

[11.47 am]

MR ISELI: All right, good morning.

5 CHAIRMAN: Yes, I am sorry, I did not get a note of your name?

MR ISELI: It is John Iseli, surname is I-S-E-L-I.

CHAIRMAN: Thank you.

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MR ISELI: I am just addressing question seven, which relates to rule 7.15 and 7.16; is there an unintended consequence of the inclusion of the reference to total PM10 in 7.15 and 7.16, as requested in the Keer-Keer submission, that the smaller combustion sources, less than two megawatts in the clean air zone, or less than five megawatts outside a clean air zone, would need to measure condensable particulate emissions, not just filterable emissions, as envisaged in Schedule 6, in order to demonstrate compliance with these rules.

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And the answer is, at least in the first instance, relatively straightforward. Yes, the term total PM10 does suggest the sale of filterable, plus condensable PM10. This is inconsistent with the intent expressed in Schedule 6, which is to allow for smaller combustion sources to be able to demonstrate compliance using filterable emissions testing only.

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CHAIRMAN: Well, in other words, we have got a mismatch, if you like, between the rule and the schedule?

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MR ISELI: The schedule specifies that smaller combustion sources do not need to test for condensable PM10. The way the rule is proposed, there is no mismatch; but if you were to adopt Mr Keer-Keer's suggestion and use the word "total" to refer to "total PM10", there could be a mismatch, because total PM10 implies that it is condensable and filterable.

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CHAIRMAN: Right.

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MR ISELI: Although the rule does still reference Schedule 6, which to a degree is correct, but it is just an inconsistency.

CHAIRMAN: So, at the end of the day, you say there is nothing to worry about, unless Mr Keer-Keer's submission is adopted?

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[11.50 am]

MR ISELI: That is correct, sir. It really goes to this issue of for you to decide whether testing should be undertaken for the smaller sources for condensable PM10 versus – there is a lot more information that can be provided on that, but you perhaps do not want that now.

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CHAIRMAN: Right. Thank you.

MS SIMPSON: I guess I do have two questions that are probably worth just asking you now; we do have a submission that has questioned the accuracy of that method, and the testing of condensables. Do you have a view on that?

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MR ISELI: Yes, and I will keep it to the short view at the moment, but there were issues with the method US EPA 202 I believe, originally there was a problem with the method in that without a nitrogen purge, there was potential for there to be artefacts in the sample.

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To put it in simple terms, what that means is there was potential to, for the same to put the test method, as used historically, to overstate the amount of condensable PM10, and so there is concern that some of the older test results prior to about 2010, which did not use a nitrogen purge in the system because of those potential artefacts, may overstate the amount of condensable PM10 versus the filterable component.

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The test method was changed around 2010, and it is generally considered that the