give you an example. In my readings, and I'm not a technician in this regard, but if everything was done in shipping containers, then we'd get 90 per cent to 95 per cent recapture or something like that. So, the methodology of capturing in a container produces a better result and a log stack would produce a better result than a ship hold. That's my understanding, right?

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MR DEWDNEY: Yes.

CHAIR: How feasible is it to amend the process to increase the ability to recapture?

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MR DEWDNEY: This question directly goes to the operating model on the port, which I think was discussed by some submitters on Monday, where the wood is harvested, it's moved to the ports, fumigated, it's moved to the ship

5 and it's exported so that its stump-to-market supply chain is optimised  
and it operates at very large volumes within very tight operating spaces  
on ports. The biggest variables in terms of recapture percentages - and  
it's not a perfect model - are stack size. The smaller the stack size the  
higher the level of recapture, generally. So, to lift the recapture level  
would require a reduction in stack size from an average of 600,700, 800  
10 JAS to 200, 300, 400 JAS. Now, we don't control that decision on the  
port. As I said in my speaking notes this morning, the exporters, the  
ports and the stevedores control that, but I think to drop all stack sizes  
down to 200 to 400 JAS would create significant operating challenges  
in a port environment. Matt, you might like to talk to that.

15 MR HILL: Yes, I agree with you, Mark, and it's something that with the rest of the  
supply chain we want to work through pretty carefully and they may  
mention they'd have a view on it as well.

20 CHAIR: Thank you for that. I was going to ask in relation to ship holds, but I  
suspect that your response won't be any more enlightening than the one  
you've just given me.

MR DEWDNEY: I'm sure it won't be.

25 CHAIR: So, the next one: STIMBR has proposed and admitted that it was - my  
words, not theirs - a bit of a stab in the dark, but perhaps setting a  
control at some point in the future that recapture from ship holds could  
be 50 per cent in, say, a ten-year period. What comment do you have  
on how feasible that would be?

30 MR DEWDNEY: I'm afraid we couldn't make a comment on that. We carried out a trial  
on a ship hold in 2017 where we built a prototype recapture device, a  
larger-scale one, that we believed may work in a ship hold recapture  
situation. We ran the trial. We had to stop the trial after a period of, I  
think from memory from what I read, about eight hours. It proved to  
35 be unsuccessful from a recapture point of view, but I guess from the  
point of view of proving that it was unachievable, then as a trial that  
was in and of itself a success. We just do not see technology that would  
enable successful recapture from ship holds at this point in time.

40 CHAIR: I am thinking of the next question. I'm just typing notes. All right. So,  
thank you for that.

45 Albeit you mentioned earlier about the difficulty in putting timeframes  
to the 80 per cent reduction, you presented us, though, with a strategy  
that says over time 97 per cent. I didn't recall seeing any timeframes  
on that. Now, I acknowledge there's a lot of moving parts and some  
92 per cent of it is out of control of this DMC, but are you able to give  
some indication about timeframes you could see that occurring in?

[9.20 am]

MR DEWDNEY: I think, Chair, it goes back to our comments about there are a number of parties that need to approve the various mitigations that we have talked about: MPI, trading partners, in some situations potentially regional councils. There is a process that needs to be worked through to gain their comfort in what we are proposing and then to work through consultation, stakeholder engagement in some cases, trading partner engagement. I can't sit here today -- because we can't control the decision approval processes.

What we are saying, though, is that there is a way that we can continue to reduce the amount of methyl bromide that is used and that involves a series of different steps. We believe we should all work together to capture those reductions as quickly as we can. I should point out as well, Chair, that that 97 per cent to 98 per cent is the end point compared to having done nothing right from the start. So, there is quite a calculation that is in behind that that we obviously haven't included in the submission in detail.

CHAIR: Thank you. On to managing some of the effects, depending on your response my last question, one of the proposals - I think it was from Dr Todoroski or the staff report - is a recommendation that to manage the effects of venting from ship holds that venting occurs one hold every two hours. I'm just curious as to whether you have any comment on that.

MR BAKER: I can answer that question. We have a current process where the ventilation is managed and concentrations are actively checked through that ventilation process. That governs the rate of release. With the modelling we've got a sense that a lot of it's based on instantaneous release, which would obviously be a far more negative outcome. So our current process is based on active management and risk management, but we're obviously open to new information and working closely with other experts and then guidance to refine and improve our process.

MR DEWDNEY: We will be investigating that from here and looking at whether that makes sense for us to introduce into our standard operating procedures.

CHAIR: Right. Thank you. If we were of a mind to impose a condition or control such as that, there would be no point in doing it if it achieved no result, so thank you. That's me at this stage. I'll now hand over to the EPA team. Do you have any questions?

MR BAILEY: Thank you, Chair. We do have a couple, some of them building on questions that the Committee have already asked.

5 In both the White Paper and in the information provided by Dr Armstrong on Tuesday, you talk about being able to achieve 50 per cent to 60 per cent recapture on medium-sized log stacks. I do note you mention that that's not under Genera's control, but from your experience of operating on particular ports, Tauranga, the three ports where log stacks are fumigated before export, is it feasible to achieve more medium log stacks on site to achieve that higher recapture rate?

10 MR HILL: It's a good question. The quick answer is no in the short term. I think Mark's outlined that Genera is just a small part of the port supply chain and to organise a significant proportion of logs to be in a particular size would require a lot of logistical work with other parts of the supply chain.

15 [9.25 am]

MR BAILEY: If the Committee were minded to set controls to help achieve that 50 per cent to 60 per cent recapture rate, would a control set nationally help facilitate that?

20 MR DEWDNEY: I would suggest that, yes, that is something that needs to be explored with the ports.

25 MR BAILEY: Thank you. Moving on, we heard yesterday about the times for recapture in containers around apples and other horticultural products. Could you give us an indication of the timing it would take to recapture to 30, 50, 80 and 95 per cent recapture from shipping containers?

30 MR DEWDNEY: Sorry, Mr Bailey, could you just explain that question again to us?

35 MR BAILEY: We heard yesterday from submitters of various times that it took to recapture methyl bromide on containers when they're reusing it on non-log products, so on fruits and vegetables, etc. One of the submitters said it would take them one to two days to recapture the methyl bromide to the target, to 5 ppm, and two days to 80 per cent. I'm just wondering from your operational experience on shipping containers as well as logs how long it takes you in your operational practice to achieve 80 per cent and 95 per cent recapture from shipping containers.

40 MR HILL: No, we haven't got that information in front of us, but I would say that the submission from Mr Park yesterday from Turners & Growers we feel was in line with our own view around recapturing from containers with apples. So, sorry, we can't explain the answer there, the range you're asking for right now.

45 MR BAILEY: That's a pity but okay. You mentioned in your presentation today that there was a number of the controls that we proposed that you didn't

think were achievable. Obviously, the definition of recapture is probably the crux of this entire hearing and that will have a flow-on effect to the size of buffer zones. You also mentioned about air quality monitoring and reporting. Could you expand on why you can't do those activities at present or think that that proposed control is unachievable?

5

MR BAKER: Sure, also acknowledging that we haven't had the chance to engage on these controls as yet, so we may have misunderstood or misinterpreted what the intent was. Based on our initial review, this seems to be a recommendation or proposal I guess around continuously monitoring TVOC levels at the port and that flows on to a recommendation around assuming that any TVOC levels detected are methyl bromide and acting accordingly. We know through various studies and experience that there are very high levels of other VOCs on the port. In an operational sense, having to then say during the standard course of operation on a port we have to detect methyl bromide levels that are not even ventilated could potentially put us in a very precarious position with various consents and agreements with different regulations and also cause operational issues at the port.

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MR DEEBLE: Just to clarify, it goes to the issue of VOCs versus methyl bromide rather than actually implementing some sort of monitoring technology generally?

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MR BAKER: Sorry, could you re-clarify that question?

MR DEEBLE: Just to clarify your answer, it's not an issue of being able to practically implement monitoring in a general sense, it's more specific to what's general VOC versus what's methyl bromide?

30

**[9.30 am]**

MR BAKER: That's right, so currently available and suitable technology used for monitoring only measures VOCs. Methyl bromide is one of a number of VOCs and there's a lot of them on the port. Technology that measures methyl bromide directly at the concentrations that we need to operate in and detect is not commercially viable at this point in time. We're looking at very expensive equipment that requires specialist technicians. It's not portable or mobile.

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I noted in the staff report there was reference to some monitoring devices that MPI have referenced. That's the technology that we spoke about earlier that's enabled us to look down the pathway of dosing to concentration, so those particular devices do measure and report on methyl bromide levels, but they're not accurate at that zero to 1 QPM range, which is critical for the downwind monitoring that we're doing, so we're still limited to devices that measure TVOCs if we want accurate measurements in that range. But we're looking at options.

There's new technology coming available all the time and we're exploring and reviewing whether we're using the right devices.

5 MR DEEBLE: Thanks. Just a final follow-on - hopefully final - in WorkSafe's presentation we heard about the SUMMA canisters, which they said were a lot more accurate for methyl bromide. Has that been investigated into being applied or is that what you're talking about in terms of not being commercially viable?

10 MR BAKER: I haven't had experience of the canisters personally, so I probably can't answer in any great detail, but I understand that it requires samples to be sent away for analysis each time as opposed to a device where we can, in a timely fashion, get and analyse a result.

15 MR DEEBLE: Okay, thank you.

MR BAILEY: We have no more questions at this time.

20 DR TODOROSKI: I may have just two minor points of clarification that may assist the DMC. Just on the monitoring, it is SUMMA canisters (inaudible) has somebody considered that you can monitor much closer to the log stacks rather than at the boundary? For example, in Victoria 5 ppm is used in close to the log proximity as the control measure.

25 The second point to clarify is about (inaudible) ship holds, during the expert conferencing that actually came from the industry consultant, not from EPA or myself and it was presented to the other experts as that is something that's almost certainly likely to be occurring. That's all from me.

30 CHAIR: Dr Todoroski, was that a question to Genera?

35 DR TODOROSKI: The first one was I guess a question to both EPA and Genera. Hopefully someone may be able to comment on perhaps the feasibility of monitoring closer to the log stack where the majority of the VOC would be, methyl bromide.

40 MR BAKER: I can field that question. That's the current practice, so there's two zones of control, there's the buffer zone boundary, which is centred around the protection of the public, and then we also have a risk area zone that is set up around the immediate vicinity of the ventilated fumigation log stack, for example, or vessel. The risk area boundary is where we take evidence and we look to control the levels present at that boundary to ensure that we don't exceed the 5 WES, so just confirming that we do currently have that level of monitoring in place.

45 DR TODOROSKI: That's in fact the same procedures that are used here. It's exactly the same.

MR BAKER: Yes.

5 CHAIR: Thank you. Just for those watching, Dr Todoroski is part of the EPA advisory team, so he's part of this tranche of questions. Mr Falco, I do see you and we'll come to you in a moment in terms of your question. EPA team, are you done?

10 MR DEEBLE: Yes. That's all our questions, thanks.

CHAIR: Okay, thank you. Mr Slyfield.

[9.35 am]

15 MR SLYFIELD: Thank you, Chair. I just have one question of clarification and it's in relation to a suggestion that comes out of at least one submission, that there could be a potential recapture control based on an absolute value rather than a percentage. Is that something that one of you can offer some views for the DMC?

20 MR HILL: I don't think we know enough about that, Mr Slyfield, to make a comment at this point.

25 MR SLYFIELD: Thank you. That was all I had, Mr Chair.

CHAIR: Sorry, I was talking to myself. I've been doing it for long enough, I should know to unmute. So the order of the questions I've had now, earlier on during the introductions, Ms Barry-Piceno, you had your hand up. I'm assuming that was for the introductions, but to give you the benefit of the doubt, did you have a question to ask at this stage?

30 MS BARRY-PICENO: Yes, sir, I do. It's a question for Genera in the context of the dates being suggested going forward. In the context of the applications that it's made in relationship to the Bay of Plenty Regional Council consents it holds for the Port of Tauranga, as I understand it from the original consents, in 2016 Genera sought for those dates under condition 5(c)(1) to be extended, such that it sought in 2016 for 100 per cent of all recapture in container fumigations to be achieved by 30 April 2018 and 60 per cent of all log and timber fumigations by 30 April 2018, with 100 per cent by 30 April 2019.

40 There was then a subsequent application by Genera in 2018 that sought those dates to be changed to achieve recapture of 100 per cent of all container fumigations by 30 April 2020, 60 per cent of all log and timber fumigations by 30 April 2019, with 100 per cent of all log and timber fumigations by 30 April 2020. In that context, what you're now presenting evidence for this application, there has similarly been, since the application originally made by STIMBR, which has relied, as I

5 understand it, strongly on Genera's evidence. The recaptures sought in  
the original application have been changed on the day before this  
hearing opened back down to 30 per cent and I'm just trying to  
understand at what point your evidence is that you are now saying to  
the Committee that these recaptures are unachievable. When was that  
within Genera's knowledge, given these different timeframes that  
you've sought to regulatory authorities for these recapture percentages?  
If so, how does that reconcile with what you applied, in particular to  
10 the regional council, and what you now have as consented at the Port  
of Tauranga for compliance?

15 MR DEWDNEY: I'm not quite sure where to start answering that and I'm not quite sure  
whether that was a point of clarification on our submission  
(overspeaking)

MS BARRY-PICENO: I'm trying to understand, with the continuous changes, where you  
see -- because you've said you're on this continual continuum of  
improved recapture, but what I see is a continual application to reverse.  
Even to the extent of what you applied for with changes to the regional  
20 council just in 2018, what you're now seeking is a reversal even of what  
you were operating under under the RMA in terms of regional consents  
at the Port of Tauranga.

[9.40 am]

25 MR DEWDNEY: No, I think that --

CHAIR: Before you respond to that question, it is a complex question. I'm not  
sure I fully understand it myself. Could I just ask you to confine your  
30 answer to the matter at hand in terms of the application that we're  
considering?

MS BARRY-PICENO: Sir, with respect (overspeaking)

35 CHAIR: Sorry, Ms Barry-Piceno, that wasn't directed at you. I should have been  
clear. That was directed at Genera, my apologies.

MR DEWDNEY: Chair, I'm not really sure how to answer this question. We can't  
comment back to 2016, 2017. None of us were employed by Genera  
40 then. What we have provided to STIMBR is what we are achieving as  
recapture performances at the moment and what our view is on the  
current technology and that, I understand, informed STIMBR's  
application.

45 MS BARRY-PICENO: Just for clarification then, what you sought from the regional council  
in 2018 as the recapture dates, you are now reversing what you applied  
for then and have consent for in terms of what you said was achievable  
in 2018 to the regional council?

MR HILL: Perhaps I can help clarify. I think you might be mixing the recapture targets that we had worked through with the Bay of Plenty Council, which are in relation to the percentage of log stacks that we apply recapture technology to, compared to the 30 per cent efficiency recapture standard that we've got in our submission. That might be helpful clarification, the difference between a coverage target with the (inaudible) and a recapture efficiency target as included in the submission.

MS BARRY-PICENO: Thanks. So what you're saying is then that all those recapture targets that you sought that are now within the consents for the Bay of Plenty Regional Council, there's nothing that Genera is seeking through the EPA that will be reversing any of those commitments for recapture within your consents?

MR HILL: In terms of coverage, no.

CHAIR: Hold on, hold on. I'm not going to allow that question. That's related to an RMA consent process with Genera. It's not the applicant in this matter.

MS BARRY-PICENO: Yes, sir, but with respect, Genera is saying that the parties are working together and that it seeks the stakeholders, including councils and EPA, to have an integrated approach. In saying that as part of their submission, an understanding of an integration in terms of compliance is important for the local community as stakeholders.

CHAIR: Yes, I don't disagree with you. I just think it's a bigger question than what we're charged to answer today or over the course of this process.

MS BARRY-PICENO: Thank you, sir. I have no further questions.

CHAIR: Thank you. Mr Falco. I should have said this before the questions from the submitters: just being aware that we are not in a position, as a Decision-making Committee, to consider alternatives to methyl bromide or to choose which technology or another is the best. Sorry, Mr Falco, that's coincidental that you are the next questioner, but I should have said that before I opened the floor to submitters.

MR FALCO: Thank you, Mr Chair. My question is to Genera. The message that I got from the discussion or from Genera is that they're on a continued, I guess, journey to improve recapture. I work for a recapture company that's been in operation for 20 years. We're not the only recapture company in the world, but one of the things that we do do to try and get to a solution faster is to try and work together and to build on data and testing that has been done for years. The recapture of chemicals has been around well before the 1970s in a variety of applications, but

why did Genera, if the journey is to try and get the solution, start from scratch to try and develop recapture?

[9.45 am]

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CHAIR: Could I ask you to reconsider your question, not in terms of your intra or internal operating process, but as it relates to this application, please?

10

MR FALCO: I'm sorry, Mr Chair. Nordiko and Genera has had a long relationship in the past. We have supplied recapture systems to Genera in 2008 at Nelson when the port mandated recapture. The recapture systems that Genera is utilising, are they purely Genera-based or are there Nordiko systems in place?

15

MR DEWDNEY: We have used Nordiko systems in some of our applications in New Zealand and in Australia. In certain applications we've found them to be effective, but in others, including log stacks, we haven't found them to be effective. I think, Chair, that's all I can really elaborate here.

20

I'd make two other points. One, we also take cognisance of Jack Armstrong's expertise in this area and his submissions. The other comment I would make is I would defer to STIMBR, who may wish to outline what I understand to be their history with Nordiko in terms of trying to evaluate Nordiko technology, that STIMBR are better to comment on that than me, but I understand that wasn't able to be done.

25

MR FALCO: Thank you. I'm not making any reference to Nordiko's technology, just to general recapture process in general. The other question I had was basically there's two ways to start from a chemical recapture process. There's two media that's used in industry, that's activated carbon and also a liquid solution. What type of media is Genera using for its log stack applications?

30

MR DEWDNEY: We use a liquid solution.

35

MR FALCO: Again, the liquid solution reaction to recapture methyl bromide is known to be a lot slower than activated base carbon. Can I ask why you've chosen to use a liquid-based solution when scientifically and chemically it's a much slower process?

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MR DEWDNEY: Chair, I wonder whether this is a point of clarification or a challenge of our technology choices here. We believe that the technology we use is the best technology to recapture significant amounts of methyl bromide from commercial-sized log stacks. We believe that there are some practical issues with carbon-based recovery. Sure, you get the methyl bromide out, but then it still exists in the carbon and what do you then do with the residual waste? It appears to us that that transfers the problem somewhere else.

45

MR FALCO: Mr Chair, I'm just referring to the process of recapture and preventing any emissions to the atmosphere. It's a known fact that liquid scrubbing is a much slower process than carbon absorption. Our filtration systems we have supplied Genera in the past are all carbon-based solutions and it's a well-known fact that carbon-based filtration or recapture can achieve much higher recapture rates than a liquid solution, not only faster. So my question is why didn't Genera use a carbon-based solutions if it's speed and trying to meet deadlines and trying to meet recapture rates as well is in place?

[9.50 am]

CHAIR: Respectfully, Mr Falco, what I'd suggest is you leave the remainder of your commentary for your submission time and then if you have better proposal, bearing in mind that it's not our role to determine which technology is used but I suggest you do that in your submission time. Do you have any further questions of clarification to Genera?

MR FALCO: I just have one more question, Mr Chair. It was mentioned that Genera does fumigations in Australia. You do fumigations at a port in Newcastle or have a share in a company that does the fumigations at a port in Newcastle at NAT Terminal recapturing from very large silos at 25,000 cubic metres, which is significantly a lot larger than a ship hold size would be. Are you aware that a Nordiko recapture system is being utilised there to comply with local EPA emission standards?

MR DEWDNEY: Yes, I'm aware that we use a Nordiko system to recapture for what I understand from my Australian team a very small portion of fumigant. My briefing is that it is not a technology that is appropriate for use on log stacks in New Zealand, which is what we're working with.

MR FALCO: Thank you. Thank you, Mr Chair. That's all my questions.

CHAIR: Thank you. Before we go to the next questioner, Mr Slyfield, during the response from Genera there was a suggestion that you might like to deal with something within your right of reply. I'm sure it's not for me to direct you or the Committee to direct your right of reply, but I'm sure that you'll confine your right of reply to the application, as opposed to reiteration, what we've already seen in terms of different technologies. Thank you.

MR SLYFIELD; Thank you, sir.

CHAIR: Moving now to Ms Smith; you wish to ask a question?

MS SMITH: Yes, I wanted to go -- sorry, it's Nicole Smith from the Tauranga Moana Fumigant Action Group. I wanted to go to the STIMBR response to

5 the EPA's questions about the further lead-in time and that response is  
based entirely on information from Genera, so I don't think it's  
unreasonable to ask these questions of Genera. We're looking at the  
number of scrubbing units that you say you have at the various ports,  
Port of Tauranga, Port of Napier, Northport. It refers to the number of  
units you need to meet 100 per cent of current capacity and the number  
of currently available units. So what you're missing is about 3 units at  
Tauranga, 6 at Napier, 12 at Northport so you have none currently at  
Port of Napier, you only have 1 out of 13 needed at Northport but you  
do have 6 out of 9 that you say you need at Tauranga. What's the  
10 difference in approach between those ports? Why the focus on  
Tauranga?

15 MR DEWDNEY: We've developed our technology from our operating base here in  
Tauranga. We have deployed those prototype units on the Port of  
Tauranga with the Port of Tauranga's support and our customers'  
support and we have in our consent in Tauranga, as you're aware and  
as others are aware, a consent requirement to recapture. So that is  
where we have focused our development and our recapture  
20 commercialisation efforts. Now we are in the process of rolling that  
technology out to other ports and we will continue to do that if that is  
an operating requirement that comes out of this process or is introduced  
into other consents.

25 MS SMITH: So you don't currently have a recapture requirement at Port of Napier  
and Northport?

MR DEWDNEY: No, we don't, no.

30 **[9.55 am]**

MS SMITH: You were talking about rolling out your recapture processes. Are you  
currently doing any work to build any new scrubbers? Investing funds  
in that?

35 MR DEWDNEY: Yes, we are. We are building scrubbers presently. We had to stop  
during lockdown of course but as we came out of lockdown we started  
building again. We have one that's in the process of being deployed to  
Napier and, if I'm correct, we're sending another one up to Northport.

40 MR BAKER: That's correct, yes.

MR DEWDNEY: That's correct, yes. And then continue to build but we need to get  
clarity on what the operating landscape is going to be in the future.

45 MS SMITH: So, sorry, to clarify. The statement in the STIMBR answer that Genera  
cannot prudently invest in any further units until such time as the

Decision-making Committee releases a decision that imposes controls that are feasible, et cetera, is that wrong?

5 MR DEWDNEY: What Genera is doing, we have a research, development and engineering group. We are continuing to build our existing scrubbers, utilising our staff. We want to keep that capability in our business so we're continuing to build while we are waiting for clarity on what the future operating environment will be.

10 MS SMITH: Sorry, have you got the document I'm referring to in front of you?

MR DEWDNEY: No, I don't have that in front of me.

15 MS SMITH: So it says that --

CHAIR: Ms Smith, you're asking some good questions and it would be helpful if you could just look to everybody to that. Is this the White Paper you're looking at?

20 MS SMITH: No, this is a document dated 5 February 2020. It's the STIMBR response to further information requests in WGT003.

CHAIR: Thank you, I'll dig for it.

25 MS SMITH: And then on page 4 of 5 there is what is referred to as the fourth point and it states, I'm paraphrasing, that Genera's not spending any money on the further scrubbers it needs because it wouldn't be prudent to do so until it got a decision from this DMC. And I'm hearing a different answer from Genera.

30 MR DEWDNEY: So I can tell you what Genera is doing. We are continuing to build individual units but we are not gearing up our capacity to build sufficient units to recapture on all ports because we have no certainty that that is what will be required and we know we cannot recapture to the 5 parts per million standard that was envisaged as at the end of October and now as at the end of April. So we want to continue to recapture and we believe it makes sense for us to build one or two more units using the staff that we've got, continuing to keep them employed, and continuing to hold that capability in our organisation.

40 MS SMITH: I have no further questions.

CHAIR: Thank you. We've got a question that the EPA team had a further question for Genera.

45 MR BAILEY: Thank you. So jump back from the question about the silo in Newcastle in Australia, in this application form and in submissions the issue of sufficient outflow in ship holds to extract the air has given us one of

the key issues for why that's an issue of recapturing from ship holds. We were wondering how that aligns with requirements in the International Cargo Co-operative Biosecurity Arrangement for methyl bromide fumigation methodology, which was appendix 15 to the application, requirement for sufficient outflow to allow the fumigant to reach all parts of the hold.

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MR DEWDNEY: I'm sorry, that's well outside my area of knowledge or expertise. I don't know if David or Matt can add anything there.

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[10.00 am]

We would have to go and investigate that and talk to our more technically expert staff.

15

MR BAILEY: That would be good if you could get back.

MR DEWDNEY: We might need to just get you to clarify exactly what you're after there.

20

MR BAILEY: So in the ICCBA document, version 2 of the methyl bromide fumigation methodology, it talks - if I find the right paragraph now, sorry. I apologise I've lost the paragraph I was going to ... Sorry, paragraph 1.3.1 says:

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"There must be free space throughout the enclosure to allow the fumigant to freely circulate around the target of the fumigation."

30

So the question is if the ship hold needs to have enough free space to allow the fumigant to circulate around the enclosure in a ship hold, how is that causing you issues to extract methyl bromide from the ship holds?

MR BAKER: Methyl bromide is a gas that will naturally expand and flow around the logs through the available air space. Having pumping power to then extract that back out of a low oxygen environment is challenging. I'm not a technical expert in that space but I'd also like to point out that MPI has not wholesale adopted the ICCBA standard. At this point in time they have opted into a select few sections of that standard and applied them into the New Zealand regulatory space. The context of the changes from the ICCBA standard was more to help facilitate the direct monitoring in fumigation enclosures.

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40

MR DEWDNEY: Chair, we'll need to take our lead from you here please on whether you feel this is an area that you would like us to go and research. I think it's probably outside the scope of our submission, but we take your lead.

45

CHAIR: Mr Bailey, there's a question that you were asking. So have you received the response you were looking for? I'm only saying it because

what we'll do is read the transcript after this as opposed to fully understanding it on reply. So have you received the answer you were looking for?

5 MR BAILEY: I appreciate what was just said about the MPI has only accepted certain parts of it. That was not made clear in the application when the entire document was provided as an appendix to the application. So I think it's still relevant to have further comment back as to whether that part is part of current New Zealand regulations and also for the comment as to if -- with that document being submitted as part of the application why that particular aspect can't be achieved as that is one of the reasons, and I do appreciate there are others, as to why ship hold fumigation and recapture is so difficult.

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15 MR DEWDNEY: Chair, through you, if I may, for clarification, Mr Bailey, was that part of Genera's submission that we're talking to or part of the STIMBR submission?

MR BAILEY: That is a good point. It was part of the application.

20 CHAIR: Can I suggest for this perhaps that EPA would like to jot down a couple of sentences over the morning tea or lunch break to clarify what that information you require and then -- would that be a good way forward?

25 [10.05 am]

MR BAILEY: Thank you.

30 MR DEWDNEY: Chair, apologies for coming in again here, but it may be that this is also a question better directed to MPI.

CHAIR: Yes, let's get clarity on (a) the question and (b) who's best placed to respond to that and whether the DMC then issues that as a direction and minute.

35  
40 Okay, thank you. Just now any other submitters that wish to ask questions? Okay, while I'm waiting I've had Mr Glassey, who's got no mic at the moment, from MPI who has said there are two parts to this question, that's the previous question. MPI can answer the application of fumigant requirements but Genera needs to answer the problem of extracting methyl bromide from ship holds. So that's just to put what was written on the record but we'll deal with the intricacies of navigating through the question and the answer in a moment.

45 Given that we don't seem to have any further questions I'd like to thank you for your time this morning and answering both your presentation and being available for all questioning. I just want to do a bit of a check. We have got two submitters that were supposed to be on before

5 morning tea. Morning tea is now in 15 minutes and Bay of Plenty Regional Council is up next with a half hour slot allocated to them. My suggestion to us all is that we take a morning tea break now for 15 minutes but I just want to double check. Bay of Plenty Regional Council, is that going to work for you, Mr Weiss?

MR WEISS: That's fine with us, thank you, Mr Chair.

10 CHAIR: Then following that was a presentation from Ngāi Tahu. Ms Dijkstra, how is that going to work?

MS DIJKSTRAN: That is fine for us as well.

15 CHAIR: Okay, great. Given that it's 10.07 now, allowing 2 minutes to log out and adding 15 minutes on, we'll see you back here at -- if my maths is right that would be 10.24. Yes, that's 10.24. Thank you.

**ADJOURNED** [10.08 am]

20 **RESUMED** [10.26 am]

SUBMISSION 127599 - BAY OF PLENTY REGIONAL COUNCIL

SAM WEISS PRESENTING

25 CHAIR: My apologies for the slight delay; two minutes. Moving on now to Bay of Plenty Regional Council. Mr Weiss.

30 MR WEISS: Thank you, Mr Chairman. If I may, I'll just share my screen for my presentation. Now can you see that?

CHAIR: Yes, thank you.

35 MR WEISS: I'll just organise my screen here for a minute. Okay, tēnā koutou katoa, good morning, members of the Committee, ladies and gentlemen. My name is Sam Weiss. I'm representing the Bay of Plenty Regional Council where I'm part of the regulatory team based in Tauranga. I've been involved with methyl bromide at Council since 2005 and in 2010 I made a presentation to the ERMA panel also on methyl bromide. So  
40 I thank you for the opportunity to present our perspective. I'd also like to acknowledge EPA staff, Lee Bailey and his team, for the work on this issue.

45 In 2005 the Regional Council granted resource consent to Genera, the operator, for the discharge of fumigants and the consent has evolved over time. I believe we're the only region in the country where consent is required and this consent now requires progressive phase-in of recapture and started with modest requirements and now 100 per cent

of containers and 75 per cent of all log rows must have recapture applied. The fact that the Bay of Plenty is the only place in the country where recapture regularly occurs at any scale, certainly up until very recently, I believe it's because of the stepwise and incremental approach that the consent requires both feasible yet ambitious targets for recapture. I might be biased but I think we live in one of the most beautiful parts of New Zealand. A picture from up on Mauao - and certainly we have a lot of tourists come here, including a lot a cruise ships, about 100 cruise ships, I think, at the last season, of course, pre Covid. This is bird's-eye view, looking down on the port. You can see it stretches about 2.5 km north to south, with the residential area to the east, and also the industrial area.

Log exports, clearly big business for the port and the community. This picture gives you a sense of the scale of the operation and of course correspondingly there's a lot of log fumigation that happens along with this. I think the last estimate we have of the amount of methyl bromide used is round about 220 tonnes per year.

Over the next little while, I'd just like to highlight the key points of our submission, as laid out on the screen.

**[10.30am]**

For example, how capture is defined, what is the right figure, some of the modelling assumptions. We talk a little bit about ship fumigation at the port. The challenges that we have with monitoring and compliance. The issue of protection, particularly for those on the port, and some extra controls that we think could be considered.

If we start with recapture, in the EPA staff report it summarises that the applicants proposed a change in the definition from 5 parts per million to 20 per cent of the concentration left. So that is effectively the 80 per cent reduction. It's disappointing for us that we heard about the change in the application only on day 1 of the hearing because had we known earlier, we could have sourced, or attempted to source, some further New Zealand studies that we know of looking at what level of recapture is reasonably achievable and we ask that the DMC consider still accepting this further information.

The difference is significant. But we know that for recapture, it is essentially just the removal of some of the gas from the fumigated space. It's never 100 per cent effective. So the question is really how much is removed and how much is released.

This document here, which was provided in the evidence, gives us an answer to how much methyl bromide is proposed to be released now. The text highlighted provides the range of the average concentrations at the end of the fumigation. I then used that data in this table and

converted these concentrations to parts per million. You can see, right down the bottom, the resulting concentration range, in yellow, that would result after 30 per cent recapture is round about 10,000 - 20,000 parts per million, which would be released. The point here is that these are big numbers and I think it is important that we call them what they are rather than simply referring to percentages.

We believe it is important to define recapture as a concentration and the previous slide showed the significant range of concentration at the end of fumigation. So of course, with the percentage there will be a different concentration released every time. Without a final concentration, it will almost be impossible to independently verify if recapture has complied with the definition or not without entirely relying on operators reporting. I acknowledge the comment from the EPA on Thursday that said a percentage reduction was what the applicant had asked for but just to be clear, this point isn't about requesting a higher or lower standard of recapture than what was requested by the applicant. It is simply about setting a concentration which corresponds to whatever percentage is considered appropriate, which can then be easily verified both by the operator and by the regulator.

This slide is helpful for determining what an appropriate concentration following recapture might be and it is based on a report the operator has provided in evidence on recapture, on a recapture trial. This might be something that needs to be studied in detail, more, later, but in summary it looks at the age of the recapture solution, the log stack volume, the concentration at the end of fumigation, then the concentration again at the end of recapture, and also the time that that takes. Some key things to note from this slide are that two of the five recapture events achieve more than 60 per cent recapture and the age of the recapture solution is obviously very important because the highest recapture rate was achieved with the freshest solution. And the volume of log stack is obviously important too. As we've heard, smaller log stacks, it seems to be easier to achieve recapture.

The other factor that is critical, which isn't shown on this but is shown on the original document, is the time, because for all five of these recapture stacks, the level of methyl bromide was still reducing when the recapture stopped. The more time under recapture would then have resulted in a higher percentage being achieved and therefore less gas being released.

So there is a number of variables that can be controlled around this: the age of solution, the volume of the stacks, time under recapture. So in light of this, and in light of some of the evidence we have heard already, the 30 per cent reduction, which we've looked at, corresponds to, relates to, about 20 parts per million per fumigation, as proposed by industry,

seems rather unambitious. In our view, a concentration related to 80 per cent reduction is more appropriate.

**[10.35am]**

5 Turning briefly to the issue of ventilation of gas in dilution, we know  
that the more air that a volume of methyl bromide is released into, the  
more it is dilute. I am not going to go through this in detail, but in  
10 essence it shows that if 1 tonne of methyl bromide is released - and we  
know that is not an unusual figure, 5 tonnes is used on a ship, although  
less is emitted - but using an example of 1 tonne, the amount of air  
that's needed to dilute that to the tolerable exposure limit - you can see  
the figure there - is 256 million cubic metres of air, which is essentially  
- a cube of air, six football fields in each direction - so the point being  
15 it is a lot of air that you need to dilute a certain concentration.

In terms of the modelling, I am happy to leave the intricate details of  
modelling to experts and Jenny Barclay from ASG will be speaking as  
a witness after me, but one obvious factor in terms of downwind  
20 concentration is the period of release. If gas is released quickly, then  
much higher concentrations are obtained over a short period.

This is an image of actual log fumigation at the Port of Tauranga and  
I'll draw your attention to the timestamp on the top left-hand corner.  
25 You can see there's a number of log stacks, in fact 12 log stacks here,  
that are covered, under fumigation, and here is a photo sometime later  
when the tarpaulins have been removed and the gas is released. In this  
case, the average log row uncovering was seven and half minutes but  
during the hour and a half, in some cases log rows were uncovered  
30 simultaneously and sometimes a lot faster than that, two and half  
minutes.

In relation to the rate of release, I'd also like to just talk about this ship.  
Now a ship, as we've heard, is another way that fumigation is applied  
35 and this ship is actually berthed at Tauranga harbour. It was tied up  
next to the port last month, where we decided to do some downwind  
monitoring. We put a canister in an unmanned boat downwind. There  
was no staff willing to stay on that boat, for obvious reasons. You can  
see here that one of the main mitigations for boaties - well, you may  
40 not be able to see - but one is a sign on the boat, which, if you can see  
my mouse, it's that yellow sign just above my cursor - so that's a  
warning to boaties to keep away. So that's perhaps an example of well-  
intentioned control but largely ineffective.

On this ship you can see these two holds to the left have already been  
45 opened and the others are being progressively opened. When we were  
observing this, we observed the entire ship venting over less than two  
hours, compared to the one to two hours per hold used in the models.  
The point here, for both the log uncovering and the ship venting, is that

modelling assumptions need to be verified or they need to become the new required standard.

5 Continuing with the theme of ship venting, we know that large volumes of methyl bromide are involved, in some cases over 5 tonnes. There is no ability that we have in the Bay of Plenty at least, for excluding the public for more than 50 metres away from a ship when the wind is blowing over the water, or indeed at any stage but clearly that's the time when there is some risk. It is interesting to note that the international maritime organisation recommends against venting methyl bromide in transit, when a ship is underway. So the obvious conclusion is that if these large buffer distances, as seemed to be suggested by the modelling, are required, then ship hold fumigation could simply not be permitted in port.

15 **[10.40am]**

20 If ship hold fumigation is to remain permitted, despite the evidence suggesting that it may not be practical to achieve the required buffer, we suggest the following: that recapture starts sooner than 2025, as proposed by the EPA and certainly a lot sooner than 2030, as the applicant suggests, and that perhaps a lower efficiency is accepted to begin with, but incremental improvement is being required, which would then build experience and capability and avoid the situation where in five or 10 years' time, we are advised that ship recapture is simply not practical.

30 We also request that there is a cap on ship fumigation numbers because clearly at some point that simply becomes untenable for meeting the various TELs.

35 Quickly talk about some of the challenges with methyl bromide metres. Most monitoring is done with photoionisation devices, commonly known PIDs. That's most boundary monitoring. But these cannot measure uniquely methyl bromide but are influenced by other VOCs. The boundary exceedances that we have reported to us periodically are often attributed to other sources, so it is very difficult to establish a methyl bromide exceedance using PID technology. This photo illustrates the type of problem that I refer to, indicating a variability between meters. Just for reference, the council meter is the one on the right. But as alluded to earlier, there is new technology now that is available and this is an example of one meter that is portable. It does measure instant and accurate measurements of methyl bromide.

45 To reinforce some of the challenges experienced in the past by the operator in measuring methyl bromide, this is a summary of the annual reports provided to the EPA available on the EPA website, all of the ones that are available there. For example, in 2012 no measurable

methyl bromide was detected at any time during the reported period, and the other years are really variations on that. So, for five years levels were either below detection or no methyl bromide was detected.

5 By way of an update, the information presented in appendix A of the Sullivan modelling report, the 2019 boundary monitoring does show that there has been about 25 different results at or over the 50 per cent of the tolerable exposure limit. So there's certainly been a marked improvement in the ability to detect methyl bromide.

10 Aside from the meter issues, there are other challenges that apply both to the operator and to the regulator to different extents: safe access to the port and fumigation location, variable wind conditions, the evacuated canisters that we've spoken about earlier. For example, 15 Summa canisters are expensive and they do only provide an average reading. We used an evacuated canister with our monitoring we did downwind from the ship, but each time we use one of those the cost is around about \$800 so it's not something that we can do on a daily basis, clearly.

20 So the point in providing this information is to indicate that it's important not to assume that meter readings are necessarily always accurate or the worst case. From that appendix of the Sullivan report that I referred to earlier, it's telling to observe - and I went through the 25 first three months of data - that the highest measured reading at the boundary is just as often at the 45-degree angle as it is from the supposedly directly downwind. Those different locations are generally hundreds of metres apart, so it does reinforce the difficulty in establishing where to set meters and where the gas is, in fact, going.

30 In terms of making some improvements to the monitoring, we believe that it is necessary to use devices that are fit for purpose. It seems that the PIDs simply, while they may be useful in support, now that there is 35 other technology available we believe these should be used, particularly on large-scale fumigation sites like a port. We also consider that more monitoring at the boundary and within the port is required for every fumigation. We certainly would endorse that EPA staff report comment that monitoring would be improved if there were more comprehensive coverage of the monitoring locations or 40 fumigation locations.

**[10.45 am]**

45 One issue that relates to the monitoring locations is the consideration of the entire port being a buffer zone. That does mean that the port workers, even those that are completely unrelated to any fumigation activity, can be exposed to much higher concentrations than the public. The worker exposure standard is an ATR average of 5 ppm, so that

would allow, in theory at least, a 40 times higher exposure for one hour if the other seven hours were at zero, compared to the public's tolerable exposure limit of 1 ppm over one hour.

5 Two ways that we consider safety could be improved are to have a  
mandatory short-term limit, for example, what is called a STEL, such  
as over 15 minutes, and not rely on an ATR average, and to have  
10 monitoring in locations to protect workers that are completely  
unrelated to fumigation, such as office workers on the port. Currently,  
there is no specific requirement that I'm aware of for any particular  
15 monitoring in locations to protect these people, other than the general  
requirement not to expose people to more than 5 ppm over eight hours.  
It would also be useful to have the monitoring that is carried out at the  
edge of the monitored safety zone that Genera referred to, to have that  
monitoring provided to regulators so that those figures can be verified.

The other issue around having the entire port as a buffer zone is that  
20 boundary monitoring can sometimes -- or it allows for boundary  
monitoring to be carried out in unhelpful locations. This clause, which  
is in the current controls, is the one that allows that. It refers to the  
monitoring locations on the point of land at the edge of the buffer zone.  
So the situation that we end up facing ourselves with is when there is a  
25 wind blowing from the east, and this is a situation -- not a particular  
fumigation event but this sort of situation isn't uncommon where the  
yellow dot represents where fumigation is occurring and the red dots  
indicate where monitoring is carried out. So, as expected, in these  
situations there's not a lot of methyl bromide measured at the monitors.

30 This table again was derived from appendix A of the Sullivan report  
and it's actually a compilation of the data that I've put together. The  
highlighted figures on the right there illustrate just how far away the  
monitoring can sometimes take place, so sometimes you can see well  
over a kilometre away and not even necessarily downwind. Even with  
35 other winds, perhaps northerly and southerly, it's not uncommon to  
have the meter many, many hundreds of metres away. So, it's not  
surprising that insignificant levels are often measured at these  
distances.

40 So, the message really in relation to these slides is that we would  
caution against putting undue emphasis on measured results and that  
more appropriate monitoring locations need to be established.

45 I'll turn now quickly to the issue of low and zero wind conditions.  
Wind conditions are notoriously fickle. At the port it's a very complex,  
dynamic environment and particularly when the winds are light it's  
difficult to know where wind is moving to, where the air is moving to,  
what direction. That New Zealand standard relates to the use of  
agrichemicals and it refers to zero or very low wind speeds as being a

high hazard, which is very much aligned with that idea. If you haven't got a clear idea where the gas is heading, then it's difficult to adequately protect people and to even have your meters in the right place. As we looked at earlier, there is a lot of air needed to dilute the volumes that we're talking about. So we'd like to see that fumigant venting restricted during low or zero wind conditions.

[10.50 am]

Reporting of fumigation practices and aspects of that is crucial. For each fumigation that occurs there's a number of different aspects that we believe must be collected and reported: GPS location of where the activity is being carried out, all the monitoring data. I'm just capturing a few of these ideas here, not just the one hour or the ATR averages but the raw data as well and the sensitive locations on the port, if it's recaptured or when it's recaptured, knowing the concentrations at the end of the fumigation or particularly at the end of the recapture so we know what concentrations are being released and that we can verify that as being a compliant activity. Now, provided this information is made available to regulators, they then have the ability to confirm compliance, so give some assurances to the community that this activity is being carried out safely.

So, in summary, the recapture definition must specify a concentration prior to release. We'd like to see stepped and ambitious recapture targets, more air monitoring and reporting to confirm compliance, and in conclusion as a regional council we would obviously like to see the log trade and port prosper. However, we'd also like to see improvements in how methyl bromide is used, monitored and, of course, recaptured.

Thank you, Mr Chairman.

CHAIR: Thank you. Did you want to go to Ms Barclay or you want to take questions now?

MR WEISS: I think it would be useful if Ms Barclay could speak now if she was available.

CHAIR: Sure.

JENNIFER BARCLAY PRESENTING

MS BARCLAY: Yes, I'm here. All right. I think it's probably timely if I follow straight on from Mr Weiss and then we can have questions.

So, my name is Jennifer Barclay. I'm representing Bay of Plenty Regional Council. I am a specialist in dispersion modelling and

5 meteorological modelling. I have more than 28 years of experience and I was on the CALPUFF model development team for more than 16 years, based outside of Boston. I am also the only trainer on this particular suite of models in the whole of Australasia and have conducted something like 80 training courses all over the world on the CALPUFF suite of models.

10 With regards this methyl bromide application, I'm the only person who has reviewed officially all of the deficient modelling reports. I am also on the methyl bromide expert panel of modellers. I am the author of the meteorological dataset that has been used in a lot of the modelling and I've also been assisting WorkSafe in their sub-hourly building of meteorological datasets for modelling purposes. Based on that, I'll share my screen now. Can everybody see that? Can you see my screen?

15 CHAIR: Yes, thank you. Sorry, yes.

20 MS BARCLAY: So I've just put up a slide showing you where you can find some of these reports on the different modelling reviews. They are all on the EPA website. A lot of the stuff I have in the slides is really just an indicative summary of some of these reports.

25 I just wanted to give a bit of an overview of the modelling and how we've come to where we are at today. First of all I will say that CALPUFF as a choice of model is the correct one for the fumigation modelling at the Port of Tauranga. Through CALMET, which is the meteorological component of the model, we've developed a three-dimensional dataset that was fully evaluated. It was approximately 30 three years long. It includes several observation sites. It includes separate fluxes for over the water and over land.

[10.55 pm]

35 Really this is just important to develop the atmosphere over the port area, which tends to be a quietly weakly unstable atmosphere. The reason for this is that the ocean temperatures around Mount Maunganui are really quite a warm ocean and this create a reasonably unstable atmosphere around the port. The model is also sympathetic to the highly variable spatial-temporal, in vertical atmosphere, at the Port of 40 Tauranga so it is able to manage this highly variable atmosphere that we have.

45 The next point I want to raise is model accuracy. Model accuracy depends highly on the meteorology, the emission data, which is the quantity of methyl bromide released, the timing of release, as well as other important things like the characterisation of the source, the location of the source, et cetera. If the meteorology is of a high standard and if emissions and other inputs are good, then the level of

accuracy should be well within a factor of 2, ie closer to 1.9. The other points I want to point out is that models are meant to be conservative because they're protective of human health so it's important that we see some conservatism in the model.

5

Modelling methyl bromide fumigation is a real challenge. Modelling of methyl bromide is very different than modelling, for instance, a tool-point(?) source whose emissions may be constant over time. Log and ship fumigations produce highly intermittent variable plumes. The release is sub-hourly and really we're modelling with a one-hour time state, so we're missing a lot of that variability by using and modelling one-hour time state.

10

Most of the log plumes are released into weakly unstable atmosphere where dispersion is reasonably efficient. Plumes released from ship holds at night are released into a similar weakly unstable atmosphere, a neutral-type atmosphere, at the start of fumigation. By the time the last hold is released at approximately 6.00 am, the atmosphere is most likely in a weakly stable state.

15

20

Wind from the northwest, west and southwest, ie blowing from the harbour towards the eastern boundary, occurs for approximately 46 per cent of the time in a typical year at under 5 metres per second. So there are a lot of occasions when the wind is blowing towards the port boundary.

25

Inversions and stable conditions do occur but they tend to be limited to a few hours during night and early morning and mostly weak. Please don't get inversions confused with calms. Calm conditions can occur any time but inversions are particularly conditions that will keep the plume tracked towards the ground. They are not a highly frequent occurrence at the port because of this generally unstable atmosphere.

30

Methyl bromide fumigation events at the port are very different to what I've shown in this picture on the left, which is largely a flat field, far from the coast, with a widespread, evenly distributed plume. Our situations reports are extremely different to that sort of fumigation event.

35

Mr Weiss has very well covered the monitoring. I wanted to again make this point clear. Monitors are just snapshots of methyl bromide in time and space. If the plume centreline was 5 degrees either side of the monitor, the monitor simply would not record that peak. Therefore, it is important to know that monitors can easily miss peak concentrations. The WorkSafe programme has shown that you can get orders of magnitude difference between co-located PID, which have been correct for methyl bromide, and Summa canisters and that meters located just tens of metres apart can be wildly different as well.

40

45

5 The point that I am raising is that we use monitoring or modelling a lot to try to base our modelling results on, but there is just as much complication in monitoring as there is in modelling. So it's questionable whether to use monitoring solely in the risk zone, whether t's picking up the peak. At the moment I know that methyl bromide in the risk zone managed monitoring. My point there is it is very easy to miss the peak.

10 [11.00 am]

15 Distance-based mesmerise should also be considered. At the end of the day, we can do a lot with modelling and monitoring but there really needs to be better control of methyl bromide in order for us to get a real handle on what is happening.

20 I've just shown this figure of a PDP WorkSafe report of an incident that they've been looking at on 9 January. You can see this is a real event. This is actually what's happening. You can see the big peaks of methyl bromide every time a tarpaulin is pulled off. I'll get back to this figure in a couple of slides' time

25 The other point I want to just make sure is I've just pulled some slides out of some of the reports to give you an idea that exceedances at the boundary do occur. Most of these have come out of the applicant's own modelling reports. You can see at the boundary we are looking at values greater than 1 from Summa canister measurements. Also at the lower bottom end here we can see Bay of Plenty monitors. This is total volatile organic compounds, which methyl bromide is a fraction of. 30 But the ones above are a combination of Summa canisters and you can see that we are reaching values of greater than 1 at the boundary.

35 The modelling, just to get on to the modelling, to date there have been six modelling assessments. The first assessment was conducted by Sullivan Environmental Consultants, which is abbreviated here as SEC, in September 2018, which used AERMOD and wharf data. Then that was followed by the Golder's one in July 2019, which is CALPUFF, followed by a second Golder's study, followed by Todoroski, which did a study for EPA in 2019. Since then PDP for WorkSafe has conducted some vent modelling. Finally, in August 40 2020, SEC has produced the final modelling study. Most of them were done with CALPUFF and several of them have used the ASG dataset.

45 Each of these studies has its own merits. The principal concern for the 2018 - 2019 models is that the differed significantly on the input parameters. This is the reason why the results were very different. There was generally a broad agreement between the earlier studies that the one-hour maximum tolerable exposure limit is exceeded at 80 per

cent recapture for 80 per cent of all log piles and for ship holds alone and together. And also that the models, the TAS model and the Golder and the BECA model was not overly conservative and had mostly under-predicted the emission rates through various assumptions, such as too few log piles were capping the methyl bromide usage at 76-kilogram release only, and assuming just 30 per cent of all methyl bromide applied to ship holds was available for release to the air and that 33 per cent was released equally over two hours.

This leads me to the point to include this next slide, which I want to raise to your attention to show a model is incredibly sensitive to things like the meteorological, the size of the log pile, the number of piles, the log-pile location, emission profile of release, the initial dose application rate, the amount of methyl bromide leaked in the headspace and recapture efficacy, the amount of methyl bromide left in the ship headspace and the release rate of ship holds. As we've gone through the modelling we've used different assumptions along the way and each of these will make a big difference to the model-output results.

Because of all of these differences, in January 2020 the modelling expert panel was developed to try to nut out the model inputs and to come to some agreements that all future modelling should use. Specifically we wanted any new modelling to look specifically at different application rates, ie India and China. We wanted to use more of the port's actual usage of methyl bromide as emission rates. We wanted to look at various recapture efficacy rates other than just the 80 per cent assumed by Golder. For instance, what happens at 30 per cent recapture, at 45 per cent recapture? Things like source characteristics, ie treating all of the sources as square-volume sources instead of point sources was another criteria. Receptor spacing and distribution.

**[11.05 am]**

A key one is that at the modelling expert panel, based on input from Genera, we were told to specifically model our ship holds two hours apart, beginning at 10 o'clock in the evening and finishing at 6.00 am with 35 per cent of initial dose of methyl bromide used equally over the first two hours. So all of the modelling over the last six or seven months has been based on this assumption that the holds would be opened slowly.

There was an incident about three weeks ago where all ship holds were opened in two hours. That is the incident that Mr Weiss has monitoring data for. So as far as ship holds go our modelling is seriously under predicting what has been actually happening out in the field. These things really need to get ironed out. That specification instruction I believe came from the applicant. It is modelling that reflects much lower emission of ship hold.

5 To this end, the only model to use the recommendations from the expert  
panel is SEC2020, whose results were presented on Tuesday, 11  
August. I just want to go through the key findings and points of the  
latest SEC2020 model. There is no question the modelling is expertly  
conducted by suitably qualified consultants. SEC used a problematic  
Monte Carlo simulation which we can understand exactly why this was  
done, to try and address the randomisation of these events. They also  
10 looked at a deterministic approach assuming the first hour of venting  
occurred for every hour of the day from 7 o'clock to 7 o'clock at night.  
The reason for this is that we don't know the times of day that venting  
would occur. Sometimes it might occur at ten, sometimes it might be  
four. So this approach covered all hours of the day.

15 Modelling was made conservative by using a larger logs and assuming  
all the hours of first venting. The first venting hour was between 7  
o'clock in the morning and 7 o'clock at night and including alternate  
distribution. So the modelling is very conservative in many ways.

20 The key findings of this report was that the one hour, the 24 hour TEL,  
was only met at the port boundary at the 98 percentile. In other words  
we refer to this as modellers as the 175th highest concentration. So  
that means at any percentile above 98 the upper percentiles, there are  
exceedances.

25 The annual TEL is also met on the eastern port boundary, with the  
exception being near the southern most source where the distance  
between the source and the boundary is small. Again, the annual TEL  
has also been exceeded. The 99.9th results are representative of the  
30 maximum methyl bromide specific thresholds of the 1 to 2 (inaudible).  
PDP measured concentrations along the port boundary as measured in  
2018, 2019. SEC has used the Bay of Plenty Regional Council methyl  
bromide measurements to compare with the modelling results and have  
found that 99.9 results is a good measure.

35 Then a final point they wish to raise is that the 98 percentile is more  
suitable for regulatory evaluation because of the potential for model  
artefacts or outliers at higher percentiles. SEC consider such results  
unreliable and should not be used to inform regulatory decisions.

40 So these are the points that I just wish to raise. This slide is to give you  
just some of my concerns with the model output. It is a difficult,  
complicated report. There has been too little time to fully digest, the  
tables require a calculator but I also appreciate it is a significant  
45 exercise that they undertook in very little time and I commend SEC for  
doing the job that they have done. I don't think anyone would have  
presented or done such modelling in such a short timeframe.

5 One of the issues I do have is that there is no technical assumptions provided. One of the things that we do know is that there is an incredible amount of technical assumptions we have had to make as modellers to fit this in. I am not entirely sure I understand all of these that have been, especially around the port methyl bromide usage.

[11:10 am]

10 Now, the two key areas of concern with the model is they have applied a Monte Carlo method and modelling approach which is more consistent with fumigation episodes in the United States. This is large flat fields, far from coast, evenly spread plumes where percentiles can work really well. That is one concern that I have. The other issue is that the results presented are not consistent with New Zealand criteria and use of the percentiles. The 98 percentile is not helpful to us in New Zealand.

15 I have presented the summary table of the SEC report below and you can see they have got very high values for the 100 percentile, so that is the maximum concentration. They have flagged these outliers. I agree these are not realistic results. To me the model has introduced far too much conservatism. These outliers are artefacts of the SEC model itself.

20 This last point is important because there are outliers and there are artefacts but they are from a consequence of the way that SEC has conducted their modelling. We will get on to this a little more on the next slide.

25 If you then look at the 99.9 and trying and work out what this 80 per cent means, really what it is saying is that 70 per cent of all logs having recapture assume 80 per cent efficacy and the concentration is 1.74 ppm, which is higher than our 1R tonne hold exposure. So the table is showing quite significant exceedances even at the 99.9 level at recapture efficacy that simply we believe we are not able to reach.

30 So in my opinion the SEC modelling is not realistic. By allowing each hour of the day between 7 o'clock in the morning and 7 at night to be an emitting hour the SEC has introduced an awful lot of residual methyl bromide concentration into the environment that is simply not there on a day to day basis. The point of this is that we know that there might be one massive fumigation occurring at 4 o'clock in the afternoon, there might be two application of log pile but certainly not every single hour of the day is the atmosphere filled with methyl bromide.

35 Because of this the modelling has shown that with eight hour WES, the 24 and the annual TEL as well as the one hour have all be exceeded. This is not the case in reality. There are not enough events occurring

with prolonged emissions for these criteria to be exceeded. The plot below, which is again from WorkSafe and was presented by Chris from PDP yesterday, Mr Bender, highlights the real problem. The real problem we have is in the event of no 15 minute TEL we can only manage these massive levels of methyl bromide though the one hour maximum TEL. So this part shows very well each of these peaks is a log pile that has been fumigated and tarpaulins ripped off and you can see a massive spike in methyl bromide. The next peak is the second log pile being removed and the third log pile and the fourth log pile. If you had to take a 15 minute average over this period, a 15 TEL would be probably be exceeded. If you averaged this over the hour up to the boundary you would well find that the one hour TEL is being exceeded.

Now a very important point is at the 99.9 percentile or at the 98 percentile this event would be a complete no show. This is a very big deal for ship holds. The other thing that is very important to raise here is this particular plot shows the CALPUFF modelling in the green line overlaying methyl bromide. What we have found is that when you allow the entire release to come from the log stack within the first couple of minutes of pulling off the tarpaulin we get this peak in the modelling.

What we would say is when you remove a tarpaulin from a log pile almost all of that emission is occurring in the first hour -- or, sorry, the first few minutes. So the residual concentration left in the air after a tarpaulin is removed from a log pile is probably extremely low. It really is this massive peak of concentration that is occurring immediately after the tarpaulin was removed.

**[11:15 am]**

So the big question is, is it acceptable for someone at the port boundary to breathe these very high levels of methyl bromide for several minutes at a time? This is the reason why the 99.9 percentile is just simply unable to capture the real problem. The real problem is big peaks occurring on these very short timescales.

I have a slide which just gives you an idea of percentiles and why the 1R max is so important. I take you back to the New Zealand guidance which says that the predicted 99.9 percentile is better reported as a maximum as it can produce more robust and more realistic results for the maximum. However, we tend to use the 99.9 as the maximum typically when we are modelling point sources, we are using maximum cross emission rates, we are modelling the exact same emission rate every single hour of the day and therefore the 99.9 percentile gives us a much better robust high concentration, which is the 9th highest and

allows outliers where we are just assume a cross emission rate, which really doesn't happen, at the time.

5 It is also good for situations with large area sources like big fields where you have got an evenly spread plume. The assessment at the 99.9 percentile is not suitable for a single significant release from a highly (inaudible) plume because in reality the 99.9th level will be so low as to make the event a no show. I think this is exactly what Aleks Todoroski was speaking to the other day.

10 When New Zealand has a one-hour TEL this TEL is not specified as the 99.9 percentile level. Currently, only the one-hour TEL can protect anyone from receiving a large dose of methyl bromide at and beyond the port boundaries where fumigation is occurring. Simply, we do not have a short-term STEL. Further, the one-hour max ground-level concentrations gives good agreement with the monitoring data. The modellers need to be conservative as it's protective of human health, and when it produces lower concentrations than the monitors, something is not right.

20 Now, outliers and artefacts are not expected in the real world of this. Peak concentrations on the port are simply a function of wind speed and direction. Monitors are snapshots in time and place and they can miss the plume altogether, and the emission rates are still likely to be underestimated.

25 That's all that I have, thank you.

30 CHAIR: Thank you. Are you ready for questions now?

MS BARCLAY: Yes.

CHAIR: Okay. Dr Belton?

35 QUESTIONS

40 DR BELTON: Thank you, Chair. Let's begin. Going right back to Mr Weiss in the first presentation, you are suggesting that - and maybe there's more data to come - we could consider a more ambitious target than 30 per cent recapture. Just wondering, to get a bit of clarification on how that would work, if we accept from Genera that 30 per cent is what they are pretty confident they can get all the time but if we would go a bit higher than that, they're not going to get that all the time. So that would be dependent, if we set a higher target, on real-time measurement of the level of recapture achieved and presumably continuing the time for recapture to carry on if you hadn't actually met the target the first time you expected it to do. Is that correct or am I missing the point there?

MR WEISS: I'm not sure I completely follow, I'm sorry. I wonder if you could paraphrase.

[11.20 am]

5

DR BELTON: Okay. If we were considering to put a more ambitious recapture target in than the 30 per cent that's been suggested, we'd have a number of occasions when that wasn't being met. To identify and deal with those occasions we would have to be measuring every recapture event to know when we'd got to the target and we'd have to carry on the recapture until we got to that target. Is that the way you envisage that working?

10

MR WEISS: Yes, it is. My understanding is the 30 per cent is very much at the low end of what is already being achieved.

15

DR BELTON: Yes, okay. No, that was just the point about how that would work, and that's realistic under the current means of operating in Tauranga?

20

MR WEISS: I guess that's a question more for the operator, but the way we see it is if there is a requirement for a certain percentage reduction which corresponds to a concentration, it really is then just a matter of measuring that concentration prior to release. It's hard to see how that would be a particularly time-consuming or onerous process.

25

DR BELTON: We've got the equipment and so on to do that real time on every fumigation event?

MR WEISS: Well, the regional council doesn't but I guess it's a question for the operator, but I understand they have that equipment.

30

DR BELTON: Okay, yes, that's what I was driving at, thank you. Okay, then just picking up your suggestion about putting a cap on ship fumigation numbers, you mean what, a monthly cap, annual cap? What do you mean by that?

35

MR WEISS: Well, perhaps both, yes.

DR BELTON: How would that be -- so if people were approaching their cap, knowing they were going to exceed it, they'd have to relocate to another port or slow up the number of exports? How would that work?

40

MR WEISS: Well, I guess that's perhaps for the fumigators in the port to work out, but we're approaching it more from the point of view of what would be reasonable in terms of ensuring that there is some constraint on the amount of fumigation or ventilation that can occur in that manner. Because clearly at some point the amount of discharge over a month or over a year will exceed the allowable limits.

45

DR BELTON: Well, that was also coming back to the -- okay, a year is a pretty coarse number probably. A month, is that sufficiently refined, in your view?

5 MR WEISS: I think at the moment there is maybe between six and ten ship fumigations a year so, yes, I suppose the overall point we were making is that there needs to be some constraints. There can't just be an unlimited number of ship ventilations permitted. How that is set I guess needs to be done in such a way that it's workable and practical, 10 so obviously it would have to be done in consultation with the port. But we believe it's necessary that there are some limits.

DR BELTON: Okay. So, a matter for a bit more discussion and negotiation and clarification, sure. Okay, thank you.

15 All right. Now moving on to the modelling, there's a lot of information in there but I guess one of my main takeaways from that is that we should have a 10 to 15-minute STEL rather than rely on the one-hour TEL.

20 MS BARCLAY: My thoughts are both the one hour and the 15-minute STEL would be helpful. I think the eight-hour WES TWA is unlikely to ever be breached, as the 24 hour and the annual. It is the short-term peaks that are the issue.

25 DR BELTON: Yes, that's what I was getting at. To be able to deal with those short-term peaks, we really should be looking at a shorter period STEL?

30 [11.25 am]

MS BARCLAY: Yes, I would have thought so.

35 DR BELTON: Okay. That's as far as I want to take those at the moment. I'll pass over to others now. Thanks, Chair.

40 DR PHILLIPS: So, this is my question for Mr Weiss. Picking up on your comment about preference for a concentration rather than a per cent-based limit, if you like, I guess one of the arguments against this approach is the fact that different starting concentrations are needed for different log stacks, depending on where they're going. Therefore, the percentage gets around this issue of having to have effectively different targets for different starting concentrations, different concentrations that are required for the fumigation, depending on which country they go to. 45 So what would your strategy be to address the fact that you do have variable fumigation concentrations that are required? Because you can't just have one number. Well, maybe you can, actually. What do you think? I'm thinking out loud here.

- MR WEISS: Well, I tend to think that there does need to be one number and I accept that the challenge in achieving a recapture percentage is greater for when there's a higher starting concentration at the end of the fumigation period, but I think that's reflected in the data that we see. Perhaps there are a number of things that we examine that can help improve the rate of recapture like we've spoken about, the smaller log rows, recapturing for longer, having fresher recapture solution. I imagine that more attention to those things will help offset that greater initial concentration for those log rows.
- DR PHILLIPS: Okay. Just following on from that, you heard from Genera before talking about the dosing to concentration approach. Would that help? Because at the moment I understand the way they described it is that they have a starting dose and because it's just calculated based on the airspace above, amazingly, the stack under the tarpaulin, they're not always sure about what the final concentration is going to be. So, it gets a little bit back to what Dr Belton was saying about having to be continuously -- well, not continuously but regularly monitoring it until they get to the right concentration. So, because the dosing to concentration is actually focused on meeting that concentration in the airspace, would that help to address this idea of having a concentration rather than a per cent reduction?
- MR WEISS: I'm not sure exactly but it seems to me that surely even if there is a percentage, in order to verify by both the operator and the regulator that that percentage has been achieved, then there needs to be a measurement of the concentration at the end of recapture anyway. So, having a concentration is really just another way of expressing what the agreed percentage is.
- DR PHILLIPS: Yes, I can see that, yes. All right. Dr Barclay, I did have a question for you but you kind of answered it so thank you, I don't need to ask you the question again. Basically it just related to the fact that if you stuck with the -- if you use the 98 percentile some of the measured data, the actual measured data, which were actually fitted into the 99.9 percentile wouldn't actually be captured by that model, would it, at that rate?
- MS BARCLAY: That's correct. Or the event itself. Because the plumes are so rapid that it's just there and then it's gone. Whoever's receiving that big plume is still getting a massive dose over a shorter time so, yes, to me the maximum is important.
- DR PHILLIPS: This is sort of getting at what I think Dr Todoroski was talking about yesterday about not excluding the extremes of the tails because they actually are real events, aren't they?

[11.30 am]

MS BARCLAY: They're real events, yes.

5 DR PHILLIPS: That's all the questions I have, thanks, Chair.

CHAIR: By the way, both of you, you will have heard that yesterday and the day before, making sure that the presentations are forwarded on to the EPA so that they can be posted on the website please.

10

I note the multiple issues that you both raised to be navigated through, I get that. From the EPA staff report was a summary -- a recommendation - I don't want to put words into the EPA's mouth - that if the controls were sufficient then the effects would be less than minor and therefore could proceed. So my question to you would be that if TELs reached at the edge of the buffer zones would that allay your concerns, your concentration versus percentage, because the residual effects are less than minor or minimal, whatever words you use in this context?

15

20

MR WEISS: I think, Mr Chair, that if we knew for a fact that the TELs were never exceeded at the boundary then really, putting aside the issue of the health of people on the port itself, then there would be no need for anymore monitoring on the port or looking at recapture necessarily. But the fact is we don't know that and the TEL is an arbitrary number that's been set so I think the idea with increase and recapture also is that the amount of gas over time is progressively released regardless of what levels might be experienced by people.

25

30

But getting back to the first point I was making, we know that just because we're not necessarily measuring at the boundary or picking something up at the boundary, it's a very different thing to saying that in fact there's no exceedance at the boundary. So we really believe that having a concentration measurement at the time of release or just prior to release to verify concentrations are appropriate is important, if not for every single log row then at least a number that we can be confident as representative.

35

CHAIR: I must admit to being confused between the discussion about modelling and monitoring and I'm not sure I'd jump easily between what was real and what was proposed in the model. Let's see how we go with this next question.

40

45

You mentioned \$800 per evacuated container for the SUMMA canisters or something, I think. There's been quite a bit of information regarding different monitoring devices. As a lay person I don't get what the confusion is. What's the issue with -- I get the variance, if you're monitoring here and the plume's over here then it's not going to pick it

up but are there issues within monitoring devices why there's a problem or is it the methodology that's the issue?

MR WEISS:

5 Mr Chair, there absolutely is a problem with monitoring devices and that's been illustrated through a number of reports that the operator has provided. One of which has been provided in evidence showing a huge disparity essentially between the actual level of methyl bromide and the reported level through a PID because PID, which is used most commonly for perimeter monitoring, it does measure a range of other volatile organic compounds and also it is subject to a range of other errors. So it may over report, it may under report. In the terms of the canister, it doesn't give you ever a reading at a certain point in time. It will just give you an average from when you open it to when you close it.

[11.35 am]

20 So you have to decide in advance of when you're going to monitor. Then you've committed your expenditure of \$800. Whereas that other device I referred to, the FTIR technology, which was used I understand in the recent WorkSafe studies, that's recent technology, it's expensive but it's highly accurate and portable. So that's the sort of technology that we'd like to see introduced.

CHAIR:

25 All right. What was that again? The name of the device?

MR WEISS:

30 It's called an FTIR. Don't ask me to say the entire word. It is relatively new technology and in fact there is a consultant in Tauranga that has one of those. In Australia they're used by fire departments, for example, to pick out the level of contaminants. They are starting to really be used by industry.

CHAIR:

35 You talked about the reliability of measured results. That was the way I heard it. Then you provided some suggestions through your presentation, would you say that your suggestions - and I mean to review the presentation later on - but would you say that your suggestions would achieve a better outcome than the current monitoring practice or measuring practice?

MR WEISS:

40 Well, I suppose certainly in terms of having methods that measure only methyl bromide that would be a big step forward. Being a little bit more prescriptive about where the monitors were set, so we don't have that unusual situation where monitors are put in locations where clearly there would never be any methyl bromide picked up, to having some clearer understanding or requirements around where the monitors are located. Also monitors located within port in particular locations to protect non-fumigation related staff. We see it as important and all of those things together would start making a real difference I think to the

robustness of the data that's gathered and the level of confidence that can be provided to the community and, indeed, port workers.

5 CHAIR: Thank you. Dr Barclay, I'd need to review what you've said and the presentation, on the one hand I thought you were quite complimentary about the ACC report, on the other you noted some shortfalls of that, and that's understood. I appreciate your comment, that's not a criticism at all. I'm just reflecting.

10 To make sure I've got the same understanding as you, in your presentation you referred to a no-show. Does that mean it's not there or it is there and it's not measured?

15 MS BARCLAY: It simply sort of disappears because in our world when we talk about a 99.9 percentile it means we're accepting a much lower concentration as being the peak and so in the point of a plume that's moving very quickly the ninth highest would simply not be there. It will be a no-show event and it's -- the difficulty's compounded when you're releasing from ship holds where the concentrations are much bigger, the peak is much bigger, and you're looking at the 98 percentile, which is the 175th highest in concentration, the plume will simply not be there. So it'll look like it's a non-event entirely.

25 CHAIR: All right. That harks back to your previous comment in that if there's anything going to happen it happens in the first couple of minutes as opposed to over an hour or so on and so forth; by then it's gone?

30 MS BARCLAY: Correct. Certainly at a monitor it's sort of instantaneous pick up and it may never reach that monitor again. It doesn't mean the plume isn't somewhere else but at that point in time it's moved on.

35 CHAIR: This may be out of your area of expertise so don't feel you need to answer the question. But given that reality that you've described, how would you mitigate that or measure it?

[11.40 am]

40 MS BARCLAY: I think the point I was trying to make with the monitoring is that the monitoring has got its own complications but that is the only thing we have to compare the model against. So our modelling for us as well is extremely complicated. So to me the only way that we can help everything is that there has to be stronger controls around the release and whether it be through the recapture, which Mr Weiss was talking about, or doing it as a concentration or limiting the log fumigations over time so that you don't get multiple peaks happening in a row, that those are the things that are going to really help because we're going to always struggle with the monitoring and the modelling. It's a very complicated situation.

CHAIR: Thank you both.

MS BARCLAY: Thank you.

5

CHAIR: We will go now to the EPA team. Do you have any question, please?

MR DEEBLE: I will just start, just with a question to provide some regulatory context, from Mr Weiss. Given that any controls the DMC may set will be applicable on a national level rather than being specific to somewhere like the Port of Tauranga, what range for something like ship limits would the regional council have to set in a different regulatory context, like RMA or something?

10

MR WEISS: Sorry - you are asking what we would be inclined to set through our mechanisms?

15

MR DEEBLE: I think more simply, would you be able to set something like that through your mechanisms if it was more applicable to Tauranga rather than a national context, which control we, or the DMC, may set for approval?

20

MR WEISS: Yes. We are currently going through a processing of a resource consent by the operator. So as part of that process, we do have the ability to set a number of controls. I suppose when we set those controls, though, it's always very useful for us to be able to reflect some national controls because clearly there's advantages both for the operator in terms of national consistency with how things need to be done, and also in terms of actually justifying what controls are required. As we are all aware, there's been an awful lot of expense and effort go in to get the evidence that's before us so we don't want to necessarily duplicate that. We'd like to really reflect what the EPA comes up with.

25

30

MR DEEBLE: Cool. Thank you. That's all our questions, thanks.

35

MR BAILEY: Just noting, does Aleks, Dr Todoroski, have any questions, on behalf of the EPA?

DR TODOROSKI: I'm not 100 per cent clear if this is a question or perhaps a minor point of clarification, but perhaps Jenny Barclay may be able to comment on this one.

40

The modelling that we did for the EPA was actually based on 10-minute timescale in the CALPUFF model using one-hourly meteorological data. I don't know if that perhaps changes any of the views you have on the modelling we did. Also I pointed out earlier, we actually modelled each hour individually, so we didn't have that carry over from one to the other. It's probably a little too late to be talking about this.

45

The other comments that perhaps Mr Weiss may be able to comment on, I noticed that in Victoria, here in Australia, the Victorian EPA uses a three-minute methyl bromide value. It's a very low number, 0.17 ppm, and it's applicable at residences. I'm not a health expert. I can't comment whether that value is any use but that is the regulatory framework that's used. Here it's used along with a 5 ppm level in the risk zone around the log pile being fumigated.

Not exactly a question, but perhaps Mr Weiss could comment on whether they were aware of that, or maybe that is something that could be considered.

That's about all I have.

[11.45 am]

15 MR WEISS: Thank you. It wasn't something I was aware of but it's exactly the sort of thing that we would support because the more standards that are in place, the better ability there is, both with the operator and the regulator, to know what is appropriate in terms of gas levels because at the moment, we have an eight-hour average on port and we have a one-hour average at the boundary. I think this hearing so far has demonstrated there is a real lack of any sort of limits around a time period less than one hour, so the sort of figure you're talking about, or the interval of three minutes, if we had something like that, it would be quite a powerful mechanism for both protecting public health and ensuring that ventilation of fumigants is carried out in the safest way possible.

CHAIR: Thank you, EPA team. I am assuming that's all your questions?

30 MR BAILEY: Thank you. That's correct.

CHAIR: Okay. Before coming to you, Mr Slyfield, Dr Phillips had another question.

35 DR PHILLIPS: Thank you, Chair. This is another question for Mr Weiss and it leads on from, or is related to, the question the EPA asked around national versus regional controls. You also answered another question I meant to ask, which was where were things at with the reconsenting process, because I understand that that was still going through. So that process is still happening, is that correct, the reconsenting process?

MR WEISS: The process is still underway and it's likely to be a publicly notified process but at this stage, the application has not been notified.

45 DR PHILLIPS: Yes. That's fine.  
So my question was somewhat broader, I guess, than the EPA's one, around this difference between national and regional, because it seems to me that what you've spoken about and what some of the other

5 presenters have spoken about, is this whole of port approach to  
managing this issue. I'm just wondering what you, as the regulator in  
the region, how much of an integrated approach you can take as the  
regulator in ensuring that these pieces of the puzzle, which is the port,  
in terms of the different operators and the different - what's happening  
in terms of emissions, and not just methyl bromide but other things. Is  
this something that you are actively trying to manage at a whole of port  
level, and even beyond, I guess, in terms of your regulatory framework,  
so that something that's set for how Genera may operate, for example,  
10 is cognisant of other things that are happening in the port, and vice  
versa?

I'm not sure what else is going on in the port, but I imagine there's lots  
of other things that are going on in the port, which may be impacted by  
these activities and vice versa. Do you understand the question?

15 MR WEISS:

I do understand the question. I'm not sure I've got a very easy answer.  
Earlier on, I'm not sure if it was yesterday or the day before, there was  
some discussion about all of the different parties involved in this  
activity. You've got Maritime New Zealand, you've got WorkSafe on  
port, you've got the regional council, you've got Toi Te Ora, or the  
DHB, and to some extent, the better those parties are integrated,  
obviously the more effective the whole process will work.

25 **[11.50 am]**

I'd love to be able to tell you that the regional council was taking this  
holistic, integrated approach to all aspects of all of this, but in reality,  
we are constrained by legislation around the areas that we can access,  
30 the areas that we can get involved in. In fact under the current resource  
consent that's still operational, that does actually have a reference to  
that has no Act, so that's given us some ability to get involved more in  
the HSNO space in the on port work rather than just staying outside.  
Obviously there's very much a relationship, a strong relationship,  
35 between what happens on port and the exposure levels to near workers  
as to what happens, the exposure levels, to businesses around the port.  
It's almost an artificial distinction to say your jurisdiction needs to stop  
here, or start here, at this boundary. It would be very useful to be able  
to have more control and more insight into all sorts of different aspects  
40 of this.

DR PHILLIPS:

Presumably there is a port management plan of some sort, or port  
operational management plan of some sort, is there?

45 MR WEISS:

Yes, there is.

DR PHILLIPS:

And whose jurisdiction does that come under?

MR WEISS: I understand the port management plan relates primarily to activities on the port and it's not something that our resource consent has ever really addressed or got involved in.

5 DR PHILLIPS: All right. Okay. Thank you very much. Thanks, Chair.

CHAIR: Thank you. Before I come to Mr Slyfield, I do note that a number of you have indicated that you'd like to ask questions. We'll get to that shortly. So (inaudible), don't be concerned. Mr Slyfield.

10

MR SLYFIELD: No questions for STIMBR, thank you, sir.

CHAIR: Okay, great. Ms Jones.

15 MS JONES: Thank you to our regional council. That was pretty mind-blowing, actually, as a member of the public based in Mount Maunganui to hear all of that.

20

Sam, could you - I just want a clarification for everybody watching - could you bring up the image that you showed, the map of that area? You mentioned that the residential area was to the east of the port. I'd like you to point out the residential area of Whareroa Marae so that the panel can see exactly where people are living and the distance from the port. I don't know if you can bring that image back up.

25

MR WEISS: You are going to challenge my technological ability a bit, but I'll give it a go.

30

MS JONES: So, I think it's really important that the decision-making committee understands exactly what we're confronted with here at the Mount and what Sam mentioned before, he pointed to the residential community slightly to the east, but we do also have a residential community at Whareroa Marae. That's good, Sam's pointing to it now. Sam, could you point to where the ship holds are fumigated and the fumigation takes place at the Port of Tauranga? Could you do that with that pointer?

35

MR WEISS: The ships that are fumigated are typically along this area. This is berth 11, berth 10, berth 9. Ships are commonly fumigated along there and logs are fumigated primarily in the southern area of the port down here.

40

MS JONES: Could you point out the tanker berths for us, please, as well? Do you know where the tanker berth is? I understand that ship holds are sometimes fumigated there as well, which I understand is -- yes.

45

MR WEISS: There's a tanker berth here.

MS JONES: Can you just point out again where Whareroa Marae and where the people that live there live? Thank you.

MR WEISS: So Whareroa are here.

5

MS JONES: Yes, thank you. Could you also point out down the other end where the hockey fields are, where the kids play hockey? It's that blue bit there, yes, and then again to where the fumigated logs is happening. Yes, so I guess my question, I just wanted the clarification for everyone that's watching, just so you get a visual. Is it safe to say there we're the biggest users of methyl bromide at the Port of Tauranga at the moment in New Zealand? Is that --

10

MR WEISS: We're certainly one of the biggest users. Genera would be able to comment further, but yes, we're a very significant user.

15

MS JONES: The prevailing wind goes across that way, correct?

[11.55 am]

20

MR WEISS: It typically blows west, south-west or roughly westerly.

MS JONES: Pretty much what we've just heard from Dr Barclay, monitoring is - just to summarise - pretty much useless in detecting what could be going across the road, the fields etc or where the people are sleeping at Whareroa Marae at night when this happening. Anyway --

25

MR WEISS: I wouldn't say it's useless. I'd say there's room for improvement. In our opinion, there needs to be more of it and perhaps with better devices.

30

MS JONES: Just one further question. Has the regional council looked into the health side? For example, if someone was to turn up with one of the symptoms, such as headache, visual disturbance, vertigo, nausea, vomiting, irritation of the respiratory system, abdominal pain, all of that, if anyone was to turn up to one of the doctors around there, my guess is that it wouldn't be recorded or related back to possible methyl bromide exposure. Do you have any health information on this local community?

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MR WEISS: In terms of health, we're not health experts, so we would always defer to the District Health Board. As you know, there was an incident a year or two ago where there were a number of workers at the port took themselves to hospital, believing they had been exposed to methyl bromide. We carried out quite a detailed investigation into the incident. At the end of it, the conclusion was that there was simply insufficient evidence to take it further, largely because of trying to prove the ill effects of those workers was as a consequence of methyl bromide

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5 exposure was very difficult, because by the time that the incident was advised to us, the time that blood tests were actually taken and then there was a lack of clarity around what was the analysis to be on and it's not something clearly that medical specialists see every day. So the evidence that was gathered was simply not sufficient for us to take it further with any sort of enforcement act.

MS JONES: Thank you, sir. No further questions.

10 CHAIR: My apologies. Thank you for that. Ms Gibson from WorkSafe.

MS GIBSON: Mōrena, Philippa Gibson from WorkSafe here, part of the team that is running a monitoring and modelling project for WorkSafe. Sam and Jenny, I just want a further question about the STEL idea. STEL, to health and safety people, very specifically relates to worker exposure monitoring, where a worker is wearing the monitoring equipment for a period of 15 minutes, so you can look at their exposure as they move around the workplace and get closer to or further away from a contaminant, for example. So when we talk about STEL, in our minds it very much specifically relates to a worker's exposure while carrying out work. I am aware that you are recommending that there is a STEL for worker exposure, but I just want to check, are you also recommending that there is some kind of a short-term TEL for public as well?

25 MR WEISS: I would certainly like to see a STEL for workers. When you say "workers", I imagine, Philippa, that it's not just the workers who are actively involved in the fumigation that we're talking about, is it, it's the workers that are in an office on the port that may be downwind from a fumigation activity.

[12.00 pm]

35 So we'd like to see that, but also I think it would be very useful to have a further short-term limit set for the members of the public because with a gas like this, I think it would be fair to say that potential ill-effects can happen over an interval shorter than one hour, so we shouldn't necessarily be only having a limit of one hour that needs to be complied with, because when you look at the data that Jenny presented about those short-term spikes, the one-hour average or even more so the eight-hour average for workers on the port, that may well be complied with and yet over that period there could be some very significant spikes which potentially might have some associated health concerns. Jenny, I'm not sure if you wanted to add anything.

45 MS BARCLAY: No, I think you've explained it nicely, Sam. I think that's exactly right, it's the sort of combination of short-term peak events and that is all we have - this is why I keep on going back to the one-hour max - at the

moment for public protection, be it, as you say, port workers or people at the boundary. We know that there are peaks higher than 1 ppm at and beyond the boundary, so there does need to be some consideration for short-term measures, yes.

5

MS GIBSON: Great, thank you. That answers my question.

CHAIR: Thank you. Just to check, I am aware of time and that we are well over the time allocated. It's not a criticism, it's just the reality of the situation, so I'll come to that at the end of this period with the Bay of Plenty Regional Council. Going now to Mr Baker, I think it is. Hold up a sec. Yes, Mr Baker, your question.

10

MR DEWDNEY: Thank you, Chairman. Mark Dewdney here from Genera, a question through you to Mr Weiss. We note in your submission that you make a large number of recommendations across a wide range of areas, many beyond the scope of recapture. The question is in preparation of your submission, what steps did you take to confirm the workability of your recommendations?

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20

MR WEISS: Can I just clarify which particular recommendation you might be referring to?

MR DEWDNEY: All of them in relation to monitoring, boundaries, recapture, just generally. There was a suite of them. I am just interested in what steps you took to determine whether the recommendations were workable.

25

MR WEISS: As you said, there was a lot of recommendations made, so can we just take them one at a time perhaps? So can you give me one particular one that I could address to start with?

30

MR DEWDNEY: I'm happy for you to choose any one. I'm really just interested in I suppose the process of working with others and industry to understand the workability of your recommendations.

35

MR WEISS: I think it's fair to say that over the last 15 years, the regional council has gained quite a lot of experience concerning the activity of fumigation at the port. As you know, we are down there a fair bit and we have reasonable insight into the practice through reporting that Genera does to us every month. There's been quite a significant amount of --

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CHAIR: I think you just went mute then at the "quite a significant detail" point.

45

MR WEISS: Sorry, am I back online?

CHAIR: Yes, carry on.

MR WEISS: Sorry, did I drop out there?

CHAIR: Yes, at the point that you were saying "quite a significant level of detail".

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[12.05 pm]

MR WEISS: All right. I'm not sure exactly how far I need to rewind here, I'm sorry, but I was making the point that we get a lot of information provided to us by industry or the fumigator through various reporting that's required under the consent, and also through our onsite visits, we do have a fairly good degree of insight into the practice of what actually occurs. All of those things really informed our view, or our understanding, of what's happening on port.

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If I was to take one example, perhaps the slides that I indicated, or I presented, certainly showed that over time the boundary monitoring may not have been quite everything that it should be, so perhaps that's an example of our suggestion that we move to more recent or more effective monitors that uniquely measure methyl bromide. That's just one example of how our experience and information that we've had has informed our submission.

20

MR DEWDNEY: Perhaps I could just simplify the question. For the specific recommendations you've made in your submission, did you consult on their workability with the people that you expect to implement them?

25

MR WEISS: You're saying did we run our submission past Genera before submitting it, essentially?

30

MR DEWDNEY: Or consult directly with anybody who you were expecting to implement any of your recommendations?

MR WEISS: No, we did not consult on our submission, no.

35

MR DEWDNEY: Thank you, no more questions from me, Chair.

CHAIR: Thank you. Ms Barry-Piceno.

MS BARRY-PICENO: Yes, thank you. This is for Mr Weiss. Thank you, Mr Weiss for your submission and evidence. I have a question of clarification in terms of the port's role around the monitoring obligations and what it's undertaken. In your view, would it be fair to sort of clarify that the Port of Tauranga has become a lot more active in this space since 2016 when there was the application by Envirofume for another methyl bromide operator to operate at the port and there was a subsequent Environment Court appeal? Would that be fair to say that that's sort of what happened?

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45

MR WEISS: Are you referring specifically to the port or to their agents as well?

MS BARRY-PICENO: To the port and to their agents.

5

MR WEISS: Yes, I can't say that I really noticed -- I can't recall any big change that happened around that period. If you were to ask me in terms of any specific things I might be able to think again, but nothing comes to mind at the moment.

10

MS BARRY-PICENO: What just comes to mind to me was firstly that was when the regional council put in place, at a ratepayers' cost, some monitoring devices around air monitoring on the port boundary that was supposed to address seeing if methyl bromide was travelling to particular set places, granted, but that was done following that situation, wasn't it?

15

MR WEISS: That has been done subsequently, yes, but that was expenditure by the regional council of several million dollars installing a number of fixed monitors that not only measured methyl bromide but measured a range of other air-quality parameters such as particulate matter and so on.

20

MS BARRY-PICENO: Okay. Just so that I'm clear with some of the recommendations that you've made, as you say that was a cost that was put on to ratepayers, effectively, or the regional council. But if there were standards put in place by the EPA, the other document that was referred to Dr Phillips is the Port of Tauranga put in place in 2018 a fumigation policy document that it developed. That has a range of measures which include, for fumigation procedures, obligations for adherence of all port users to EPA conditions.

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**[12.10 pm]**

Would you see that those triggers would actually allow the regional council to require some of these costs of monitoring to be passed on, for example, to port users, to agents and operators in that space?

35

MR WEISS: It's something that we would certainly explore, because I know there has been quite a lot of feedback that the costs associated with monitoring and ensuring that the community is kept safe should be borne by the industry, or the fumigators, rather than by the community itself.

40

MS BARRY-PICENO: My final question - and you may not have it in front of you - in terms of that fumigation procedure policy at the Port of Tauranga issued in March 2018, some of the requirements for the operators require, for example, distancing between log stacks, height of log stacks, how ship holders might fumigate in terms of timing with adjacent ships. I wondered whether in that regard, was the regional council involved

45

with that and would you see with some of your suggestions that that would be built into that fumigation procedure to pass on through the Port of Tauranga to oversee?

5 MR WEISS: I'm not aware if we fed directly into that process or not. It's possible one of my colleagues did. I'm not the only person at council involved in this area but I'm not aware that we did. Yes, it's difficult for me to comment on that, I'm sorry.

10 MS BARRY-PICENO: Would you see that if there were EPA controls that they would be then be built into a fumigation procedure with the Port of Tauranga in terms of the policy document it has?

15 MR WEISS: I'd say that would be highly likely because EPA controls would obviously become mandatory and so I certainly imagine that would then happen.

MS BARRY-PICENO: Thank you. That's it for me.

20 CHAIR: Any other questions? Okay, great. Thank you so much for your time. I just want to check in with everybody. Lunch is scheduled for 12.20 pm. We are now running nearly two and a half hours behind what the agenda says we would be and I'm conscious that people are constrained. We've already had one request for an amendment in time  
25 and so on.

In the interests of fairness, I don't think it's fair to ask anybody to start their submission in the five minutes leading up to lunch or carrying on into the lunch break, so my suggestion is that we do break now for lunch and if you would like to contact Ms Marree Quinn if you have time constraints. Otherwise I'm just going to keep going through one  
30 after the other on what is the hearing schedule, with my apologies.

In terms of considering when you'd like to submit, I do note that we have a scheduled 3.05 pm finish time this afternoon. We are able to extend that. The DMC discussed it yesterday. We can go later. Tomorrow we have a relatively early finish, around lunchtime, and I need to check with my colleagues to make sure that we could extend that. On Monday as well there's another period. We want to make sure  
35 that everyone has the opportunity to have their say and also to answer any queries and questions. Clear, or relatively clear? Hopefully I have been clear. Long story short, over the lunchbreak please contact Ms Quinn if you can't just work in order.

45 Mr Bendall, we have seen your request. If I get nothing to the contrary, we'll deal with your submission at 1.05 pm, seeing as you've indicate you do need to go. That will be the first one back from lunch. I know that's out of sequence but you have made a request for timing already.

5 If you could contact Ms Quinn over lunch. Kei te pai? All good? Given there will be a little bit of mucking around before we can go and grab a bite, let's keep with the same start time gain at 1.05 pm. We'll start with Mr Bendall and then we'll go back to the list.

Ngāi Tahu and others, my apologies to you for holding you up. Ka pai? Kia ora, we'll see you at 1.05 pm.

10 **ADJOURNED** [12.15 pm]

**RESUMED** [1.05 pm]

15 CHAIR: Kia ora tātou, can you hear me okay? For those who have just joined us, I do want to apologise on behalf of the process, if you like, that we are running considerably behind the hearing schedule. We have all the submitters to hear from Ngāi Tahu through to just before the lunch break. Just before the lunch break, we asked if there was anybody with constraints, otherwise we'd maintain order, and the people with  
20 constraints are Mr Bendall and, as far as I know, Ms Smith. I'm pretty sure, Ms Smith, that before you come back we -- well, she's not a problem, not even on the call, because she's away right at the moment, so she'll be on in due course.

25 So, that being the case, my apologies for the delays that we have. There will be other opportunities later on in the day and on other hearing days if time becomes an issue. We do want to make sure that we hear from people that have indicated that they do want to be heard. On that note, Mr Bendall, the floor is yours.

30 SUBMISSION 127577 - TENCO LIMITED

MARK BENDALL PRESENTING

35 MR BENDALL: Thank you, Mr Chairman and the DMC, for giving me the opportunity to at least present a submission on this hearing. Tenco is a business in the log and export lumber trade. It is in support of the submission made by STIMBR regarding continued use of methyl bromide allied with  
40 recapture provisions and deferring the use of -- or allowing the continued use of methyl bromide in ships' holds for the next decade.

45 From our side, it's been an interesting decade since the original ruling was made. While I'm sure there's been a lot of science and other matters discussed in the hearing earlier on, I would suggest that where we've reached has been real positive in the sense that we have some technology now available that allows us to recapture methyl bromide. We certainly know that it can't be done commercially or even practically from ships' holds. We still don't have an alternative

fumigant and, from what I can work out, we apparently have had no health and safety issues with regards fatalities or any longitudinal studies indicating that methyl bromide is a problem.

5 My focus is purely on the commercial impacts or aspects around the use of methyl bromide. We see some risks on the horizon should we not be able to use it and as of yet we still don't have an alternative. While we've been granted - thank you very much - a further six months, we see some major issues coming around it. We need to use methyl  
10 methyl bromide as a biosecurity tool to grant us market access. The Chinese require it, the Indians require it, and most of southeast Asia requires it, both in logs and lumber. We have a range of concerns over both the short and the medium term.

15 The medium term, quite simply, is without access to methyl bromide we will reduce or remove ourselves from a number of market segments that we can supply. There's roughly 1.25 billion people in India and in southeast Asia. All those countries, with the exception of Vietnam and Thailand, require methyl bromide as a fumigation treatment for logs  
20 and lumber. The lumber can be handled in containers and we're well aware that the recapture technology works to a level that effectively achieves 100 per cent. However, brake-lock shipping requires onshore fumigation and/or fumigation in the ship's hold. We see in the medium term those markets to grow significantly with regard to China and they  
25 are moving further and further up the development curve and will over the next decade to 15 years provide an alternative market to the current ones in China. So, we've got an issue there where without a fumigant we can use that we will not be able to access these.

30 **[1.10 pm]**

To be blunt, from a New Zealand Inc point of view, that space will be filled by some other forest exporting country around the world. The  
35 Uruguayans are already into India. They moved from using no methyl bromide four years ago to using methyl bromide within the last year or so. They changed the rules and our view is that we don't want to really shoot ourselves in the foot and become a position where we do one thing and everyone else carries on without us. We appreciate that there are some issues around our obligations under the Montreal Protocol but  
40 don't see these as a problem that we need to overcome internally.

I think in the short term if we break it down, if we load a log ship to -- we'll use China. At the moment, we carry out a phosphine  
45 fumigation in transit and the deck cargo of the ship is generally done with methyl bromide; well, is done always with methyl bromide. If we are unable to use methyl bromide we can still ship logs to China but we can't load the ship to its full capacity, which effectively increases the costs of that operation.

5 That will have an impact on businesses in New Zealand. From our own  
perspective, we would expect without access to methyl bromide for  
onshore fumigation that we could reduce our business turnover by  
about 20 per cent. While that is for us as a business survivable, it's the  
downstream effects on the web of service providers that actually feed  
10 into the log export trade where the greatest impact would be felt.  
Reduced returns at the wharf gate or for what we can afford to pay for  
these logs basically sees reduced prices paid to forest owners, reduced  
activity levels and a number of other businesses basically fold simply  
because they can't operate anymore. If we look at the COVID outbreak  
earlier this year in China and the amount of hurt that's felt at the East  
Cape amongst the logging industry, that is a fair reflection of  
15 potentially what would happen if we're not able to use methyl bromide  
going forward.

At the moment, STIMBR has an alternative fumigant in front of the  
EPA but again that's going through the process, so again time is starting  
20 to become a bit more of a pressing issue.

So, yes, we see certainly some significant commercial impacts looming  
up now. There's always unintended consequences of these things and  
it's very difficult to make an accurate prediction of just how bad those  
will be. The entire argument around methyl bromide is relatively  
25 emotive and there's a lot of science that's been done, but we're still  
waiting to see what the outcomes are. So, our view is that we would  
like to be able to basically run with the STIMBR proposal. We feel  
confident that these service providers can achieve the target. We think  
India, given its potential, we really do need to have an opportunity to  
30 continue and to develop that market. We participate in trials along with  
other companies and full recapture from the holds of ships is just about  
impossible to do.

I'm obviously going to keep this pretty short; I'm on a bit of a time  
35 mission. So, we've set out that our company, we see some major risks,  
we see some market access risks, we see some commercial risks shared  
out across the industry, and these will be quite significant if we're not  
allowed to use this fumigant going forward. Thank you.

#### 40 QUESTIONS

CHAIR: Thanks for that. Dr Belton?

45 DR BELTON: All right. Thanks, Chair, and thanks, Mr Bendall, for that presentation.  
No questions from me.

[1.15 pm]

DR PHILLIPS: Likewise, thanks for the presentation. No questions from me.

CHAIR: You have your three strikes there; no questions from me, too. Thank you very much. Moving on to others, EPA team?

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MR BAILEY: We have no questions either.

CHAIR: Mr Slyfield?

10 MR SLYFIELD: None from me, thank you, sir.

CHAIR: Let's see if we can get you away unscathed. Anybody else? Ms Smith?

15

MS SMITH: Sorry, you almost got away with it. I just wanted to ask about you referred to India as I think a market you wanted to expand and you referred to a couple of other countries in your submission - what were they, Malaysia and somewhere else - which I think you suggest would want to have methyl bromide on the logs. So are you suggesting that if you could export more you would?

20

MR BENDALL: I think India is a market we're keen to -- we've moved in and out of India as time and circumstances permit. It's part of a suite of countries that we can service. At the moment we're not active in India but that's not for fumigation reasons. That's purely commercial. As a business, we see southeast Asia as a significant potential market for the New Zealand logs, particularly high-quality ones, over the next 15 years. Having said that, we have orders currently on hand from Malaysians that want to buy New Zealand radiata pine. They want them debarked, they want them fumigated, and they specify methyl bromide. While that doesn't exist in the MPI standards, when you receive the import permit from that country they require fumigation treatment, even though they've been debarked. Vietnam doesn't require fumigation; Thailand doesn't; Indonesia 50:50 on the day. There's obviously with some of these countries quite a bit of variation about what is the official standard and what is the required standard, but our calculations are quite simply this: they have got the right population profile in terms of young populations, they have larger exhausted their forest estates, they will need to urbanise and over time you will see migration of industry out of China into those area. It is just simply if you follow the trend. We have seen Japan, we have seen Korea, China's the big game in town in terms of developments and demand for wood products. It will continue to be a significant player but as other countries with the same population demographics reduce forest they will move to into occupy that space.

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MS SMITH: Are these logs that would otherwise be going to another country that does not require methyl bromide or are these additional logs? I am

trying to work out whether -- logs do grow on trees, where are they coming from? So are they being diverted?

5 MR BENDALL: It is likely to be a -- in terms of the context of New Zealand forest cut it would be a diversion or another market reached development up. We cut 30 million cubic metres a year, domestic, export, it moves around at any one price but by and large it would require biosecurity requirements to be met by New Zealand companies.

10 MS SMITH: If you could sell it to somebody you have already got a market relationship with and you getting money and that is all good, why would you choose to go to another market that wants methyl bromide? Do they pay more?

15 MR BENDALL: Commercially, yes, it is also spreading the risk. At the moment the Chinese also demand methyl bromide fumigation for cargo, as do the Indians. It is about provide the best return to our suppliers and it is also about having a spread of market risk. All eggs in one basket is always dangerous.

20 MS SMITH: Who do you sell to that doesn't require methyl bromide at the moment?

**[1.20 pm]**

25 MR BENDALL: Vietnam or Thailand.

MS SMITH: And China?

30 MR BENDALL: China for under deck.

MS SMITH: Thank you, that's all my questions.

CHAIR: Thank you, anybody else? Okay, great, thank you, Mr Bendall.

35 MR BENDALL: Thank you.

CHAIR: We will move on to Ms Dijkstra and the team from Ngāi Tahu. Kia ora.

40 SUBMISSION 127544 - NGĀI TAHU

STEPHANIE DIJKSTRA PRESENTING

45 MS DIJKSTRA: Tēnā koutou katoa. I will just start sharing my screen. Tēnā koutou katoa (Māori content - will be inserted when transcript finalised). Kia ora kotou, my name is Stephanie Dijkstra and I'm a member of the Ngāi Tahu HSNO Kōmiti and Ngāi Tahu whānui. I am here to present a

submission to the DMC and I would also like to note that this submission was prepared by Gerry Te Kapa Coates who has since retired from our Kōmiti and I would just like to acknowledge the work that he has done on the submission.

5

With me today in support of our submission is our chair Edward Ellison, Karen Coutts and Dr Benita Wakefield.

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The Ngāi Tahu takiwā occupies 70 per cent of *Te Waipounamu* and 40 per cent of Aotearoa. We have over 65,000 registered members and 18 papatipu rūnanga. Our takiwā contains eight national parks, 19 marine reserves and we are kaitiaki over our takiwā.

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Our whenua is a very diverse landscape and it contains a multitude of ecosystems as well as treasures. As you can see from the images there our whenua contains both farmland, areas of significant natural beauty, such as the Moeraki boulders, fragile braided river, landscapes and high country as well as residential areas. Each of these areas have their own challenges and protection requirements.

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With respect to the methyl bromide reassessment that is before us today, Ngāi Tahu forestry has over 27,480 acres of forestry land and therefore is a significant stakeholder in the forestry sector and log exports for the 2017 financial year equated to 12.7 million. Log exports through ports in our takiwā, so that is from Lyttleton south, account for 14 per cent of New Zealand's total log exports.

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While we acknowledge that little to no fumigation with methyl bromide occurs within the Ngāi Tahu takiwā the ozone depleting effects of this chemical are not limited to its areas of use and climate change is of particular concern to Ngāi Tahu, with many of our marae located along coastlines and we are therefore concerned that increases in sea level due to climate change will affect these. Additionally, that increases in temperature and changes in weather patterns from climate change can impact our taonga species. Ngāi Tahu is therefore committed and supported to any action to prevent and reduce that impacts of climate change.

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With respect to our submission on the initial application by STIMBR, we were generally supportive of the application. We support the suggested recapture rate of 80 per cent with an expectation that this would be lifted to 100 per cent as technology allows.

**[1:25 pm]**

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We acknowledge the limitations of the technology available at the time and given the technical issues around recapture in ship holds we support an extension in the deadline for this purpose only. However, we would like the extension to be restricted to five years and the

industry to be required to undergo annual reporting on how they are progressing to meet this objective for ship hold recapture.

5 However, given the limited notification of the applicant's change to now seek a requirement for 30 per cent recapture we are unable to comment on our position on the updates to this application. The Ngāi Tahu HSNO Komiti speaks on behalf of Ngāi Tahu iwi and when applications are of significant interest to the tribe we need to ensure that effective consultation occurs with our paptitipu runanga and therefore that the views presented by the Komiti reflect those of Ngāi Tahu whānui.

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15 Given the timeframe of this notification we were unable to do so. I would also like to remind the EPA and the DMC that under section 63(a), paragraph 5, of the Act the EPA is required to give reasonable opportunity for those affected by the reassessment to make submissions and comments to the authority. Given the fundamental change on recapture rate from 80 per cent to 30 per cent sought by STIMBR we feel that this requirement has not been met. We are therefore asking that the Decision-making Committee either sets the recapture requirement to the aforementioned 80 per cent or reconvenes the hearing at a future date, which will allow for effective consultation.

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25 I would like to finish my presentation today with a Ngāi Tahu whakataukī. (Māori content - will be inserted when transcript finalised) which translates to for us and for those after us. This reminds us that our actions affect not only us but those who will come after us and therefore asks us to ensure that we do not seek short-term gains to the detriment of our children's future. (Māori content - will be inserted when transcript finalised), tēnā koutou, tēnā koutou, tēnā koutou katoa

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CHAIR: Kia ora. (Māori content - will be inserted when transcript finalised).

35 MS DIJKSTRA: Yes.

CHAIR: Ka pai. (Māori content - will be inserted when transcript finalised). I thank you for your submission. I will now ask, Dr Phillips, if you have any questions?

40 QUESTIONS

DR PHILLIPS: You made a comment, just picking up on the very last point about requesting the DMC considers the original application the 80 per cent or reconvenes the hearing to allow for an effective amount of time of consultation. We could allow for the consultation without necessarily reconvening the hearing, we could adjourn the hearing. Do you have any ideas about how long consultation would be required for you to do a decent job.

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- 5 MS DIJKSTRA: Given the complexities around this issue and the information that has been presented, I feel that two to four weeks would be enough time to effectively consult with Ngāi Tahu forestry and Te Rūnanaga o Ngāi Tahu on this issue.
- DR PHILLIPS: Would you anticipate needing any further information to inform your consultation process, say, for example --
- 10 MS DIJKSTRA: No.
- DR PHILLIPS: Okay, all right, thank you, that's all I had, Chair. Thank you very much.
- CHAIR: Dr Belton.
- 15 DR BELTON: Thank you, Chair, and thank you, Ms Dijkstra, for the presentation. I have no further questions, thanks.
- CHAIR: Kia ora. My only question was in relation to the time, which has already been asked, so thank you for that. EPA staff?
- 20 MR DEEBLE: We have no questions, thank you.
- CHAIR: Kia ora. Mr Slyfield?
- 25 MR SLYFIELD: No questions for STIMBR, thank you, Mr Chair.
- CHAIR: Kia ora. Ms Jones.
- 30 **[1.30 pm]**
- MS JONES: Hi, just a quick one. Hi Stephanie. I'm wondering if you saw the regional council's presentation before with the map in Mt Maunganui and they showed you where the Whareroa Marae is situated. I just wondered how you felt knowing that the ship holds that you've asked for five years are so close to residents of the Mount community, in particular the residents of Whareroa Marae.
- 35 MS DIJKSTRA: Kia ora, Emma. Obviously if that was something that was happening within our takiwā we would have significant concern with it, but seeing as the fumigations are occurring not inside our rohe, it's not our place to comment on matters that occur within another iwi's rohe.
- 40 MS JONES: Thank you. No further questions.
- 45 CHAIR: Kia ora. Any other further questions?

- MR NGATUERE: Kia ora. This is Joel Ngatuere from Whareroa Marae. Stephanie, how would you feel if this was affecting your marae? How would you feel if this was affecting your kaumātua and your tamariki in your kōhanga reo?
- 5 MS DIJKSTRA: In that instance, we would definitely be asking for stricter controls and we would be asking for buffer zones, yes.
- 10 MR NGATUERE: Kia ora. This is Joel again from Whareroa Marae. What would your more restrictive controls and buffer zone look like?
- 15 MS DIJKSTRA: Sorry, I'm just thinking in response. We would ask that these activities not be undertaken within that area of our takiwā or we would ask that recapture be mandatory for ship hold venting to ensure that the levels of exposure are to the 1 part per million.
- 20 MR NGATUERE: Kia ora. Joel Ngatuere again. In terms of the known effects that methyl bromide is having on the ozone layer, ie Ranginui and Tāwhirimātea, what is the stance of Ngāi Tahu and the iwi that you represent, your iwi, your hapū, your marae, your whānau and how methyl bromide diminishes your connection to your atua?
- 25 MS DIJKSTRA: Our stance with respect to usage of methyl bromide in general is that we wish to see it be discontinued over time within New Zealand. General support of this application was more an encouragement of steps in the right direction, moving towards an eventual phasing out of methyl bromide utilisation. Yes, I hope that answers your question.
- 30 MR NGATUERE: Not really, but that's okay. Last question: have you experienced methyl bromide impacting your marae, your hapū and your whānau?
- 35 MS DIJKSTRA: Kāo. I whakapapa to Ōraka Aparima down south and we don't have a port, so I'm not able to comment on that, sorry.
- 40 MR NGATUERE: So I just want to confirm, you're saying that you don't have any experience of having your whānau, your marae being impacted by methyl bromide? Is that correct?
- MS DIJKSTRA: That is correct. It is not an experience that I would presume to have knowledge about.
- MR NGATUERE: Would you appreciate that on your whānau?
- 45 MS DIJKSTRA: Absolutely not.
- CHAIR: If I could just interrupt there --
- MR NGATUERE: Yes, no further questions.

CHAIR: Okay, kia ora. We note that you're on the agenda, albeit later than anticipated, so we look forward to hearing from the mana whenua experience of this. Thank you. Kia ora mai(?) koutou.

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MS DIJKSTRA: Kia ora.

CHAIR: Ms Jones, over to you for your submission.

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**[1.35 pm]**

SUBMISSION 127546

EMMA JONES PRESENTING

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MS JONES: Hi, just give me a second. Good afternoon. This is all a little daunting for a member of the public to speak in front of so many experts and industry professionals. I will do my best. I just really wanted to point out I'm not a lawyer, I'm not a scientist, I'm not an industry lobbyist. Sadly for me, I haven't been paid a lot of money to produce analytic stats to support my own narrative here. I just come to you as a member of the public. It's very real for us here in Mt Maunganui, because unlike the last speaker, we live it, we see it and we are worried about it every day. It's so close to us, so that is why we are pretty passionate. We are worried about the health of our workers at the port, we are worried about our children and our athletes and of course other residents.

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I just want to give you the perspective today from my layman's journey here, representing Clear the Air Mt Maunganui. Really when I started this community group -- I don't know if some of you don't know, but Mt Maunganui has some of the most polluted air in the country. We're a designated polluted air shed, so air pollution is something we've been concerned about. I kind of stumbled across methyl bromide, like it was not a pleasant thing. I was concentrating on dust and odour, so it was pretty shocking to learn about this issue and how people have been fighting it for so long.

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Just to regroup for a second, it's obviously not my job to be looking at this kind of thing. We fortunately have institutions such as the EPA, which I quote, "is here to protect the environment and the people who live and work in it for a better way of life" so I was relieved - or my 2018 self was relieved - to find out that a hard stop had been put in place and it was something that I could take off my worry list, but I guess that's not to be. It's pretty concerning and it's really confusing for a layperson that STIMBR have applied for a review of this decision because the significant change is that they have increased the use by 50 per cent. I just feel that's really counterintuitive, so they're using so much more of this ozone-depleting neurotoxin that we should be trying

to use less of, especially as signatories of the Montreal Protocol. And we had to have this whole hearing, which is probably taxpayer-funded.

5 Just since that decision you made back in 2010, Genera have released  
over - adding up over the years - probably about 400 tonnes of this  
ozone-depleting neurotoxin at the Port of Tauranga, where the  
fumigation boundary, as you see on this picture, is 300 m away from  
our sportsgrounds where our children are deep breathing, running  
10 around and they have under-developed immune systems, so it is really  
concerning. I don't know if any research has been done on the effects  
on children.

15 But once again, drawing to previous speakers about the big gaps in  
monitoring as well. It's really highly concerning to us here in the  
Mount. I really feel that that is something. Our regional council said  
they can't afford \$800 a day for this special monitoring. We're dealing  
with a multi-billion dollar industry here. It just feels like things are a  
20 little unbalanced. Anyway, the applicant says there's no feasible  
options.

[1.40 pm]

25 It just feels that once again that seems a bit of a blatant and wilful  
misrepresentation when we know that to be false. With minimal  
research, I found out that both recapture and debarking methods are not  
only available, but widely used. I found that out by a few phone calls,  
so why would they say that? Is it to protect their own interests or could  
it be there's a massive conflict of interest going on here? Once again,  
30 I'm not an expert, but I think Genera imports methyl bromide and  
supplies industry, so pretty much it has a monopoly on it, so what  
incentive do they really have to reduce the use, despite what they might  
say?

35 I just think in your decision-making that this needs to be considered.  
Intentions matter. I just want to say, just to get it off my chest, I know  
that a few of you listening might feign innocence, but when I started  
looking into this I came across STIMBR and I thought, "Oh good,  
stakeholders in methyl bromide reduction" and I thought, "Oh great,  
40 it's a group that has our backs" but in fact finding out that they're a  
forestry lobby group or funded by a forestry lobby group pretty much  
to keep this logging business going at all costs, I feel that that's so  
disingenuous to use that corporate trick, that tactic to use a name that  
really, to give people like myself who are just looking into it, a sense  
45 that they are fighting on our side when in fact they are just fighting to  
keep their forestry clients happy. So once again it's a pretty underhand  
trick to play and I think it really does set the scene here and show you  
that despite -- I've had some very polite conversations, it's not a

personal attack, it's just to show you their intentions actually do matter here.

5

Ten years ago when this decision was made, I think some of you here were involved in that, but some companies in good faith invested in other technology such as debarking or using recapture technology, and in good faith, knowing that the Government wouldn't change their mind and so they should have a competitive advantage. Now, if you stick to your guns, and once again what message are you sending to the market by not doing that?

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This is such a hot issue, once again bringing it back to Mt Maunganui, and a lay person. I don't think you need an advanced science degree to figure out that if you are releasing a whole lot of neurotoxin ozone depleting substance under tarps, once you take the tarps away and the wind blows downwind, that it's going -- it would be better if it wasn't done next to sports fields and where people are sleeping. Especially when it could be done at another site and we have evidence of that as possible it could be recaptured or debarked.

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I think from that picture you can see the distances. I don't need to go into that again. Our Regional Council pointed that out as well. But I think public sentiment is something that needs to be added to this conversation. We had a protest lined up this afternoon and it was going to be huge. We've had to -- unfortunately COVID has stepped in and we now know that we can't have that so we've had to postpone it, but people are angry, people don't want this happening right in our community. We're being forced out on to the streets to show you that this is real and very real to us.

30

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Ten years ago you said something, you have to stick to it. People won't put up with it. We have a petition that wasn't even started by any of our groups that has just flown around and over 5,000 people have already signed it about this. So don't sit there and think, "Oh, there's only a few submitters that were against it so the public don't really mind". That's just so not true and it really doesn't give you the full feeling of how the public feels to have this right here where we live.

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[1.45 pm]

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Another confusing thing is just how this all works. India makes methyl bromide and then insists that we use shed loads of it on our logs that we export back to them but they need the logs and we're one of the only suppliers that will use methyl bromide. It just seems really conflicting with what I would think New Zealand business values should be. The argument that our logging industry will fall apart and thousands of jobs will be lost is just plain catastrophising, to say the least. If India won't

take our logs without MB then let it be so. Let the markets work. I'm sure they will do their thing.

5 The EPA, you're not the Economic Protection Agency, you're judicious people in the planet. We are such a small voice against these massive industry big boys so they've got pretty hungry shareholders out there. They don't really have any obligation to us, the people, they have obligations to their boards and their shareholders. So just there we are. Sorry.

10 Just talking about ... sorry, I feel quite passionate about this so I just wanted to get my thoughts clear just to finish off, because I know time is important.

15 CHAIR: Just take a breath, Ms Jones. Take a breath, there's no rush.

MS JONES: Thank you. I've also got a dog about to start barking so I'll try to ignore that.

20 In your deliberations, I'd just like you to consider that we, the public, do rely on you. We rely on our institutions to keep us safe and industry honest. You're our voice. You must protect us. We will hold you accountable.

25 Just to talk very briefly on economic terms that the negative externalities created by the use of this product are borne by us and they're not priced into the trade. The climate is changing, it's undeniable, and continuing to release staggering amounts of this ozone depleting chemical into the air is just plain wrong. I understand it's not  
30 a greenhouse gas but I kind of think our ozone layer is important. I can reference skin cancer rates in New Zealand.

35 But this industry has made billions of dollars, the forestry industry, over the last decade at the expense of our health and health of our environment. They talk about monitoring not being commercially viable but in fact if you grant them this extension you're actually in fact subsidising this business and you're rewarding bad, lazy and arrogant corporate behaviour. Are they too big to fail? They won't fail, the people won't lose their jobs. Don't buy into that emotional blackmail.  
40 You know what will happen if you stick to your decision? Do you know how fast they'll come up with a solution? It'll be overnight and I'm asking you that on behalf of the thousands of residents that live here and around the country next to ports that you give them the opportunity to do this. Let's see how effective our industry can be and our  
45 politicians, when given the chance. Any business that relies on such heavily environmentally detrimental practices today in 2020, they need to adapt or they need to die. Not us. Thank you.

CHAIR: Kia ora, thank you for that. The professional manner in which you asked questions earlier today, I neglected to spend a few moments setting you at ease before your submissions, so my apologies there. Before I pass on to my colleagues for questions, I just want to let you know that our role isn't to take a vote and to see who votes mostly for or against and then that's our decision. Size doesn't matter. Every submission is taken on its merit in and of itself regardless of what everybody else says around that submission. So rest assured there that ahakoa he iti, ahakoa he nui, no matter your size we'll continue the points raised. So thank you for your submission. I'll now pass on because I'm starting to get into submitting myself, so I better keep quiet now. I'll pass on to Dr Belton.

### QUESTIONS

DR BELTON: Thank you for that submission, Ms Jones. We certainly heard your concerns and they were at quite a high level.

[1.50 pm]

I guess from my perspective my question would be if you can clarify any particular aspects of this process that we're going through now that is not satisfactory to address all the views of the submitters on this issue.

MS JONES: To be honest, I don't think we should be even having this process. I'm just a member of the public, I don't really get why they even got granted this. Like they're using so much more of this stuff so you're going to give them another ten years; I'm sorry I don't really understand. Why are we here?

DR BELTON: That's a long question to answer and not one for me to. But, okay, I'm hearing from that there are no specific concerns on the process that we're following.

MS JONES: That sufficient recapture methods, I don't know, sorry. My husband's telling me stuff but he can speak later.

DR BELTON: Okay, thank you.

CHAIR: Dr Phillips.

DR PHILLIPS: Thank you very much for your submission and I just want to reiterate what Tipene said, and I was going to say it, he beat me to it. But every submission counts. We don't do numbers here. It's every submission counts.

I was interested in your comment about what you saw as STIMBR's role compared to what it has ended up being perhaps. I was interested to know back in 2010 or so, when it first started, what were your expectations of that organisation?

5

MS JONES: I came into this a couple of years ago. Sorry, I wasn't involved back then. I was trying to get my head around it.

DR PHILLIPS: That's okay, even -- sorry.

10

MS JONES: No, I'm just saying it seems like as a member of the public you're saying this -- it seems like they're funded by forestry; is that correct?

DR PHILLIPS: Yes.

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MS JONES: So they're pretty much lobbying for forestry.

DR PHILLIPS: But don't you think that's a reasonable thing to do given that their role is to try and --

20

MS JONES: Yes.

DR PHILLIPS: Because the fact is that methyl bromide is used by forestry so they've been set up to look at how can we basically get rid of methyl bromide for the forestry industry. If they can't be supported by -- if the forestry can't fund them who would you think would fund them?

25

MS JONES: That's not my job. My comment was about their misleading name and I think it was made to mislead public to think that there were real intentions there, and I don't think that they have shown real intention because we're in 2020 and we have -- yesterday there was someone saying that they did their first trial last year, and that's 2019. So that to me is -- it just doesn't feel like they've shown their intention to reduce the use of it.

35

DR PHILLIPS: Okay. No, that's okay. That's why I -- that's good to know. No, I think that's probably all. Thank you very much for your submission. Much appreciated.

40

CHAIR: Thank you. No questions from me. I think we've asked enough from the Committee at this stage. Thank you, but we're not done yet. Let's pass on to the EPA team and see if they have any.

MR DEEBLE: No questions from us, thank you.

45

CHAIR: Mr Slyfield.

MR SLYFIELD: None from STIMBR, thank you, sir.

CHAIR: Any other submitters have any questions?

5 MR NGATUERE: Yes, I've got one. Joel Ngatuere from Whareroa Marae. Kia ora, Emma. Can you just give everybody an estimate on how many people - ie how many children - use Blake Park facility where the rugby courts, hockey fields and netball courts are located, which is in the plume of the methyl bromide use?

10 MS JONES: Well, it's definitely in the thousands on a weekly basis. Even like the week of AIMS we have 10,000 kids in town, so on a weekly basis it would be - I would just be guesstimating - in the thousands. We have all of those sports fields within a few hundred metres of the fumigation area. Every day they have training there as well. Our high-  
15 performance athletes train there as well, not just schoolkids but we're obviously worried because they're deep breathing and exercising.

[1.55 pm]

20 MR NGATUERE: Thank you.

CHAIR: Kia ora. Ms Jones, thank you very much for your time, we really appreciate it. I hope you're going to stay around because of course there is no obligation to do so. We are hearing from the home people  
25 as well, who we've just heard from. Ngāi te Rangi, kei te mihi ahau ki a koutou.

(Māori content -will be inserted when transcript finalised)

30 Nō reira, kei a kōrua te wā.

SUBMISSION 127550

JOSHUA GEAR PRESENTING

35 MR GEAR: Ka nui te mihi ki a koe, te tiamana. Ko wai mātou? Ko Joshua Gear ahau. Ko ahau te rōia i noho ana ki te Rūnanga of Ngāi te Rangi. Kei tēnei taha ko Joel Ngatuere, the rangatira mō Whareroa.

40 (Māori content -will be inserted when transcript finalised)

Nō reira, i ngā kaiwhakawā o te rā nei, tēnā koutou katoa.

45 Just to introduce myself, my name is Joshua Gear. I'm legal counsel at Ngāi te Rangi Rūnanga. I'm here in support of our hapū. I'd just like to acknowledge Pia Bennett, who's prepared the submission on behalf of the Te Rūnanga o Ngāi te Rangi and the work that she's done.

5 Basically I just want to explain who we are as an iwi. Our rohe begins in the north at Waihi Beach. If you follow the ridgelines of the Kaimai Ranges all the way back down to Otanewainuku, you head back out towards the sea at Te Tumu, which is just in between Papamoa and Maketu. That's the geographic area of Ngāi te Rangi iwi. We have, at the last census, around about 12,500 iwi members. The rūnanga represents 11 hapū communities.

10 In terms of the Port of Tauranga, Whareroa is our marae that is most affected. The hapū at Whareroa are Ngāti Kuku and Ngāti Tukairangi. We also have hapū in the Mount area, Ngāti Tauaiti. They're based at Matakana. And Ngāi Tamawhariua who are also based at Matakana and Katikati. That's the tribal profile that we have, the hapū that are affected by these toxic chemicals that are at the Port of Tauranga and that are affecting our taiao.

15 In terms of Whareroa, I'll leave it for Joel to discuss that because he'll get into the effects on their community in great detail, so I'll leave that for him to discuss that. In terms of the Ngāi te Rangi submission, we express some clear points in those submissions. The first that I'd like to highlight is the end of methyl bromide, the end of its use in New Zealand. We're quite clear that it had ozone-depleting characteristics. That was one of the concerns that we had. We also had concerns about the direct effects on human health.

20 All of the technical reports and evidence that have been put before the panel in support of our submission, we adopt that. We also note that there have been changes since the original application was filed, recent changes, changes in terms of the different recapture rates which the applicant is seeking to achieve, rather than the total prohibition, which Ngāi te Rangi quite clearly wants to remain.

25 All of the technical reports and evidence that have been put before the panel in support of our submission, we adopt that. We also note that there have been changes since the original application was filed, recent changes, changes in terms of the different recapture rates which the applicant is seeking to achieve, rather than the total prohibition, which Ngāi te Rangi quite clearly wants to remain.

30 That ten-year period, even though it's come to an end, we don't think that another ten-year period should be granted. If this panel was minded to grant this consent or this approval, we would like to see just a simply five-year period and still have that 100 per cent recapture rate as a bottom line.

35 Why? Why do we want that? Our kaitiaki have been quite clear to us. They've been unequivocal in their concerns about the use of this chemical and they want to see it phased out of New Zealand. If we can find less environmentally harmful alternatives, that is what we'd prefer, but in the same breath we'd also like to see different processes, better technologies researched so that we can achieve these targets. In our view, to do anything less is irresponsible. It's irresponsible to the taiao, to our whenua and to the moana.

[2.00 pm]

5 In a nutshell that's basically the position of Ngāi te Rangi. It's hold the line. 100 per cent recapture is entirely necessarily. In terms of the timeframes, ten years is too long. Five years will give some incentive on industry to try to meet those targets. I think it's quite weak if you were to give industry what they're seeking, because it's not going to improve the situation at all. It's giving them a way out. It's just really relaxing any type of control we can have on industry and on this chemical.

10 In terms of that change to reduce the 30 per cent as well, I believe that it's out of scope of this application. The application was notified on the basis that 80 per cent headroom would be acceptable, but in terms of reducing it to such a significant reduction of 20 per cent, we believe that that's outside of the scope of the applicants and the approval process and that they'd need to resubmit a fresh application, giving submitters the opportunity to submit on the basis of that new information that's just been brought to life at the last second.

20 Ko ēnā taku kōrero. I'll pass it over to Joel and then maybe we can wrap up for questions at the end.

JOEL NGATUERE PRESENTING

25 MR NGATUERE: Tēnā tātou.

(Māori content -will be inserted when transcript finalised)

30 Tēnā koutou katoa. Thank you. So my name is Joel Hoani Ngatuere. I'm speaking to you on behalf of Whareroa Marae, Te Kohanga Reo o Whareroa and the tangata whenua of Whareroa and our resident community. I'm a professional and I work for Oranga Tamariki, and I have grave concerns as the delegation of the rights to Oranga Tamariki to maintain and uphold the safety of children when methyl bromide is directly attacking them.

40 I've been living here at Whareroa for three and a half years. We're a multigenerational home, alongside my wife, our five children, mother-in-law and my brother-in-law. My wife and our two oldest children and my mother-in-law are descendants to Taiaho Hōri Ngātai through to whakapapa lines, from his children Enoka and Te Reweti.

**[2.05 pm]**

45 All of our whānau suffer and show signs and symptoms related to long-term exposure to particulate matter and chemicals, which include methyl bromide. Taiaho Hōri Ngātai established Whareroa Marae and community in 1867. The mana of Taiaho Hōri Ngātai extends through

5 the Mount over to Te Papa peninsula and across Otumoetai, all areas directly impacted from the use of methyl bromide. I have to remind the Environmental Protection Authority of the words of Taiaho Hōri Ngātai in 1885 to the then Native Affairs Minister, John Ballance, to help you in the critical understanding, the magnitude of the damage perpetuated by the ongoing use of toxic chemical in and around our moana and (Māori content - will be inserted when transcript finalised) what Taiaho Hōri Ngātai said:

10 With regard to the land below high water mark, immediately and in front of where I live, I consider that as part and parcel of my own land, part of my own garden. From time immemorial, I've had this land and had authority over all the food in the sea. I am now speaking if the fishing grounds inside the Tauranga harbour, my mana over these  
15 places has never been taken away. I have always held authority over these fishing places and preserved them and no tribe is allowed to come here and fish without my consent being given. That was presented in the Waitangi Tribunal.

20 So Whareroa Marae, the Whareroa community, there are currently 15 houses and five retirement units along Taiaho Place within the Whareroa Marae community. The local marae community has a standing population of approximately 90 people and 80 per cent of this population is either under the age of 10 years old, or over the age of 60.  
25 The kōhanga reo has a role of 20 tamariki and 5 staff. We also have Te Rūnanga o Ngāi Te Rangi situated on our whenua. They have an estimated staff of between 20 and 30 persons.

30 Overall our community has a population of 140 - 150 people. Again, 80 per cent of our population falls in the bracket of under 10 or over 60. Why do I say that? It's because the United Nations, the World Health Organization, the Ministry of Health and the Ministry for the Environment all report that children and elderly are two groups most at risk from accumulative harm from long-term exposure to air pollution,  
35 including methyl bromide. This equates to 80 per cent of our community. Therefore, 120 Māori are at risk of being subjected to extremely unsafe living and working conditions.

40 Methyl bromide: The Ministry for the Environment states that while methyl bromide is a highly effective fumigant, it is an ozone depleting substance and toxic to humans.

45 In America, the CDC, or Center for Disease Control and Prevention, states that methyl bromide is three times heavier than air and can accumulate in poorly ventilated or low-lying areas. Under adverse conditions, it can remain in the air for days after application as a fumigant. Fatalities have occurred among pesticide applicators and building occupants who were exposed during the application process.

5 Cornell University states that methyl bromide is a dangerous cumulative poison and reports the following health concerns: chronic low-level exposure causes depression of the central nervous system, injury to the kidneys, and may cause respiratory problems and irritate the skin and eyes. It concentrates in the central nervous system, it can affect muscle control and behaviour. Other targets of the fumigant are the heart, nasal cavities, adrenal glands and testes. In humans, methyl bromide's half-life in blood is about 12 days. As a result, the toxic effects of methyl bromide can be delayed or prolonged. Small doses can cause severe toxicity.

10 The CDC also goes on to talk about children and the effects on children, understanding the nature of our community. Children exposed to the same levels of methyl bromide as adults may receive larger doses because they have greater lung surface areas, bodyweight ratios and increased minute volumes, weight to ratios.

[2.10 pm]

20 These are all things to consider when you are looking at Whareroa Marae and community, the Kōhanga reo o Whareroa, and the children, the thousands of children, that are at Blake Park sports complex every week.

25 This was further backed up in 2003 through the World Health Organization when they presented how children suffer most from the effects of ozone depletion, which we all know methyl bromide contributes to. In it, the UNEP executive director at the time stated that the phase out of the ozone depleting pesticide methyl bromide and full implementation of the Montreal Protocol in developing countries are all issues that need to be tackled. Only then can we say that the sky above our heads will be safe for our children and their children to come. So if we are looking at the health impacts, prior to understanding the medical and scientific research on air pollution, including methyl bromide, and related health impacts, residents, including children, at Whareroa recorded and continued and to experience the following health issues: asthma, developing within years of moving to Whareroa - for those with asthma, it increases the illness; bronchitis, both chronic and acute; ongoing respiratory issues; constant phlegm; headaches; migraines; nausea; sore eyes, nose and throat; and premature death. Why I point those out is because these are all illnesses that are attributed to methyl bromide.

45 If I look at the Environmental Protection Authority's new Mātauranga framework, you have developed a Mātauranga framework in order to assist the organisation to embark on a journey of transformational change. Furthermore, they EPA states that they are, "ambitious in the pursuit of our vision of an environment protected, enhancing our way

of life and economy, and with the work we undertake on land, at sea and in the air" and "The decisions we make today affect the lives of many New Zealanders, both now and in future generations". Those are the words of EPA, not myself.

5

The framework, the Mātauranga framework, consists of five quadrants: Māori concepts and values, resources, economic development and sustainability, health and wellbeing, and, finally, Te Tiriti principles. The present practice of fumigation with methyl bromide systematically eliminates all five quadrants and the commitment of the EPA in the ambitious pursuit to protect the environment, land, air and sea, enhance our way of life, and uphold the Crown's responsibility to Te Tiriti.

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Methyl bromide in its current use at the Port of Tauranga is absolutely unacceptable and significantly impacts Whareroa Marae, the pātaka kai o Taiaho, and our responsibility as kaitiaki to the wider Mount Maunganui community as mana whenua. Methyl bromide is contributing to the negative health of whānau, tamariki and kaumātua living at Whareroa. Methyl bromide has contributed to the destruction of, and ongoing dissipation of, our traditional food sources and wāhi tapu, including (Māori content – will be inserted when script finalised). Methyl bromide is continuing to contribute to the alienation of whānau from our cultural practices and inhibit our ability to live both kaitiakitanga and manaakitanga. Methyl bromide is playing a key role in forcing whānau to move away from the turangawaewae and forcing tamariki not to be raised at their marae. Methyl bromide in its current use at the Port of Tauranga and without 100 per cent recapture is a direct attack on our tīpuna as descendants of Ranginui and Papatūānuku and their tamariki, Tāwhirimātea, Tangaroa and Tāne-mahuta.

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40

There are no benefits of methyl bromide to Whareroa Marae. Our tīpuna, atua, te pātaka kai o taiaho, nor are there benefits to our central bow of kaitiakitanga and manaakitanga. Mitigation is not possible. The only answer is either the EPA act responsibly by demanding and monitoring 100 per cent recapture, relocate methyl bromide fumigation to a fit for purpose site with appropriate recapture technology by 28 April 2021, as put together from the MPI, deny any further extension to industries operating under current failed practice at the Port of Tauranga. A tarpaulin in 2020 does not suffice.

**[2.15 pm]**

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If 100 per cent recapture is not possible, then the EPA must force the industry to move to an environmentally sustainable product which does not have any negative impact on human health, either immediate or cumulative.

In conclusion, Whareroa Marae, Te Kōhanga Reo Whareroa and our community vehemently oppose any acceptance to prolong current practice of fumigation using methyl bromide at the Port of Tauranga. Seeking to improve the health of our whānau, tamariki and kaumātua from exposure to chemicals such as methyl bromide is not emotive but rather a basic human right.

The EPA and Crown would be acting outside the principles of Te Tiriti o Waitangi if decisions are made to continue practice which seeks to put economic growth of STIMBR and other industry operators before the health of Whareroa Marae, our children, our grandparents and our families.

The EPA and Crown will further breach Te Tiriti o Waitangi by knowingly supporting the ongoing degradation of our cultural rights to be uninhibited in our practice of Māoritanga, kaitiakitanga, manaakitanga and whanaungatanga. For those that don't understand, that is our basic right to be able to live and breathe and practice being Māori, to be able to be kaitiaki and protect and safeguard all of the other families that are in The Mount. Manaakitanga, to be able to ensure that when people are in Mount Maunganui and at our marae, that they are not being subjected to poisons and having their health put at risk. And whanaungatanga, what that means is that our children can be raised at their marae without being poisoned or forced off their own land.

Industries have shown their failure to meet the 10-year standard set back in 2010. Therefore there is no appetite to safeguard either Whareroa or surrounding communities.

And just finally, just Ngāi Tahu have their whakataukī, we've got a whakataukī here at Whareroa Marae, which appropriately named for whare nui, our whare tīpuna, Rauru ki Tahī. Stand by what you say. Do you what you say. If you say you're going to have something done in ten years, do it. If you say that you are about the protection of the environment and people before economy, live it don't just talk it. It was mentioned that we don't do numbers but I have to ask, do we cater to scaremongering from industry? Kia ora.

40 MR GEAR: Kia ora, Tipene. I would just like to speak to the map that's shared on the screen. Can you confirm whether or not you've got it up there and you can see it?

CHAIR: Yes, kia ora.

45 MR GEAR: In terms of where Whareroa Marae is it's the blue circle with stars in it, it you are wanting to understand where that is. The yellow triangles are all of the activities that are on the HAIL list, so that's all hazard

activities industrial use. You can see that the Mount industrial area is quite well developed with heavy industrial use and Whareroa community as well as the rest of Mt Maunganui is in close proximity to all those heavy industrial uses.

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In terms of Whareroa Marae, you also have the airport which is just behind so they're dealing with noise pollution on a day to day basis and then you also have the port. The development of the port has destroyed a lot of the kaimoana beds for Whareroa Marae. Joel spoke of Hōri Ngātai in his korero. His pātaka kai is right out the front. That is his garden, that's his that he can go and access but with all of the development at the port all of those pipi beds, tuangi beds, they're no longer there. The currents have changed so that's the context in which Whareroa Marae sits in an environmental sense. You can see why Joel is so vehemently opposed to any relaxation of these approvals which industry are seeking to achieve.

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[2:20 pm]

In terms of the diagonals that you see on the map, so these are outstanding natural feature landscapes. They are from the Bay of Plenty Regional policy statement and it sets out that these are outstanding natural features. I think Tauanui itself is an outstanding natural feature and Tomoana is -- you can see the effect that all of the industry has had on Whareroa Marae over the generations. It is only in recent times we were starting to become a lot more vocal. That is where we have been coming to get upskilled in processes that we need to engage in to ensure that our voice is heard alongside the rest of the community. Unfortunately the industrial area has just invaded, it surrounded our Whareroa Marae without any regard to their way of life. (Māori content - will be inserted when transcript finalised).

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CHAIR:

Tēnā koutou (Māori content - will be inserted when transcript finalised). So I thank you for your submission and acknowledging the challenges both from yourselves and from Ms Jones previously. We will move on our questions now. Dr Belton.

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### QUESTIONS

DR BELTON:

Thank you, Chair, and thank you to the presenters for a very insight presentation on location and the impacts, and your very considered written submission which is very broad ranging. I think a lot of people will be very supportive of it. I guess the process we are involved in now is a very small part of that and just a couple of question from your presentation to try and refine a couple of points.

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To the application before, as it was originally proposed, you were comfortable with it be approved for five years but retaining 100 per cent recapture target after five years, is that correct?

MR GEAR: Yes, we were but that is on the basis that no more extensions.

5 DR BELTON: Yes, I am just clarifying that that still stands. Then on the option you mentioned of relocation of the fumigation activities I guess in terms of this process the way that I immediately think of that we could have considered that would be in terms of defining the conditions of buffer zones, zones without habitation, around wherever fumigation is conducted. Is that what you are meaning? If that is what you are  
10 meaning, what are the requirements that you could suggest would go into a hypothetical relocated environment?

MR GEAR: Ideally we would love to see an enclosed environment where fumigation is done on logs in a built for purpose facility which would capture all of the methyl bromide. That would be the ideal.  
15

In terms of relocation, it's probably not fair to anyone if you are to relocate it into their backyard with the toxicity that this particular chemical has. The main thing that we would like to see is the capture rate is at that 100 per cent level. The way we see that happening is by investing money into a proper solution.  
20

DR BELTON: Thank you. Thank you, Chair, that's it for me.

25 CHAIR: Thank you, Dr Phillips.

**[2:25 pm]**

DR PHILLIPS: Thank you. I just wanted to clarify, you talk about this five year extension versus ten year extension. I understood that the ten year extension only applied to ship holds. I just wanted to clarify when you were talking about a five year extension, are you just talking about for ship holds or are you saying that you would support a five year extension for them to get to the 100 per cent recapture on logs and anything other than ship hold basically?  
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35

MR GEAR: Yes, I think we are taking a realistic approach because we've read the reports, read the application but you are correct in the sense that we would like to see just a five year cut off so you hit those 100 per cent targets. To the extent that they reduce recapture rates to around 30 per cent for the log stacks, that is just -- my reading of the legal submissions was that there were variables there that affected the outcome but if you really wanted to hit those targets you could address those variables.  
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45 In terms of moisture in the logs, having them in closed spaces, having warehouses that can contain from the elements. There are things that can be done which could improve that recapture rate. It is all a matter of will, I guess.

DR PHILLIPS: Yes, okay. You are quite right that was the gist of Mr Weiss' presentation this morning - I don't know if you were here this morning - talking about some things that could be done to improve the recapture rate. Okay, thank you very much for your submission. I appreciate that you shared that with us so thank you.

CHAIR: I've got no specific questions. So that others understood what I said earlier, I am aware where Whareroa Marae is, been there a number of times and also know the descendants of the Te Puna Mr Ngatuere was talking about from the Ngati whānau, albeit that they have a different surname now. Just so everybody knows, we didn't consider that a conflict of interest at the time because anyone who goes to Tauranga who is Māori knows Whareroa is. Kia ora koutou, no questions from me. EPA staff?

MR DEEBLE: Thank you, the EPA have no questions.

CHAIR: Mr Slyfield.

MR SLYFIELD: Nothing from STIMBR, thank you, sir.

CHAIR: Okay, thank you. Do any of our submitters have questions for Ngāi te Rangi. Ka pai.

If you are still here at the end of the evening, end of today, we would appreciate, if you are of a mind to, to conduct our closing karakia for the day. (Māori content - will be inserted when transcript finalised). Thank you for your time.

We are scheduled to have an afternoon tea break at 2.35 pm, you have seen that my lovely wife brought me a cup of coffee so I'm all good to carry on but I am suspecting that none of you are so shall we take a break now. The next person up is Ms Smith and we make sure that we are watered and rested and giving her a fair crack. Are we good with that? Well, let's the full 17 minutes in this case and we will reconvene at 2.45 pm. Kia ora.

**ADJOURNED** [2.29 pm]

**RESUMED** [2.45 pm]

CHAIR: Kia ora no tātou. We'll carry on with our proceedings of the day. I did have a query from Ms Catherine Stewart about time for providing a submission. If any of you have any of those queries, just so that it can be co-ordinated properly, if you could pass it on to Marree Quinn from the EPA that would be appreciated. Thank you.

Ms Smith, you've been with us from the beginning so I'm sure neither you nor the process needs any introduction. So, we'll hand over to you for your submission. Thank you.

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SUBMISSION 127574

NICOLE SMITH PRESENTING

10 MS SMITH: Thank you. I will give myself a little bit of an introduction to explain that I am a resident of Mount Maunganui. I'm a mother of two school-aged children and, given the time of day that we are working now, my school-aged home office colleagues may be home shortly, so they may add to the process.

15 I'm also a member of the Tauranga Moana Fumigant Action Group. I'm a barrister specialising in dispute resolution and with a focus on international arbitration, which is probably why you've heard me asking a few questions as we've gone through. I do want to make it clear that while I and other members of the Tauranga Moana Fumigant Action Group have skills and experience in resource management, dispute resolution, worker safety, environmental engineering issues that we can bring to this process, we are all doing it on a voluntary basis. This is 100 per cent pro bono.

25 I am taking my time because this is a community issue that I care strongly about. We have not spent \$30 million - that's the figure mentioned by Mr Slyfield - or \$46 million - the figure mentioned by Mr Hammond - on this process or on dispersion modelling or on investigating recapture technology, and that means that we are hugely reliant on the EPA and on this Committee to consider and analyse the submissions and evidence put forward by STIMBR and Genera and to ensure that it's not accepted uncritically. I've found throughout the last couple of days that with some fairly gentle clarifications you get quite a different picture to what has been presented. So, in that we are not that well-resourced party, we do rely on you. I've looked at STIMBR's accounts. I see they're getting \$2 million a year from forestry participants and Government grants. We are not. We do not have any of that, so we rely on you to protect our communities and our environment.

40 STIMBR is saying that it's going to be incredibly difficult to achieve the requirements that are being set and they're asking for more time in addition to the ten years they've already had. We ask that you don't accept that claim uncritically. The suggestion that it's going to be hard for them to achieve this, it's a poison, it's an ozone-depleting substance, it should be hard. That was the purpose of the 2010 decision. It should be hard. If there's something else you can do, you should do it. This should not be what has become apparent, a race to the bottom with

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Uruguay. If you can sell your logs somewhere else, then do so. If you need to spend some money to achieve the requirements that have been set, then do so.

5 The second point is to deal with -- and I don't want to over-labour this  
point but it is really important. It's what I see as the utter disrespect  
that STIMBR is paying to this process and the efforts of all of the  
10 submitters who are dealing with this application for reassessment, on  
the eve of the hearing filing written submissions with a fundamental  
change to the reassessment it's seeking. It's unacceptable for STIMBR  
to say now, "You know we said we could recapture 80 per cent? Well,  
we didn't mean that. We meant 30 per cent and we meant it in six years'  
15 time, and if you read the tea leaves and looked at the footnotes of our  
experts' reports, you might have figured out that that was what we  
meant". That is not what they asked for. It's an important question as  
to what your jurisdiction is in this reassessment and where the  
requirements of natural justice and due process take us.

20 My submission is that you as the DMC have two sets of anchor points.  
Your first set of anchor points is the 2010 DMC reassessment as  
extended to 28 April 2021. So, the terms of that reassessment will be  
well familiar to you. I'm not going to lay them out here, but in  
shorthand we're talking about 100 per cent recapture to 5 parts per  
25 million on the recapture side of things.

**[2.50 pm]**

30 So that's one set of anchor points and the question for you is: should  
we, on the basis of the application before us, move from that set of  
anchor points, and the only place, the furthest you can move, is what is  
asked for in the STIMBR application. That's helpfully summarised in  
the EPA staff report. You can go to paragraphs 3.4 and 3.12. That's  
an excellent summary of what's gone back and forward, but that's what  
35 it is. So, they want to redefine recapture as mitigating emissions such  
that the residual level of methyl bromide in the enclosed space is  
80 per cent less at the end of the fumigation period. They want the  
recapture obligation to apply from October 2020 and, as I said before,  
that's been extended to 28 April 2021.

40 Those, I submit, are your two sets of anchor points. You start at one  
and you ask yourselves, "Have you been persuaded to move any way  
towards what has been asked for?" That is what due process and  
natural justice requires. That is what all of us have engaged with. If it  
45 had been something else, what else would we have done? That's a  
counterfactual that we should not even have to be asking ourselves.  
Would we have gone out and tried to find more resources to set up an  
economic analysis to oppose theirs? Possibly. Would we have gone to  
get further modelling to challenge what is being asked for? Possibly.

But the point is we have addressed in good faith what they have asked for and that is all that we should have to deal with.

5 So, keeping those anchor points in mind means, in my submission, that you can't accept the EPA recommendation, which is at paragraph 13.40 of the report, that the recapture deadline is moved to 24 months from the date of the decision because that also is not what STIMBR asked for and it's not what was addressed by the submitters. I say it would be against natural justice and due process to allow for the recapture requirement to be extended beyond the extended date that you have already given of 28 April 2021. I say those are the requirements that we work within.

15 Now, I am a resident of Mount Maunganui. I'm, as I said, a mother of children. I have all of the same concerns that Emma Jones and Joel Ngatuere presented to you. I applaud and I affirm their submissions and I'm not going to take your time to say the same things over again. I will avoid repetition but I do want to say that I applaud and affirm what they have said.

20 The only point that I'm going to focus on now relates to the Montreal Protocol and the issue of greenhouse gas and ozone protection. It's just one narrow point. I do have all the wider concerns but I won't go for them for repetition. I noted in the legal submissions of STIMBR they make the assertion at paragraph 34 that while it would be consistent with the Montreal Protocol to impose a recapture obligation, it would be equally consistent with the Montreal Protocol to not impose a recapture obligation. I disagree. New Zealand has an obligation to comply with the spirit as well as the letter of the treaties that it ratifies. It's a party to the Vienna Convention on the Law of Treaties, not the Vienna Ozone; so you've got your two Vienna treaties. It's a party to the Vienna Convention on the Law of Treaties and it, therefore, commits to perform its obligations under treaties it ratifies in good faith; article 26.

35 The fact that it must do so was acknowledged by the DMC in its 2010 decision, where it stated that a recapture requirement would be consistent with the intent of the Montreal Protocol. Also, New Zealand has an obligation to comply with decisions made under the Montreal Protocol. There is an excellent submission - I think you're going to hear from her tomorrow - from Dr Miller on the details of the Montreal Protocol. She cites a number of the decisions that have been made under the Montreal Protocol that encourage the use of methyl bromide recovery and recapture and recycling. Once again, I won't go through all of those because I've seen that that is there now and I assume she'll address that tomorrow, but those decisions mean that New Zealand must make best efforts to recapture, reduce.

[2.55 pm]

5 I do want to refer to a document that has been prepared under the  
auspices of the Conference of the Parties under the Montreal Protocol.  
So, they asked what is called the Methyl Bromide Technical Options  
Committee to prepare an assessment, and they published that in  
January 2019. It's the 2018 assessment report. That report makes a  
number of comments about what New Zealand is doing and what  
10 New Zealand has said in relation to recapture. It refers to the 2010  
reassessment decision and it applauds New Zealand's requirements for  
those using methyl bromide for QPS to achieve 100 per cent recapture  
of methyl bromide emissions.

15 It makes a number of what I think are really pertinent comments. When  
we talk about counterbalancing what it is that you can do and what  
impact that will have on industry, they say this:

20 "Because of the extra costs associated with recapture, it is unlikely that  
there will be substantial adoption without some incentives or regulatory  
intervention. Adoption in the absence of such measures or other  
requirements, such as local air quality specifications, will place early  
adopters at a competitive disadvantage compared with those that do not  
adopt recapture. The technologies are unlikely to become widely used  
to assist ozone layer protection without further international and  
25 national, economic and regulatory drivers such as those recently  
imposed in New Zealand. As New Zealand is a major user of QPS,  
methyl bromide, the fifth largest user, technologies implemented here  
will have global implications."

30 Those who are charged with encouraging and requiring the reduction  
of methyl bromide use and its recapture are watching us. They are  
watching this process. They currently think that we are a world leader  
in requiring 100 per cent recapture of methyl bromide, so I ask that this  
Committee holds the line. It was fairly clear from the questions I asked  
35 of a number of submitters that unless you regulate, they don't do it. If  
necessity is the mother of invention, regulation is the mother of  
investment and you need to regulate this and you need to hold the line.  
Thank you, that's my submission.

#### 40 QUESTIONS

CHAIR: Thank you very much. Dr Phillips.

45 DR PHILLIPS: Thank you very much for your very thought-provoking submission. I  
don't really have any questions, I think, at this stage. Thank you  
anyway.

CHAIR: Dr Belton.

DR BELTON: Thanks, Chair. Thank you for that presentation, Ms Smith. Just on that last point that you were making of requiring regulation to incentivise change, I guess, as many people have said, if we go to 100 per cent recapture now, people are just going to stop and say there's no alternative. If we go for a lesser recapture requirement, we would be aiming to reduce. Those are the technologies that would potentially be transferred around the globe. From a global perspective, are we better to stop or are we better to continue to try and put regulatory instruments in place to continue to drive for recapture and better levels of recapture?

[3.00 pm]

MS SMITH: I would say that if you regulate, then the market will find a solution. Now, India getting logs with methyl bromide on it I don't think necessarily makes the world a better place and it doesn't mean that if that doesn't happen, the New Zealand forestry industry will collapse. From what I heard today, there are other markets that can be pursued or they can spend the money that is necessary to achieve methyl bromide recapture to sell to those markets. If the economics mean it's not worth it to carry on using methyl bromide because of the recapture requirements that are put in place, on a business as usual basis, they won't carry on with business as usual. This is exactly the argument that you get under the Paris Agreement: unless you force change, it won't happen, so they will choose other options, they will find somebody like Nordiko with their process that they say is achievable or they will sell to someone that doesn't require it.

But if you say, "Oh, I see that it's all very difficult. I'm going to give you more time", we heard from Genera they're not doing anything at the moment because they don't have to and they're just asking for time until they get EDN.

DR BELTON: Yes, up to a point, but to be fair, they have invested in recapture technology now, they are doing some. It's not working as well as many would have hoped, but they are doing some, which is different from where we were when the 2010 decision was made. There was none going on then, as I understand it. There is some going on now and my question came back to the advice we get - and it seems plausible - is that if we insist on the 100 per cent requirement now, that will stop. I think you were saying that yourself, the market will correct and they will do other things and all of their modelling and so on is based on that. They originally asked for 80 per cent, but even if it has to be 30 per cent and that increases over the next five years to whatever, it will enable that development of the recapture processes to continue.

MS SMITH: I think that's why I ask you to look critically at what is being put before you. Even though large sums of money have been spent on persuasive

5 reports, I think if you work through those, some of it will indicate to you that it's not all as it claims to be. Now, saying that nothing was happening ten years ago and you gave them ten years I do not think is good enough to come back to you and say, "Well, we kind of started about eight years ago and then we ramped up a bit five years ago and then we actually spent some proper money on it three years ago, but we can't do it".

10 DR BELTON: Yes, okay. That's a matter of opinion, but that's good. Thank you. Thanks, Chair, that's me.

15 CHAIR: Thank you, Ms Smith. I had a question now. I don't mean to put you on the spot, you may not be able to answer yet, but in relation to the amendment to the STIMBR application from 80 per cent to 30 per cent, what sort of timeframe do you think people like yourself, Ms Smith, would require to consider that? I might add that we, as the Committee, haven't decided how to deal with that yet. We're still pondering on that matter.

20 MS SMITH: My answer is that it's a new application so you tell me what the processes are.

25 CHAIR: I don't have a view just yet. I thought you might. Thank you, no further questions from me. We will now go to EPA staff.

MR DEEBLE: We have no questions on this, thanks.

CHAIR: Thank you. Mr Slyfield.

30 MR SLYFIELD: No questions from me, thank you, sir.

CHAIR: Submitters? No, no questions. Ms Smith, I was hoping after all the questions you've asked there would be a few back at you, but there you go. Thank you very much for your time.

35 MS SMITH: Thank you. Thanks for hearing me.

40 CHAIR: Okay, we're going to change the order a little bit. Ms Stewart has advised that she needs to leave at 3.30 pm, so Mr Parkinson, I'm not asking permission, really just advising that if you wouldn't just being patient, Mr Falco, if you wouldn't mind just being patient, we'll come to you next or one after this.

**[3.05 pm]**

45 We'll ask Ms Stewart to give her submission now, thank you. I think you've been on for long enough, Ms Stewart, just relax, take your time and we'll hopefully get you on your way before 3.30 pm. Thank you.

If you click the button again. You had it right before. Click the button again and your mute will come off. There we go.

SUBMISSION 127594

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CATHERINE STEWART PRESENTING

MS STEWART: Thank you. Can you hear me? Thank you. Thank you for the opportunity to speak to my submission. My name is Catherine Stewart. I live in Tauranga. I was born and raised in Tauranga, lived here all my life. I appreciate the opportunity to speak to you this afternoon.

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By way of context, I was a Tauranga city councillor for 12 years and it was then that I first learned of methyl bromide and its use on the logs at the Port of Tauranga. I attended community meetings and listened to the concerns from the people in our community. I also have a background in tourism. I worked part-time for ten years for Tourism BOP at the Port of Tauranga as a cruise ship ambassador, spending most of my time outside in the wind, rain and sunshine and I was totally unaware that methyl bromide was being used on the wharf not far from where the cruise ships berthed and from where I was standing. I've also sailed into the Port of Tauranga on cruise ships and I've never seen any signage at the port to inform the thousands of people on cruise ships that methyl bromide was being used at the port.

30

The Port of Tauranga is the largest export port in New Zealand. In Tauranga we're unique in that residential homes and apartments are within a very close proximity to the port and our port is located on both sides of our harbour bridges. The Whareroa Marae abuts the Port of Tauranga and they've raised many health concerns over many years. I know you've heard from them this afternoon. They raised some very good points which they've been speaking about for many years.

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There is no colour or smell to methyl bromide, making it impossible to know when or where it's being used on the logs at the wharf. I understand there are alternatives to using methyl bromide. Another option is to create a dedicated fumigation area away from the Port of Tauranga, given that residential areas are so close to the fumigation areas. I believe the Port of Tauranga is unique in that our residential zones are just so close. I understand there is a buffer zone but when you look at it from an aerial map people see the residential areas are just right close up, hard against the port areas, as the Whareroa Marae.

45

So please consider the health consequences to our residents, the people who work at the Port of Tauranga and our environment when you make your decision. That's the end of my brief submission to you.

CHAIR: Thank you very much. Dr Belton, any questions?

DR BELTON: No questions from me, thanks, Chair.

CHAIR: Dr Phillips?

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DR PHILLIPS: No questions from me but thank you very much for your submission, much appreciated.

CHAIR: Yes, we appreciate it, thank you. No questions from me. EPA staff?

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MR BAILEY: No questions from us, thanks.

CHAIR: Thank you. Mr Slyfield?

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MR SLYFIELD: None from me either, sir.

CHAIR: Okay, great. Well we might have one or two people move through unscathed, so let's go to submitters now. Any other question? Well done, Ms Stewart.

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MS STEWART: All right, thank you.

CHAIR: Thank you. Moving on now let's go to Mr Parkinson, I see you've come on and your team. I'll leave it over to you to present your submission, thank you.

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**[3.10 pm]**

SUBMISSION 127565

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ANDREW PARKINSON PRESENTING

MR PARKINSON: Kia ora, Mr Chairman. Thank you for the opportunity to present today, along with my two witnesses. Just to introduce myself. I'm simply a concerned resident of Mt Maunganui.

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I requested this submission because I have concerns regarding the stated continuous improvement philosophy of Genera when their actions since 2010, when the standard was set, suggests a more simple philosophy of kicking the can of compliance down the road, which has necessitated this publicly-funded hearing. I would suggest any recapture improvements so far have been piecemeal rather than strategic, which has stifled the rate of progress required to meet the 2010 standard within the allotted timeframe.

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To support my concerns and to assist the DMC in their duty of care, I have two witnesses presenting today who will provide information that I believe highlights the failure of Genera to make very achievable

improvements in recapture using technology available since before 2010 and, in the case of Tauranga, failure to seriously consider an alternative fumigation site over the last ten years.

5 My first witness, Mr Joe Falco of Nordiko Australia, will be presenting on the availability and suitability of more effective recapture technology. My second witness, Mr Mark Wassung of Design Engine Architects, will present on the availability and suitability of an  
10 alternative fumigation site to the Port of Tauranga where this technology could be utilised.

Taking my paper submission as read by the DMC I will now hand over to Mr Falco.

15 JOE FALCO PRESENTING

MR FALCO: Thank you, Andrew. Everyone, please bear with me. My first time to present on Zoom. I'm just going to try and share my screen. Has that  
20 come up?

CHAIR: Yes, that's fine, thank you.

MR FALCO: Okay, great. Kia ora koutou. My name is Joe Falco representing Nordiko Quarantine Systems and my background is in chemical  
25 engineering. I've got also a Bachelor in Science in chemistry, my MBA, and I'm currently doing my PhD on fumigant emissions specific with another alternative fumigant, sulfuryl fluoride, with the University of New South Wales. I'm also the general manager of Nordiko. I've been in the gas industry for 20 years, 11 of which have been with  
30 Nordiko Quarantine Systems. I've been involved with the methyl bromide issue and recapture in New Zealand well before the ERMA 2010 hearings. I was there for the 2010 hearings.

I just wanted to give a quick background on Nordiko. Nordiko is  
35 strictly a company that provides recapture systems. We've been in operation since about the year 2000, over 20 years. We are not a fumigation company. But according to recapture we're basically an engineering company and focus on fumigant recapture and emission control.

40 We've got equipment in over 40 countries worldwide, not necessarily in recapturing fumigants but we also recapture or prevent toxic emissions from other sources. We won the US EPA award in 2008 for our work with methyl bromide and the sustainability of the ozone layer.  
45 We were finalists in the New South Wales Export Awards last year and currently finalists of the Australian Engineering Excellence Awards for our work with methyl bromide recapture in the US last year, which I will later go through.

5 We've got some really good customer reference, including from Genera, from our work with them in Nelson, Wellington and Auckland, from the previous managing director. Rentokil is another fumigator in New Zealand. They use our recapture equipment at the Ports of Auckland when they went mandatory recapture in all fumigations a few years ago. We have a few numbers of public and private entities that have given us positive references as well.

10 [3.15 pm]

15 I just wanted to make reference to the STIMBR submission. No other public or private entity worldwide has been able to develop a viable recapture technology for logs that has been proven successful under commercial conditions. I just wanted to go through a list of actual installations that Nordiko has done over the years, which has to do with logs in large calibrations.

20 Typically the New Zealand log stacks, I believe, is up to 700 to 1,000 cubic metres in volume. As mentioned by STIMBR a couple of days ago, ship holds are up to 5,000 cubic metres in volume when they are fumigated.

25 So in 2008, we supplied Genera at Nelson recapture systems to do with shipping containers when they went mandatory recapture.

30 In 2010 we supplied a commercial largescale log stack recapture system to Pentarch Forestry here in Australia for the Colac operations in Victoria.

35 In 2011, with the Western Australia Government, we supplied a largescale recapture system for a house that needed to be fumigated under tarp due to infestation of an invasive species. That was 4,000 to 5,000 cubic metres in volume, which is almost the same as the ship hold volume that's been discussed in New Zealand.

40 In 2015, NAT Grand Terminal in Newcastle were required to recapture methyl bromide fumigations of grain by the local EPA. They were needing to comply with the specific emission rate and initially they used a liquid-based scrubber system, which they trialled for six months but could not make it to work, it was too slow. So they then reverted back to an activated carbon system, which is our technology, and has since been using that and has since been in compliance with local regulatory bodies there.

45 In 2018, we rolled out methyl bromide recapture systems from shipping containers for logs and other commodities with a company that was in

Panama, Honduras and Guatemala, and we've got a pending order for Costa Rica.

5 2018, TasPorts, which is basically the port entity in Tasmania, went into mandatory recapture. In that process they considered various technologies, including Nordiko's, and in the end they awarded us the project and we supplied them shipping container recapture systems for their export log fumigations.

10 Lastly, late last year in November, Nordiko was involved with the Maryland Port Authority in a trial on shipping container fumigations and that was proved successful and has now since got the permit from the local air quality regulators to fumigate, subject to recapture.

15 I'm just going to fly through some photographs. Are you able to see my cursor there if I move that around? Okay. This is the Pentarch Forestry System. One of our earlier systems for log tarp recapture. You can see the logs tarp there and that's in Colac, Victoria. This is at the same site. This one is the TasPorts log yard in Hobart and they  
20 fumigate in containers. This is a Central American site. They export different types of timber, soft woods, I think, and hard woods, and they wanted to utilise recapture for their methyl bromide fumigations.

25 I talked about working with the Western Australian Government before. This is photographs of that fumigation. The size of this house at the end when they tarped it all up was between 4,000 to 5,000 cubic metres. We worked very closely with the local fumigator, the university in Western Australia, and also the Western Australian Government for this particular project.

30 **[3.20 pm]**

35 This is the site in Newcastle that I was talking about. They're a new grain terminal and when they put the permit in to build the EPA had required them to put in recapture. Not far from here are multimillion-dollar estates overlooking the ocean. Probably similar to some areas in Mt Maunganui. These silos are 25,000 cubic metres in volume. You can see our recapture system there. They wanted it to be mobile. They would haul that trailer from silo to silo and recapture the methyl bromide from there.

40  
45 It was mentioned before that recapture from ship holds proves difficult as there is no evidence that recapture at the higher percentage rate is then feasible. This is a very common scientific paper that the Government of Canada have done on ship recapture several years back. You can see that it states on there that:

"Methyl bromide recapture technique captures approximately 80 per cent to 90 per cent."

5 I think that paragraph speaks for itself. It goes into a little bit of the economics. I won't go into that too much. But they say it's quite feasible and there's advantages in doing that. Are you able to read that paragraph there? Okay.

10 It was also mentioned by Jack Armstrong, a STIMBR consultant, one of the evidence provided:

"The best alternative fumigant to methyl bromide for the treatment of export logs is EDN."

15 Also a paragraph on the EPA staff report, paragraph 8.4, says that:

20 "Submission 127585 from Ernslaw One Ltd indicate an industry in New Zealand has ceased to commit further expenditure to developing recapture technologies until the direction of the fumigation industry is resolved."

25 Before I worked for Nordiko Quarantine I worked for nearly eight years with a company called BOC Ltd. BOC Ltd was the first to conduct research on EDN with the CSIRO in Australia. In 2002 I was involved. EDN, which is more commonly known as cyanogen, is basically a cyanide-based molecule. It's a highly toxic gas used in fumigation, although it is not an ozone depleter. It's made, though, from the oxidation of hydrogen cyanide, which is used in chemical warfare.

30 EDN has been registered in Australia several years back as a fumigant. However, it's only registered for use subject to scrubbing after our regulatory bodies have gone through the registration process. This is very important because the activated carbon filter that would be used for methyl bromide is also just as effective, or if not better, than recapturing EDN from fumigations. Nordiko has a reference site and Plant and Food Research at Palmerston North. They have been using a Nordiko EDN scrub for several years now for their EDN trials and research. They have had to comply with an emission rate, I believe, of less than 8 ppm of EDN and we've got a reference letter from them that says they've had no issues with emission compliance with the use of our EDN recapture system. That is partly liquid and also activated carbon filters. That same system would also recapture methyl bromide.

45 Having been involved with BOC and EDN back in 2002, looking at that, the registration process took over a decade. I was working on the registration process of EDN. It only got really registered in 2013. Having said that, it has not replaced methyl bromide in Australia.

Why? Because, as correctly mentioned before by others, the receiving countries need to accept the phytosanitary treatments of EDN before they can fumigate using a new fumigant.

5

**[3.25 pm]**

How long with that take? I don't know. I first was involved with EDN in 2002. It's 2020 now and methyl bromide is still being used to fumigate log exports and other commodities in Australia.

10

This is a copy of the label that is on the APVMA website. Here the brand that EDN was called is called Sterigas 1000 by BOC, but you can see the active constituent there is ethanedinitrile. This the directions for use. It says the first time there, "Do not use without use of a liquid scrubbing system", and over there as well.

15

Lastly I just wanted to share a different screen. Can you all see that or not?

20 DR PHILLIPS:

You have to unshare your other screen.

MR FALCO:

Can you see that? It's a letter for Maryland Department of Transportation. Can you all see that? It's an interesting case. This was the trials that we conducted in November last year. This is from the Department of Transportation of Maryland in the US. The court there basically banned methyl bromide several years ago. I might let you take two minutes to just read. Did everyone get a chance to quickly read that? I make reference to -- bear with me a second, I'm sorry.

25

30

I make reference to -- bear with me a second, I'm sorry. There's evidence presented by Jack Armstrong under STIMBR. It's paragraph 39(h), where it says:

35

"Nordiko has not provided efficacy data to STIMBR and has declined STIMBR's offer to fund the cost of verifying its system under commercial conditions."

40

I wanted to give a bit of a background on that. I think it's important for the DMC. In 2018 Nordiko had discussions with the industry in New Zealand about supplying a prototype for trial with log stacks. The trial protocol was finalised with industry and we were use a STIMBR protocol that they had used in validating other recapture or destruction systems in New Zealand.

45

This was important because we needed to acquire data that could be used in determining efficiencies that would be used to test or to measure recapture efficiency from log tarps. A STIMBR trial protocol was agreed with industry. However, just prior to the trials, they wanted

Nordiko to sign an NDA which would limit us to provide the data and information derived from the trial outside that of STIMBR and the industry.

5

**[3.30 pm]**

10

Now, we didn't want to do that. We want the data and information available to everyone that wanted it. Hence our directors did not want to sign or go through with a trial. If a trial was to take place, we would want anyone to take part of it, to be a part of it, for them to have the data and information.

15

There was a prototype unit that was made. It's in Auckland as we speak, ready to be deployed at a given notice. We believe it will do log tarps. If anything - and Nordiko is willing to fund it - we would be open to hold a trial inviting any regulator from EPA, Bay of Plenty Council, to take part or at least be part of a trial like this and get the required data that may be needed in making these decisions regarding recapture.

20

25

We've looked at the amount of methyl bromide used, based on our 20-year experience in other applications with logs and other largescale applications. We believe Nordiko can supply the requirements of recapture for New Zealand logs in a matter of 6 - 12 months, subject to the data that we get from the trial. This is not ten years, not five years. Our initial estimates for Tauranga, based on the consumption of methyl bromide, suggest a \$1 million to \$2 million capital expenditure, not \$30 million. We believe that we can do it, based again on our experience, and we believe that we can achieve a much, much greater recapture efficiency than 30 per cent.

30

35

Now, on that note, a long-term solution based on, I guess, our experience, the best way to limit emissions is to design purpose-built fumigation facilities away from communities. Do away with log stack fumigations. Log stack under-tarp fumigations I think is archaic. I've seen ones in other countries where they are done in purpose-built sheds that are more airtight, gas tight.

40

On that note, I'd like to hand you over to Mr Mark Wassung, our Managing Director of Design Engine Architects, who will talk more about a possibility of something like this in the long term.

MARK WASSUNG PRESENTING

45

MR WASSUNG: Good afternoon. Can you hear me okay, Chair? Great. Hi, everyone, good afternoon. My name is Mark Wassung. I'm a registered architect and urban designer, 20 years in practice, and I've been working alongside some quite innovative and clever people just over the last

few months. I'd like to just set up my PowerPoint presentation quickly, just a sec. Can everyone see that? Give me the thumbs up, Chair.

5 CHAIR: I think you need to try that again. We're only seeing the top portion of your screen, so just try it again. So, unshare and then click on the app and share again.

MR WASSUNG: Stop share, do you say, and then share? Okay, can you see that?

10 CHAIR: It's still the same.

[3.35 pm]

15 MR WASSUNG: Just run me through it again. So did you say stop share on it?

CHAIR: Yes, where it says "share screen", stop the sharing, but I think you need to click "share screen" and then click the actual Safari or Google, whatever you're using, and then click "share". There we go.

20 MR WASSUNG: Okay, you've got that?

CHAIR: Yes, it looks like you might be sharing your whole desktop, but never mind. Yes, that's the one.

25 MR WASSUNG: You've got that?

CHAIR: Yes.

30 MR WASSUNG: Good. Just ignore the desktop, it's busy. Right, let me get back to this, then.

35 So, I'll just give you some context to this innovative and alternative idea and project, which I've been working on with a number of quite clever people, as I said. So, if you have a look at the Port of Tauranga, which is up in the middle top part of the screen, and then you look at Young Road, which is towards Paengaroa and Rangiuru, we are looking at a dedicated site of 35 hectares - this is with a private client - which is 30 kilometres from Tauranga by road. It's a 45-minute train trip by freight, which I've checked with KiwiRail. There's no shunting facilities in this location but what we have proposed to do with our project here is to create a new siding and a spur line. I'll just flick through to the master plan.

45 So, this is now zoomed in on the location, so if you have a look at the drawing, what we've looked at is what you see in the bottom right-hand corner is a siding, which comes off the eastern coast main trunk line and sweeps in on a 120-metre radius to allow for a shunting yard for 26 dedicated, airtight sheds that are, working with Joe Falco, 25,000

5 cubic metres in capacity. So they are an airtight, purpose-built facility with double doors and airtight closing facilities for carbon filters to be able to take the methyl bromide out after its fumigation. So this is a dedicated, enclosed facility. I understand just from talking to the specialists that this sort of process where it is completely airtight and then recaptured would take up to about 24 hours to effect. So, we plan to also have solar panels on the roof so it's a completely green solution, a sustainable design solution, so that we could actually use the solar panels to create our own power to elevate the temperature of the gas. It'll enervate the environment for the gas because methyl bromide is more effective at around 15 degrees. So we can control that environment in an airtight shed.

15 MR PARKINSON: Mark, sorry to interject. We've just had a request if you could put your PowerPoint into a presentation view, not an edit view. Thanks.

MR WASSUNG: Right. Okay, is that good? Can you see that, everyone? Yes.

20 So, the thrust of this design is to look at the bigger picture. The idea is to have a sort of intergenerational approach to a facility that is decentralised from the port, so effectively creating an inland port which could then be a catalyst for aggregated facilities around it. So adjacent to this Young Road here and the Te Puke Highway is the quayside property which is very close to the Eastern Link, which you can see just sneaking through on the top right-hand side of the drawing. Just last Friday we've had an announcement from the Provincial Growth Fund that there's \$18 million that's been put towards the upgrade of this interchange or the creation of an interchange that then connects to this industrial park, Rangiora Industrial Park.

30 [3.40 pm]

35 So, this facility here is looking at, as I said, intergenerational, into the future. The blue part there is the airtight sheds for methyl bromide. You put the logging wagons, load them into these long sheds that are 650 to 680 metres long. There's some shorter ones and some longer ones. Adjacent to that is two sidings for unloading and offloading from trucks that come in and bring the logs to this transfer station. So, all the dark grey part that you see is log piles and right in the middle of that is a debarking facility, which the capacity of it is ...

40 CHAIR: Mr Wassung, while you're looking for that, we have seen these pictures and we do appreciate you are going through them, but we'll just ask you to summarise it. We're not going through phases of procuring building consents or anything like that.

45 MR WASSUNG: Right, that's all good. So, you're familiar with the drawings then. So there's a drawing of the dedicated sheds, so everything would

be -- there's the shunting yard in the foreground and the sheds in the background. There's the solar farm and then we've got a scaling and weighing facility as well, which is contiguous to this on the site.

5 We've also gone through a process of looking at the delivery on this and submitted to the CIP, Crown Infrastructure Projects. So this is a shovel-ready project and we could be on site by the end of this year if we could pull this together, and we could deliver this in three years. So, this is the programme for it. There's the outline of the costings to  
10 the left-hand side, and there's the announcement that was made last Friday, a week ago.

Thank you very much. Are there any questions?

15 CHAIR: Thank you. Mr Parkinson, you were leading the presentation, so are you ready for questions now?

MR PARKINSON: Yes. I'd just like to finish by saying that I believe the setting of the  
20 standard back in 2010 provided an opportunity for Genera to innovate and show moral leadership, not to gather in a circle facing outwards with spears for self-preservation at all costs. So, I challenge them to set the example so that others may follow. Thank you.

CHAIR: Thank you. Mr Wassung, sorry, am I saying your surname correctly?  
25 How do you say your surname, sorry?

MR WASSUNG: Wassung.

CHAIR: Wassung, okay. Sorry, I'm saying it Māori style, which is Wassung.  
30 Thank you.

Just a point of clarification, this is an application from STIMBR, not Genera, so your relationship or views of Genera respectfully are not of concern to this Committee. But I do thank you for your presentation.  
35 Mr Falco and Mr Wassung, if you could please share your presentations with the EPA, and I do note, Mr Falco, unless I've forgotten, a lot of the information that you've provided appears to be new information. We'd need to discuss that as the Committee afterwards because at this stage of the process we need to make a call whether or not we allow  
40 that new information. That said, it has been helpful and so we'll now open for questions, and we'll go to Dr Belton.

#### QUESTIONS

45 DR BELTON: Thanks, Chair. I guess we're directing them to Mr Parkinson in the first instance. The essence of your submission was no change to the current standard, which would mean effectively no -- or we're told would mean no methyl bromide fumigation of logs, which would achieve the

current standard for recapture required, but this project that you outlined here is not going to happen for three years, so what happens in those three years, we just give up those logs that otherwise could be subject to methyl bromide fumigation?

5

**[3.45 pm]**

MR PARKINSON: The essence of my submission was not really to stand fast on the 2010 standard in the allotted timeframe. It was simply to give an indication of Genera's intent or STIMBR's intent over the past decade whereby I do not believe they have taken a strategic position to meet the standard within the allotted timeframe. I think there's been a significant amount of disinformation provided, as I think is obvious from Mr Falco's presentation, in regards to both the availability and suitability of more effective recapture or carbon filtering technology. I'm leaving the submissions and comments to do with timeframes and extensions up to the other submitters.

10

15

MR FALCO: If I was able to speak briefly, the recapture system that would be installed at this facility can be utilised as of now, for instance, at the wharf for Tauranga for the fumigation happening under tarp, then once the facility is completed, those same recapture systems can then be retrofitted at the completed facility. Effectively, once the recapture system is in place in Tauranga that can start to do its job, then once the rail facility is complete, you can transfer those recapture systems within your facility.

20

25

DR BELTON: Okay, but bringing the discussion back to the application that is in front of us, are you supporting or against this application?

30

MR PARKINSON: Against the extension of?

DR BELTON: The application is --

MR PARKINSON: Against.

35

DR BELTON: I will not give all the detail because I can't. I haven't got time to recite it anyway, but we have an application before us and that's what we --

MR PARKINSON: Essentially it would be against. There's been a lot of discussion or fearmongering about the loss of the Indian market. I believe that if the "E" in EPA still stands for environmental that they should be focused less on the economic outlook and they should leave it to free market conditions to decide on the outcome. Yes, in that case, I would hold tight to the 2010 standard.

40

45

DR BELTON: That is just the point I wanted to clarify, thank you. That's it for me, thank you, Chair.

DR PHILLIPS: Thank you for your presentations. Just a technical question, and I notice that a submitter has also asked the same question, so I apologise to that submitter for usurping his question or her question, sorry. What happens to the carbon filters and how does that compare in terms of the spent liquid that is used in the Genera system perhaps in terms of environmental impacts?

MR FALCO: Once a carbon filter is spent, in New Zealand we have existing recapture systems. We use a third party, ChemWaste New Zealand. The site lets us know that the carbon is spent through being able to measure the exhaust stream of the recapture system and then once they start to detect methyl bromide, then the carbon filter is spent. They let us know and we let ChemWaste New Zealand know to come in, pick up the filter. The customer would have a back-up filter onsite which they would put online. The filter is then emptied, the spent media, by ChemWaste. It's taken to an approved waste facility to handle that waste and then it's refilled with new carbon and recycled back to the customer, so it's an ongoing process.

ChemWaste New Zealand has the current capacity. At the moment, if New Zealand say mandates recapture nationally, it cannot with the waste that will be generated.

[3.50 pm]

But we have discussed with an international company that they would be able to accept the waste in shipping container loads, clean the methyl bromide from the carbon and return back the carbon, which currently would be a better process because we're able to then recycle and reuse that carbon without the methyl bromide. The methyl bromide would then be disposed of chemically at the waste site, but the carbon is reused. This facility is already existing in Asia and currently that's what they do. They basically clean and reuse activated carbon that's been used to recapture chemicals.

DR PHILLIPS: Do you know what happens with the spent liquid, the scrubbing solution, or would it be better if I asked Genera that?

MR FALCO: That's a Genera question. We have done some liquid scrubbing in the past. We found it very slow and inefficient. In the last five, six years there's been a lot of companies that have started from scratch, so to speak, and have tried their own recapture technology. There's three fumigators that I know that have done that, not just in New Zealand, overseas, but they manage their liquid waste differently.

DR PHILLIPS: Okay, thanks for that. What I take from your presentation was that you were saying that there is an existing system available that can achieve

a higher recapture rate than what is being now being proposed by STIMBR, is that correct?

MR FALCO: Could I confirm that that's 30 per cent?

5

DR PHILLIPS: Yes, the 30 per cent. I guess the problem that we have or the challenge that we have as a Decision-making Committee is that we have to base our decision on the evidence that we have in front of us. I guess the problem with your system is that we don't really have a lot of evidence, except, as the Chair said, we now seem to have a bit more new evidence and we have to make a decision about whether we even accept that to ensure that we're following a due process and clarity. I just wanted to check that.

10

MR FALCO: If I just clarify something, Chair.

15

DR PHILLIPS: Sure.

MR FALCO: The existing system is a system that we were going to use to trial on log tarps with the industry. It's in Auckland. It's ready to go. I do realise the constraints.

20

DR PHILLIPS: No, I understand. I understand that.

MR PARKINSON: Sorry, Ngaire, just to jump in there in support of Joe's presentation, I believe all the correct information or documentation was sent over two weeks ago and you've received that.

25

DR PHILLIPS: No, I appreciate that there is some documentation. No, I appreciate there is some documentation there, but my understanding is, from what Joe was saying, that was a trial that was meant to go ahead. I guess we need some hard data. We're scientists. It helps, data helps. It's not the whole thing, but it always helps. It always makes us feel a little bit happier when we've got actual numbers.

30

35

Mark, I just wanted to thank you for your presentation as well. I just wanted to ask you, so you referred to this as the Rangiuru Industrial Park and I noticed that the funding was for the business park, so I'm wondering what the relationship is between the business park and yourself. Is it part of the business park?

40

MR WASSUNG: No.

DR PHILLIPS: No?

45

MR WASSUNG: No, it's not. The funding is for the road interchange to allow access to the business park and my client is a separate entity to the quayside property, but they are adjacent to one another. So the road is going to

5 be - as in that drawing - closest to the eastern link, which is one of the best highways in the country. Just to mention one of the big shifts here, which I didn't focus on earlier, was the potential for this project. If we did look at co-operating with quayside and other stakeholders, it could potentially take 1,000 trucks off the road per week.

[3.55 pm]

10 That goes back to a Becker report. There's 1,000 logging trucks that come through to the port every week, so the potential for this project, if we did decentralise, to actually take that traffic off Hewletts Road and into the port, safety, health and safety. Then the idea of modal shift, which is a Government policy statement for transport actually encourages modal shift. So this project could be something, as I said, that's intergenerational and it was the bigger picture thinking.

15 DR PHILLIPS: Yes. No, that's fine. But we do appreciate that we actually have quite a constrained scope that this DMC is considering, but I appreciate that. Thank you, Chair. No more questions.

20 CHAIR: Thank you. Just to go back to my previous comment about new information, I've just been advised that what I meant to say was about the letter was new information, the letter that you provided as a reference, so if you just provide that all to the EPA address and then we'll deal with that, hopefully overnight.

25 You would have heard Dr Phillips, it's a follow-on question, really. It's not our role to compare technologies or proposals, including the park. You will be familiar with that obviously with the work that you do of how difficult that is to take from the drawing to the first spade in the ground sort of thing. So putting that to the side for the moment, in your presentation, Mr Falco, is it Mr or Dr?

30 MR FALCO: Not yet. I've still got a ... Just Mr.

35 CHAIR: Hopefully this portion will be finished before it is "doctor", how about that. So, Mr Falco, your presentation, and again without comparing technologies, I am curious just how well these two -- with the application before us, which is likely to have a number beside it or no number, everything just stays status quo. You mentioned in your presentation it's much greater than 30 per cent, I'm curious what you claim your system can achieve, at what volume, at what location - like log stack or ship hold - and over what time. Just as a matter of curiosity.

40 MR FALCO: I guess I don't like to be held -- the last couple of days has proved that there are a lot of variables that go into recapture. If I was to give you a number like 75 per cent, without being able to trial that prototype system in Auckland in the conditions that you have, for instance, at Port

of Tauranga it won't be the right thing for me to do to give you a number.

5 But I believe, and this is why we were pushing for a trial, that everyone, the scientists would be involved, and regulators, so that we can get those numbers. To get the percentage you need to know what concentration the methyl bromide is after the fumigation before you even start the recapture process. I think Bay of Plenty Council was going into that subject a little bit. Those are the parameters that are important to acquire before you can get that percentage efficiency of recapture.

15 But 30 per cent, I think, would be underestimating. Let me correct myself. The 30 per cent I think is based on the liquid system, which is probably the data that we have when we're trialling liquid scrubbers. With activated carbon it's very high. I'd like to say in the 80s and 90 per cent of the methyl bromide left after the fumigation but it depends on how long you run the recapture system for. Again, you could run it on a stack for seven days and you'd get close to that 5 per cent, I think, or longer. It's a matter of how long you run that recapture system for and the longer you run it for the more costs you'll incur on that particular application. So it's definitely a balance of time and efficiency and economics.

25 CHAIR: Thank you. Your answer shows that you have an appreciation of the difficulty before us as a Decision-making Committee. Thank you.

[4.00 pm]

30 Thank you all for your presentation in front of the Decision-making Committee. I've got no further questions so I'll now pass on to EPA staff.

35 MR BAILEY: Thank you for those presentations. Probably a question following from what the Chair has just asked about what, in your experience, what particular systems recapture could be achieved. In your presentation you mentioned across sites where you had experience of similar-sized activities to those that take place at ports in New Zealand. Could you provide any comments on the efficiency of recapturing you were achieving at those locations and whether those conditions had any similarity to the ones we have in New Zealand?

45 MR FALCO: I'm sorry, so the recapture systems that we have in New Zealand are predominantly or are only being used to recapture from shipping containers, not log stacks that are in New Zealand.

MR BAILEY: I'm sorry, Joe, can I just clarify that question? I was meaning you gave some examples of your systems overseas, particularly around

Australia, and I'm just wondering what recapture efficiencies you were achieving there and if those locations had any similarity to the climatic conditions here in New Zealand.

5 MR FALCO: The efficiencies that we were getting from container fumigations were up in the high 90 per cents efficiency. We've had SGS, they're a certification company, do a mass balance test, so we've had a third party test our equipment and that report is available, if it hasn't been submitted to the EPA. That shows that our container recapture systems are 99.9 per cent efficient in recapturing methyl bromide.

10 MR BAILEY: Thank you. That's useful information about containers and I do have another question about containers in a second. I suppose I was trying to ask around your experience with the tarped logs you described earlier.

15 MR FALCO: In Australia, Colac, we would get approximately 60 to 75 per cent depending again, there's a lot of variables that come into play. Colac have the same weather and temperature conditions as Tauranga. That's a very hard question to answer on the day. I can't make a generalisation because it's seasonal. Then based on what the ambient temperature is, they inject different concentrations of methyl bromide.

20 MR BAILEY: Thank you. I alluded to a second question on containers. We were hearing yesterday from evidence of people involved with fruits and vegetables of recapture times in the order of days for methyl bromide. Do you have any experience of your systems being used on the recapture of methyl bromide use for treating soft produce?

25 MR FALCO: Fresh produce; yes. Yes, we do. Our recapture systems are being used at Brisbane markets, Melbourne markets and the Sydney markets. With fresh produce it is essential that you remove the methyl bromide as quickly as possible because the moment methyl bromide touches fresh produce it has a phytotoxic effect. MPI can provide better information on this. We're a recapture company. But our experience is such that the recapture process from fresh produce is between one to two hours to get it below the 5 ppm TWA limit.

30 MR BAILEY: Thank you.

35 MR DEEBLE: Sorry, just a final question. Could you provide just generically or generally a comment on the efficiency generally achievable with carbon versus liquid recapture? Kind of limitations to that perhaps.

40 [4.05 pm]

45 MR FALCO: It's a very general question. Can you be more specific?

MR DEEBLE: I guess we just kind of noted in some of the previous discussions some points on limitations around time with liquid recapture versus carbon and what effect that might have on efficiency generally achievable?

5 MR FALCO: I guess our experience in working with a liquid system is that when you take a fumigated atmosphere from a fumigation and you run that through a liquid scrubber either it is on a counter-current system, you're trying to achieve a mass transfer. Usually one pass does not give you a high enough efficiency so you have to have multiple passes through  
10 this media before you get a substantial destruction or removal of your methyl bromide. With an activated carbon system, provided that your filters are not saturated, you only need the one single pass at a much higher flow rate to recapture over 99 per cent of that methyl bromide from that airstream. Is that what you were looking for?

15 MR DEEBLE: Yes, that gives us a lot better understanding, thanks. We don't have any further questions at this time, thank you.

CHAIR: Thank you. Mr Slyfield.

20 MR SLYFIELD: No questions from STIMBR, thank you, sir.

CHAIR: Okay, thank you for that. Mr Glassey, from MPI, you had some questions.

25 MR GLASSEY: Tēnā koutou katoa, thank you, Mr Chair. I have some specific questions about both Nordiko and the proposed Rangiuuru facility, if I may, and you can decide whether they're relevant, particularly around the recapture in Nordiko. For the Australian examples you gave with the house and the silo, some questions I have: what was the dose that was implied and these are trying to compare the Australian and New Zealand conditions? So it's the start dose that was applied. What was the grams per cubic metre at the start of recapture? What was the moisture content under the tarpaulin or the silo? And how long did the recapture run take for each of those two scenarios and how much carbon was used on each occasion? Those were the Nordiko questions, thanks.

40 MR FALCO: There's a lot of questions there. I can't say exactly what the -- I'll have to refer back. The WA Government has the final report on that. It was the fumigator, Mark Sheppard. You probably know Mark - it's a very small industry - who was involved directly on that. They would have the report on the fumigation side of it. But it is not at 120 grams per cubic metre, if that's what you were referring to. It's European borer for the house fumigation. For the Newcastle grains, again depending on the season, it's around the 30 - 45 grams per cubic metre, again not even the highest dosage rate.

[4.10 pm]

5 However, recapture does not work that way. What we found, in our  
experience, is that although the concentration of methyl bromide is  
available, activated carbon filtration does not -- again for as long as  
your filters are obviously unsaturated. It will recapture at 120 grams  
per cubic metre just as well as from a fumigation that's at 48 grams per  
cubic metre. That's to the extent at which filter will get re-saturated.  
10 So if you were recapturing at 120 grams per cubic metre, that filter will  
get saturated twice as fast than, say, if it was at half that dosage rate  
that you were recapturing from.

15 The way activated carbon works is it's a carbon matrix. Industry works  
to a 1:10 carbon ratio, so N kilos of carbon will hold roughly a kilo of  
methyl bromide. The idea with the activated carbon filters is, as I  
explained before, once they're full you take them out and you change  
them over with new ones.

20 MR GLASSEY: Just one further question is what happens with the carbon when you  
have a very high moisture content, such as over 90 per cent, as has been  
recorded in ship holds, for instance, and under log tarps. What happens  
with the dry activated carbon in that situation?

25 MR FALCO: Absolutely. The carbon will absorb moisture and methyl bromide at  
the same time. So there's a lot of moisture not just in logs or ship holds  
or in silos. There's a lot of moisture in fresh produce fumigation, for  
instance. Fruit emit a lot of moisture in those cold-room chambers.  
That is just part of recapture. You have to account for moisture  
absorption together with methyl bromide. That partnership shifts, so at  
30 the start of your recapture process where you've got a higher  
concentration of methyl bromide, then you would absorb more methyl  
bromide than moisture, but as you then get to the end of your recapture  
process, the preference is to probably absorb more moisture. When  
you look at a recapture curve over time, it's a logarithmic graph.

35 If you're looking at recapturing, just as an example, 100 kilos of methyl  
bromide and you look at an activated carbon recapture filter, you'll  
probably recapture -- over an hour, for instance, you'll recapture 80 per  
cent - 90 per cent of that 100 kilos in maybe the first 15 minutes,  
40 whereas that last percentage of methyl bromide will take the longest  
time to try and recapture, if that makes any sense.

45 MR GLASSEY: It's quite a long answer but I guess it doesn't specifically answer the  
question.

Moving on to Mr Wassung with the shed concept, which is very  
interesting. The shed size, if I got that right, is 25,000 cubic metres.

MR WASSUNG: Yes, that's correct.

5 MR GLASSEY: Right. Can you tell me -- and I note that seeing those pictures was good and I hadn't realised from the drawings that the loaded rail wagons go into the shed. Can you tell me in the 25,000 metres of shed, how many metres cubed of logs would be treated under the 25,000 cubic metres of shed?

10 MR WASSUNG: No, I can't tell you that amount but we have worked to the maximum size on the site for the length of the sheds and it does coincide with the length of the longest runs of logging wagons, so it is within that number of a typical length.

[4.15 pm]

15 MR GLASSEY: Okay, because one of the important factors with fumigating and the amount of content inside the fumigation is the efficiency of that enclosure. The ships, as you might have seen in some of the photos, they use hydraulic excavators to pack the logs into the ship hold. In  
20 the 5,000 cubic metre of the hold it has about roughly 50 per cent - 70 per cent air space in there. I would say - guessing, just a guess - that the shed efficiency would be a lot lower than that. I think that's something that should be worked out for the exercise.

25 I guess where I'm going with this is if you take the 25,000 cubic metres, you would apply something like 3,000 tonne of methyl bromide in the shed, or if it's for India 1,600 kilos, for I don't know how many cubic metres of logs. So the important consideration is that our 664 tonnes  
30 for 2018 is the methyl bromide imported into the country, and this shed idea would see less load factor has a propensity to actually increase the importation of methyl bromide, so I would really like to know what the load factor is for those sheds per cubic metres of logs.

35 MR WASSUNG: I can't answer that but I can say to you that we could do a little bit more detail on that. The size of the shed is based on -- I recall when I did do the sections for this that is it based on the size of a logging wagon. So it's quite efficient, the size of the space, there's no sort of wastage. The enclosure, shed, is, with some tolerance, of course, is defined according  
40 to a logging wagon with some tolerance around the parameter. It is quite an efficient dedicated shed to the size of a wagon. It's not wasteful.

45 Also, we don't use all of the sheds at the same time for fumigation. Joe, you could chip in here. If I recall, I think we use two sheds at any one time and then it sorts of rolls, so it is staggered and staged so it does allow you to prepare for the next loads. Do you want to talk to that, Joe?

MR FALCO: I'm sorry, I don't quite understand the question.

5 MR WASSUNG: Well, we're not going to be using all the sheds to fumigate all at the same time. It's a staggered, staged process. I think, if I recall, we were working with two that are operational at any one time and then preparing another two, so it's a rolling, staged approach. Not all the sheds are used at one time to fumigate.

10 MR FALCO: I think it would probably be unfeasible to have all the sheds under fumigations at all times. I thought it would be similar to what is being currently done on the wharf, where you saw the different log stacks. Not all the log stacks are being fumigated and they're kind of being rotated, so to speak. This is where the logistics and efficiencies come in, how best to set that process up to get the most efficiencies in  
15 resources and timing and fumigation.

CHAIR: Thank you. Mr Glassey, any further questions?

20 MR GLASSEY: No, thank you.

CHAIR: There's a couple more people here. I can't see your surname, my apologies. Emmanuel, there was a question that Dr Phillips also asked. I just wondered if you had had your question sufficiently answered.

25 EMMANUEL: Yes, the question has been answered.

CHAIR: Thank you. And Mr Weiss, you had a question.

30 MR WEISS: A question for --

CHAIR: Your sound is playing up again.

MR WEISS: Can you hear me better now?

35 CHAIR: Yes.

MR WASSUNG: I can't hear you. I can't hear you.

40 MR WEISS: Sorry, I will have to ...

CHAIR: Perhaps would you mind typing your question out? Would that be efficient? Then just type it to all participants so we can all see your question. While Mr Weiss is doing that, does anybody else have any other questions? Okay, we'll take that as a no, so we'll wait with bated  
45 breath while Mr Weiss practises his typing skills. No pressure, sir.

MR FALCO: Mark, can you see that question? If I can answer Sam.

MR WASSUNG: Go ahead, Joe, if you like.

MR FALCO: I'm not sure if everyone can see that. Sam's question is if there is the ability to reuse the MB after the fumigation of one shed into other.  
5 From my experience, I was at Taicang Port in China. It's probably the only port where I have seen more log fumigation than I have in the one area in New Zealand. They do have purpose-built fumigation chambers where they are able to transfer the methyl bromide from one shed after that's fumigated, rather than it going through a recapture system or a destruction system or out into the atmosphere. They transfer that to the second chamber for that fumigation.  
10

There's mass balance issues with that, mass transfer issues as far as if you use pumps, so the best that you're going to get is probably less than half of what methyl bromide you've used in that first fumigation, but that's what they do, they transfer as much of the methyl bromide that they can into a second fumigation - and these were for logs - and then they top up with methyl bromide. Now, that process, I've seen it being done and achievable in China, but that's more a question for MPI with reusing methyl bromide and getting the right concentrations, mixing second-hand methyl bromide with virgin methyl bromide. As far as the chemical engineering part of transferring that gas from one shed to another, that's doable, but you're not going to get 100 per cent of that gas into the next fumigation.  
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MR WEISS: Thank you.  
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CHAIR: Thank you. Mr Weiss, I'm assuming that's all of your questions, so thank you for that. Thank you to Mr Parkinson, Mr Wassung and Mr Falco. I appreciate that. We will now go to the last for the afternoon and that will finish our day, so we now move to the Tauranga Moana Fumigant Action Group. Mr Sharp, in your hands.  
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SUBMISSION 127593 - TAURANGA MOANA FUMIGANT ACTION GROUP  
35 MICHAEL SHARP PRESENTING

[4.25 pm]

MR SHARP: Thank you, Chair. Kia ora koutou. Yes, thank you for the invitation to us to submit to the hearing today. Just I would put some written submissions in to the authority. Given that there are some developments happening across the hearing, I've got just some further submissions. I'll speak to those. I will be followed by another member of TMFAG, Kate Barry-Piceno, who will make some specific legal submissions with regards to the change of the application for the change of the target.  
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To put it in context from a legal point of view, TMFAG is a community group. We were formed to deal with fumigation issues in the Tauranga area. I'm a barrister and Kate Barry-Piceno is a barrister, but we've made this submission and we're talking on these issues as members of TMFAG rather than specifically as legal representatives.

But one thing I just wish to flag from the start is that because there's been some further issues raised with the change in the nature of what's required, we would like to reserve the leave just to file some further written submissions on some of the legal points subsequently, which STIMBR can reply to in due course. But perhaps if that can be addressed at the end of my submissions. Just speaking to the --

CHAIR: Mr Sharp, sorry to interrupt you, but could you please raise that at the end of your submissions so we don't forget it? Thank you.

MR SHARP: Yes, I will. Just speaking to my submissions, if you look at the three amendments which STIMBR is looking at, we've indicated opposing all three of them. Now, the first one is of course to change the recapture requirements. It was 20 per cent or up to 80 per cent; it's now 30 per cent. We object to that. Further, the extending the ten years for recapture of ship fumigations, opposing that. With the third requirement on the strengthening of the buffer zones, I notice in STIMBR's submissions they are no longer seeking that.

I just do note that an issue has arisen during these discussions as to whether you can put in place buffer zone requirements as part of any amendment to the consent. It is our position that you can do so, if appropriate.

Now, I've summarised at the start why we're opposing the amendment and that is, in summary, that the export log industry has not made sufficient efforts since 2010 to develop better technology for recapture or elimination of methyl bromide. There does appear to be available feasible approaches to dealing with logs for exports that would be able to meet the current capture requirements. Also, lastly, the current monitoring of methyl bromide from log fumigation is insufficient and does not support the STIMBR claims that there is no ongoing risk to health and the environment.

Just speaking to the particular submission points in themselves, with technology, we note that when the existing requirements were set in 2010, it was indicated at that time that there would be further and ongoing efforts for alternative technology to replace methyl bromide. In listening to the evidence and what was put forward, our submission is that very little, if any, has been done.

[4.30 pm]

5 We do submit that there is alternative technology for the capture of methyl bromide from log fumigations than the approach that is suggested by STIMBR, in particular with logs under tarps and in ship holds, and in particular we refer to the Nordiko evidence on their technology which we've just listened to. We support that as an approach that's been used overseas and would seem to be available here.

10 With the alternative fumigations, we note that there are clear alternatives to fumigating logs to the large part. Operators such as Pinegrow(?) and Timberlands, a large operator, have been working towards having in place debarking technology so their export logs can be debarked and not need methyl bromide treatment. Smaller operators  
15 maybe find this more difficult to achieve, but this is really only a matter of cost rather than not being technically available.

20 It is accepted that India does not yet accept unbarked logs that are not treated by insecticides, but in our submission this is a matter which could be an issue of further negotiations through MFAT and so on.

25 Lastly, I have just noted that the obvious alternative of course to the shipping of logs is to process logs here in New Zealand, value-added, and the submission that we make is that by failing to make log exporters pay the full cost of the environmental health costs of fumigation, that's giving them in effect an unfair advantage over the alternative of processing logs here.

30 The next point I made is with regard to facilities for fumigation. This harks back or goes to the last submission that we've heard. In our submission, a lot of the problems raised with methyl bromide are practicality of alternative methods, relate to the way that the logs are dealt with, and the prime example is the Port of Tauranga, where most of the methyl bromide is used.

35 In this regard, we specifically make reference to the decision of the Environment Court in *Envirofume v Bay of Plenty Regional Council*, decided in 2017. The court on that occasion, in considering the application for a grant of a further consent for another fumigator other than Genera, held that in order to comply with fumigation standards in regards to methyl bromide that there needs to be an integrated approach, including at the Port of Tauranga, for log exporters, fumigators and stevedores, where there are dedicated areas for methyl bromide fumigation and perhaps dedicated buildings. Now, this is far  
40 from the reality which exists at the Port of Tauranga, where under the area which they make available for fumigating logs and the restrictions on the use of those areas in their fumigation plan, it is very difficult for logs to be fumigated. I understand specifically with Genera that's one  
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5 of the problems; they can't do recapture on all of the logs, that because of the situation of the logs and the time they have, they can't do it. Also, because of the restricted room, it's probably not feasible to put a specialist enclosed building in to fumigate the logs or that not being available.

10 So, in our submission, we support what the Environment Court said and submit that if there's going to be a proper and appropriate way of fumigating logs, then there needs to be proper and appropriate facilities and areas made available for that.

15 Now, with ship hold fumigations, this is particularly irking in that there doesn't seem to be any progress at all in developing technology to recapture ships' fumigations from logs. In this regard, it's noted that at the EPA decision in 2010, Genera and other fumigators made similar statements to today, well, pretty much the same, about lack of technology for ships' fumigations and that they needed more time to look into this. Ten years later, there doesn't seem to be any progress at all and any willingness to make any progress in dealing with this.

20 **[4.35 pm]**

25 The next issue is with the lack of evidence in regards to the suggestion that 80 per cent recapture can be achieved, and now it's, of course, down to 30 per cent recapture. In there, I've just noted that there's been further details of that provided at this hearing about what indications there are of recapture, but leading up to the hearing I've just noted that in the data that's been available to the Bay of Plenty Regional Council there only seems to have been very limited trials trying to measure how much recapture is taken from log stacks. Because, of course, at the moment operators like Genera don't have to measure the recapturing. They just have to apply some sort of recapturing to a set amount of logs.

35 A couple of days ago there was some evidence provided by WorkSafe, which seemed to suggest that there has been some trials and results achieved in recapture, but on further questioning by the members of the Authority it seemed that that wasn't real, that wasn't solid data. In the end, what we do really supports what the Bay of Plenty Regional Council says, that what is needed if there's going to be any effective recapturing measurement or standards met is that we need to have a measurement of what's left under the sheets, under the tarpaulins and the logs, to see what's left, make sure it reaches minimum standards before it's released. So, at the moment I understand that the only monitoring is through the intake and the outtake of the scrubbers and so on.

5 The next issue we raise is just concerns at current monitoring, especially at Port of Tauranga, and really take issue with the STIMBR submissions that monitoring is showing that methyl bromide required levels have been met. That's been the subject of some considerable evidence during this hearing, in particular evidence of spikes in monitoring and the insufficiency of the monitors. We support all of those submissions, especially by Bay of Plenty Regional Council, support what they're saying, that you need specialised monitoring, support that you need more monitoring stations around the port. In this regard, I again refer you to the Environment Court decision, where they said that the only way you're going to meet any sort of requirements or standards is have an extensive system of fixed monitoring around where the fumigations are taking place.

15 The next area I just want to speak to is concerns over the workplace standards at the Port of Tauranga. Once again, STIMBR was saying that these standards have been met and that there's no issues there. We don't accept that and once again I point back to the monitoring data we've seen during this hearing.

20 It's also noted that while Genera workers involved with fumigations at the port are monitored, they're personally monitored for exposure and they've got effective suits on, no other workers or people in the port have that sort of protection. They're not monitored and, in our submission, that is contrary to regulations around health and safety at work, regulations which require PCBUs to carry out monitoring to make sure that workers in an area which is exposed to a hazardous substance are monitored on a regular ground. In that regard, you've already heard evidence and we just stress what a wide variety of people there are wandering around the port area: stevedores, transporters, people just dealing with cargo on the ships and even people loading the cruise ships and so on.

35 **[4.40 pm]**

40 We've noted that the fact that exposure standards have been exceeded in the past can be starkly illustrated by the incident that occurred at the Port of Tauranga on 9 March 2018. You've heard details of that. We personally as a group dealt with some of these people who were involved; four stevedores hospitalised while loading a ship in situations where it was found that Genera hadn't had monitors between the fumigations and the ship. All of these stevedores admitted themselves - no one else admitted them - into hospital with symptoms which are consistent with methyl bromide poisoning. Now, the only reason why there wasn't any definitive finding that it was methyl bromide poisoning is that blood tests weren't done until the next day, and for methyl bromide to be detected you need a blood test straight away. But the medical report at the time was that otherwise their conditions were

consistent with methyl bromide poisoning. So it's highly likely that those workers were subject to poisoning from methyl bromide.

5 Now, the next area I just want to address is global warming effects. You've heard from that in other submissions. New Zealand's obligation under the Montreal Protocol, I accept that it hasn't got an absolute requirement to stop using methyl bromide on shipments and so on, but it has got a requirement to use best efforts to do so. Given the technology and the other ways of treating logs without using methyl bromide at the moment, it is submitted that those obligations aren't being strictly met at the moment.

15 In closing, what we just want to stress is that methyl bromide has quite significant environmental and health costs. These wider costs continue to be borne not by the timber exporters, by others, and in the meantime there's a whole number of Government agencies - EPA, WorkSafe, regional local councils - which have struggled and do struggle to co-ordinate to deal with the effects on the community of methyl bromide.

20 In the end, in our submission, the only justification for not meeting the present requirements of the methyl bromide is economic costs, and in our submission these costs can be dealt with by the industry and on balance it is something which they should deal with, not the public.

25 There's a number of matters which were raised in the STIMBR legal submissions and, as I said, we would like an opportunity to reply to those submissions, given especially the altered nature of the application. I do note that in the end it is the job of the Authority to balance public health and economic considerations, but there is an overall requirement for precautionary principles where the science and the outcome is uncertain. In my submission, the Environment Court undertook a similar analysis under similar principles in the Resource Management Act and Envirofume case and they found that, given those circumstances, that methyl bromide on the logs and tarps, under the method that is carried out at the moment and which STIMBR wants to continue, on balance is not beneficial given the uncertainty of the health effects and monitoring and the availability of feasible alternatives.

40 Thank you, if I could just hand on to Ms Barry-Piceno.

**KATE BARRY-PICENO PRESENTING**

45 MS BARRY-PICENO: Thank you to the Committee and thank you, Michael. I will just touch on some other matters and picking up probably firstly where Michael left off in the context of the HSNO Act, without wanting to have the Committee sucks eggs in terms this is very much what you do. I am mindful that in the context of the submissions provided by Mr Slyfield

for STIMBR he is correct that at paragraph 27 your overriding principles are only two and that is around safeguarding the life supporting capacity of air, water, soil and ecosystems and, secondly, the maintenance and enhancement of capacity of people in communities to provide for their own economic, social and cultural wellbeing and a reasonable foreseeable means for future generations.

[4.45 pm]

Now, both of those are linked to RMA principles and terms and therefore the courts have noted that in that regard there is the ability to draw on the RMA in terms of some of those wordings and principles. Similarly in the context of matters that are directed to take account of, again there has been very clear direction that to take account of matters under part 2, which includes the reference to economic and related benefit and cost, is a lesser requirement than that where you are required to recognise and provide for. In my submission that is the first principles that STIMBR's application hasn't properly addressed in the way that they have presented their case in evidence. Because in reading the evidence - and I note there is a plethora of 6,100-odd pages, as has been noted by the Chair - I have not, hand on heart, read that all, as noted by Ms Smith. We and STIMBR, for all us involved, are all doing it pro bono, fitting it around other work.

I would just personally note that similarly I am a Mt Maunganui resident, I have children here, I have family here and really my involvement was I was asked to assist back in 2017, 2016 when the matter first went to the Environment Court because my area of expertise is RMA based and judicial review based rather than HSNO based. But I would just comment there that in that regard I had become involved as a pro bono person, through membership, and seen what I have seen as a real lack of environmental rigour in terms of compliance by those that hold the consents, and in turn I think that sits very closely with STIMBR given that the relationship, at least at the Port of Tauranga, and it appears at the other ports, is a close relationship of STIMBR's reliance on Genera and this industry to take care of those within the logging industry in terms of its providing of methyl bromide use and similarly, I suspect, with EDN.

Where they have strongly focused on cost and benefits in my view, if I go to the methodology order -- I also note that again, similar to the wording in the RMA of section 3 around risk, and I was asking some questions on that on, I think, Tuesday, that this issue around probability of occurrence and magnitude of adverse effect in my submission the evidence hasn't properly given the amount of respect required to the Tauranga community in particular that lives in such close proximity. In particular Ngāi te Rangi and Whareroa Marae that live here and all of us, this is our recreational playground, this is where we bike, this is

where we play sport, this is our harbour. In terms of the potential, it only takes one significant adverse event and incident, rare as it may be, to have catastrophic effects. Those need to be considered when balancing costs and benefits and risks.

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Also in terms of costs and benefits, I also note that costs and benefits when they are weighed under the Commerce Act and by Treasury in that regard, and in the RMA under section 32 when dealing with matters of plan changes, that costs and benefits aren't just strictly economic, they bring in the welfare of the populations at hand in a broader sense. It is a holistic cost and benefit analysis. That includes what it may do to amenity, what it may do to a community. In my submission there has been a lack of consideration of that and a pure focus on monetary terms in terms of costs and benefits by the applicant.

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The other thing in terms of costs is I think in terms of STIMBR's approach to this and where you have seen over the years - and, again, this is relying primarily on Genera's investment through STIMBR or that relationship being closely aligned - is that it has been very much as I see it factually on the evidence and seeing the various legal machinations and strategies applied by STIMBR, been very much one that has only invested to the point where it has either been forced to and/or at the same time maintaining its monopoly on alternatives or on the technology itself.

20

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**[4.50 pm]**

Again, in terms of my submissions, costs and benefits, if we look at the application that STIMBR is providing the costs that it is causing to the community via lack of openness to innovation and alternative technologies is one that they have deliberately shut down and then deliberately used that as the foundation and rationale for why they haven't complied over the last ten years. They themselves say that.

30

When they applied for their ex-parte application to the High Court against the EPA they cynically, in my submission, put in a modified reassessment application in March 2019 knowing that did not give the Committee the ability to turn this down. Secondly, they acknowledged that that done purely as a backstop because of the outcome at that point of the EDN application. Yes similarly at the same time they're providing evidence to this Committee, through Genera, that - as noted by Ms Smith in their further response to the Committee - they haven't committed to scrubbers or further technology on the basis of the "uncertainty" because of the delays that this Committee and EPA has given them in terms of commitment. I reject that utterly in terms of seeing how Genera has played this out over the last -- well, I have been involved for five years. During that time they could have committed and have chosen not to. Clearly throwing all of their eggs, or at least the majority of them, to the EDN substance.

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5 If you look at the figures that Mr Slyfield referred to, the 30 million of  
commitment, that it is done to alternative technology, if you look at the  
STIMBR annual reports, where they have had voluntary levies from  
the stakeholders of some 2 million a year, the majority of that when it  
comes to commitment to alternative technology isn't to EDN itself. It  
also reveals that in those annual reports the investment of that relates  
to Mr Gear and his wife, who have a significant shareholding in the  
EDN overseas company that will be importing it to New Zealand. So  
10 there is a conflict of interest there and, again, a continuation of this  
monopoly of those alternatives, whether it is through Genera inventing  
its own type of liquid scrubber or whether it is EDN. It is a continuation  
of we will only open ourselves to alternatives to where we control that  
particular alternative or that recaptured technology and therefore don't  
15 have to actually open ourselves to innovative open approaches that they  
could have done over the last decade to not be in a situation where EPA  
is being forced at the 11th hour to then assess this modified application.

20 Of even greater cynicism to that is that through that process, although  
groups such as Clean Air and TMFAG or even Ngāi te Rangi and  
Whareroa as they've become more informed have tried to be involved,  
tried to positively be part of stakeholder or play a role, they have shut  
us out and deliberately sought to do so as much as possible through  
non-notified applications, through ex-parte applications to the High  
25 Court. That has been a continuation of that process. In my submission  
this last minute change of their application again is a cynical attempt to  
shut down at the last minute a narrowed assessment that puts the EPA  
in an incredibly difficult situation, but also is unduly prejudicing those  
stakeholders who have submitted to this application.

30 If I can just turn to that in terms of scope. Again, this is something that  
comes up very often within the RMA context that an applicant changes  
its application during the process and where that happens post  
notification, there is a series of cases on that and it has a principled  
35 approach to it.

[4.55 pm]

40 In my submission it would be appropriate to look at that for the EPA in  
terms of determining scope.

45 Those really come down to principles of natural justice, which again is  
administrative law principles that the Environment Court has imbued  
in terms a series of case law that it has developed as a common law  
approach to it. What they have said is if an application is decided to  
go with an outside of scope and ambit of an application there is a  
number of factors that it takes into account. That is, firstly, are there  
greater adverse effects than what was originally proposed? Secondly,  
if it has occurred post notification, are there people that may have put

in an application that haven't if that change had been understood prior to notification.

5 Now, in this case I note that the Chair has said, and I concur, that this is not a beauty contest or a democratic voting process yet the EPA staff report and what it has submitted to you -- I was really concerned and surprised at the extent to which it provided graphs to the Committee, around how many submissions in support, how many in opposition, who had modified. That is completely irrelevant for a start and I was heartened to hear that the Chair did note that when that was, I think, raised by Ms Jones. But it's also important in the context that this process is one to which, all the way through, the lack of public knowledge, the lack of informative consultation, has not occurred by STIMBR or Genera in an open way, and therefore even an understanding by the community is only rapidly becoming apparent.

10 I was also of concern with those brought in of the fruit industry and vegetable industry. Again, that balancing of availability of fruit or cost of fruit and vegetables. I don't think if the public was truly informed that their choice of getting table grapes year-round was causing methyl bromide to be applied either overseas or here as a truly environmentally social decision. I don't think that they've been given that choice because they haven't been informed.

25 Again, I come back to the reliance on EPA, as noted by Ms Smith, that you are the leaders and so I completely view that this methyl bromide use has a lot of different agencies involved, real struggles around jurisdiction and compliance and control, but I do think that you are the environmental voice or control that the Government sits as a bottom line standard. Because, as I noted in the questions when I asked them to STIMBR on the first day, they said it wasn't their role to put in place any voluntary bottom lines. They would only rely on Government to do that. They would not do it themselves. In that regard, in my submission, STIMBR and the logging industry is far behind other industries in the primary production sphere, including the dairy industry, that has been forced to come up to environmental compliance and they have been dragged there, in my experience, through the RMA, in my practice.

40 So this is the same and you are the organisation that is going to drag them there and, in that regard, I think the scope of this application fairly sits under section 63 between the 2010 decision and what was applied for, and your scope squarely sits in there. I don't think under any fairness, natural justice remedies that you could possibly apply in terms of further consultation or adjournment in terms of time, can actually remedy the legal defect that the ambit and scope of this application sits within that realm of those two things.

I would submit that you should be keeping to your original decision or putting in place greater controls, as noted by Mr Weiss, and I was really heartened to see that our Regional Council is now -- it appears to be the leader around all of New Zealand for imposing those and it seems to me that the two other regional councils need to get behind this and the only way they're going to do that is if the EPA provides that leadership by adopting that similar approach. Thank you.

[5.00 pm]

MR SHARP: I'm just addressing the Chair. We had two other witnesses listed, one was Nordiko, which has already given evidence, another was Ian Dustin. He's not giving evidence but we do have -- the intention was we do have Aubrey Wilkinson, who is the Chair of TMFAG and the union representative on the wharf. He just wishes to make a submission.

AUBREY WILKINSON PRESENTING

MR WILKINSON: Thank you, Mr Chair. (Māori content - will be inserted when transcript finalised) because I know that the tide is running out fairly quickly so my regards to everybody, so I won't recite my whakapapa because we are short of time. However, as Michael has indicated, I am the Chairman of the Tauranga Moana Fumigant Action Group. My name is Aubrey Wilkinson. Our organisation is described in our submission so there's no need to describe TMFAG any further.

I also hold the position and have held this position for over ten years now of National President of the Rail and Maritime Transport Union with a membership of 5,000 nationwide. We represent workers predominantly in KiwiRail and in our ports throughout New Zealand. We at TMFAG feel it would be very helpful to give a short delivery of what workers have faced and feel at the Tauranga Port with methyl bromide fumigation.

The wharf where fumigation takes place under tarpaulins, that's our workplace, our office, our lunchroom, it's where our amenities are situated. Fumigation takes place right there where we live, breathe, work, eat and sometimes rest. Our workplaces at Port of Tauranga operate 24 hours a day, 7 days a week, including all public holidays. Work at the port never stops. Even a global pandemic doesn't stop it.

On the wharf we all work in a pressure cooker environment. Tallies, deadlines, tidal restrictions, time restraints, heavy machinery, weather, are all factors that place immense pressure on our frontline staff.

To us, as workers, exposure to methyl bromide is an added concern in a busy, hectic and dangerous environment. Since the ERMA decision

5 of 2010 the comfort to us as workers, people who come from our thriving communities, was the requirement to have recapture technology in place to reduce the methyl bromide concentration to the work exposure standards of 5 parts per million, so when tarpaulins are removed inside our workplace we would not be exposed to dangerous levels of methyl bromide.

10 Of comfort to us as frontline staff, was that industry were to transition from methyl bromide use to a suitable alternative starting ten years ago. Of comfort to us was that fumigation would be stringently consented, monitored and enforced by our employers, council, WorkSafe, EPA and other relevant authorities during the ten years of just transition of methyl bromide use and recapture.

15 Since the ERMA decision back in 2010, there have been instances where we know that people in our workplaces have been exposed to unacceptable levels of methyl bromide. I have interviewed a number of people who work at Tauranga Port who have had to go home or hospital too sick and incapacitated to continue because they were in their workplace when venting of methyl bromide was taking place nearby.

[5.05 pm]

25 The onset of their symptoms was too sudden to call it anything other than methyl bromide poison. As I say, cases of people suffering immediate discomfort cannot be ignored and it must be stopped.

30 We as workers are cognisant of the fact and agree ... business and industry need to continue -- and industry compromises the health and safety of New Zealand citizens in the workplaces, that's when we all say no.

35 CHAIR: Mr Wilkinson, sorry to interrupt you, but you just froze for a bit there at the point where you said, "We as workers all agree" and then you froze and I was concerned that we would have missed a key statement in your submission, and I missed it.

40 MR WILKINSON: Shall I go back to ...?

CHAIR: Yes, please.

45 MR WILKINSON: I was on my last paragraph too, Chairman. But, hey, as I say, we as workers. I'll go back to we as workers are cognisant of the fact and agree business and industry need to continue, to grow and prosper would be even better. When sustainability of business and industry compromises the health and safety of New Zealand citizens in the workplaces that's when we all say no, we don't agree.

5 Mr Chairman, I'll close with a bit of a sad story. We, as a country, were  
faced with asbestos years ago and back then we didn't realise the  
dangers that asbestos would place on people. Today we're very much  
aware of asbestos and what it has done. We don't know, as workers, as  
citizens of New Zealand, what methyl bromide, the long-term effects  
of methyl bromide, will have on people. It's for this very reason, the  
fact that we really don't know, we can't allow methyl bromide to  
continue to be vented to the atmosphere poisoning our people, our  
10 environment and destroying our ozone layer. Thank you, Mr  
Chairman, that ends my submission.

MR SHARP: Thank you, that is the end of our submissions.

15 QUESTIONS

CHAIR: Thank you very much and I'm grateful to hear from you both as the  
Fumigant Action Group but also as somebody who is working on the  
port, so we do appreciate that. Dr Phillips, any questions from you?

20 DR PHILLIPS: Well, there's a lot to take in in your submissions. I'm very thankful that  
you made your submission. Ms Barry-Piceno, there's perhaps just a  
point of clarity. Towards the end of your submission you sort of  
basically said -- you were defining what our scope was as a Decision-  
making Committee and I want to make sure that I understood and that  
we understood the consequences. Basically you're saying that really  
our scope is to essentially decide between the 2010 decision around the  
5 ppm, versus the 80 per cent application, and no other. You're saying  
that the 30 per cent is out of scope. Is that what you're saying?

30 MS BARRY-PICENO: Yes, I am, and the reason I say that is because under -- the applicant,  
STIMBR, chose to apply as a modified reassessment and it did so,  
effectively, so that the EPA can't revoke the existing assessment. When  
you look at section 63(a)(ii), between (a) and (b) and looking at that, as  
I see it, what it's applied for and what it has under that specific modified  
35 reassessment, it's very constrained.

[5.10 pm]

40 The principles that the Environment Court deals with applications is  
really quite similar where an applicant tries to change an application  
post-notification. It's applied these two principles. I'm happy to  
provide the case law, a couple of cases on that, to the EPA in terms of  
those principles, because they really are common-law principles.  
45 There's nothing specific in the RMA statute. In my submission the  
principles that apply are really about the aspect of public participation  
that's recognised when something is publicly notified, which is exactly  
the same as a publicly notified hearing.

- 5 The second is really around -- so the two principles are unfairness or undue prejudice to who might have been involved, if they'd known what they've now applied for. Secondly around -- the second one is relating to the nature or ambit and scale of effects. Again, in terms of the fairness of process and how that ties into principles of natural justice, there's a duty to act fairly when it's a committee. I think that those principles as applied by the Environment Court would be the same for the EPA in terms of making a decision around scope.
- 10 DR PHILLIPS: Okay, that's great. Thank you for that clarification. I have no further questions, thanks.
- 15 CHAIR: Dr Belton.
- 20 DR BELTON: Thanks, Chair. Thank you for a very comprehensive submission, both written and verbal. I just wanted to clarify, Mr Sharp, your comments around -- you started off by saying that TMF Action Group believes that -- I think you were saying there is no need for methyl bromide fumigation because of the clear alternatives available. We've got different views on that. Then I think you referred to the Environment Court case having found something similar. I just wanted a clarification on what you believed the Environment Court found that supports that statement, or putting me right on what you were saying, please.
- 25 MR SHARP: Of course, the Environment Court was considering a different issue, that is a resource consent for another fumigator. But the point I was making is that some of the reasons why it refused to give resource consent does seem to have relevance to this application because it deals with issues of monitoring and so on and what sort of controls can be put on methyl bromide to protect the public safety. I'm not saying that this authority should follow the Environment Court decision, I'm just saying that it raises points and issues that would seem to be relevant to your decision.
- 30 DR BELTON: Okay, that's helpful, thank you very much. That's all from me, thanks, Chair.
- 35 CHAIR: Kia ora. Two questions from me. Mr Sharp, to come back to one of your opening comments about the (inaudible) response to the legal submission from the applicant. Did you do that through your submission just now?
- 40 MR SHARP: Yes, we did, but, to be fair to you and give the information and to be fair to STIMBR as well, it probably would be more appropriate if we just reduced those arguments or submissions in writing so you have

them before you and then if STIMBR wants to make a response, they can.

5 CHAIR: Okay. We will receive a transcript of today, so if that serves a purpose, that's fine and then it would save us from dealing with the issue of new information and so on. You're welcome to provide that and we'll decide accordingly.

10 I do note that in terms of -- Ms Barry-Piceno, thank you for your offer to provide case studies but we're alive to those issues without the case studies, I think, thank you very much.

15 Mr Wilkinson, just a question. I see we have a submission, albeit that they're not appearing at the hearing, from the Council of Trade Unions. Could you say again what your union is and do you have a relationship with the Council of Trade Unions?

[5.15 pm]

20 MR WILKINSON: On the first part, yes, our union is the Rail and Maritime Transport Union. The Council of Trade Unions is a federation of unions from around New Zealand that come together and we are part of the Council of Trade Unions. The CTU were submitting verbally as well but they've since been inundated with work, which is not surprising, and haven't had the time or the resources to do a submission verbally. But they have done a written submission; I did know that.

30 CHAIR: Thank you very much. Thank you for your participation. That's all the questions that I have as well. I want to check, you are seeking there to provide a submission on the new target of 30 per cent recapture, did I hear you right, Mr Sharp?

35 MR SHARP: Yes, as to the issues that Ms Barry-Piceno: raises on whether it's on scope.

CHAIR: Okay. As I said earlier on, I can't remember now whether it was you, but that's certainly something the Committee is turning its mind to as to how to respond to that. Thank you.

40 Okay, EPA team?

MR BAILEY: The EPA team have no questions at this time, thank you.

45 CHAIR: Thank you. Mr Slyfield?

MR SLYFIELD: No questions from STIMBR, thank you, sir.

CHAIR: Okay. Do any of our submitters have questions they'd like to pose?

5 Okay. Well, thank you all very much for what's been a long but rather -- entertaining is the wrong word. It has been a very information-dense day so we really do appreciate everybody's effort today. We have another fun-filled day ahead of us tomorrow starting at 8.30 am. I did offer Mr Ngatuere the opportunity to close with a karakia. I don't think he's online still. Mr Wilkinson, if you're of a mind to do a closing karakia, we'd like to offer you that opportunity.

10 MR WILKINSON: Thank you, Mr Chair.

CLOSING KARAKIA

15 CHAIR: Kia ora, enjoy the rest of your evening.

**MATTER ADJOURNED AT 5.18 PM UNTIL  
FRIDAY, 14 AUGUST 2020**

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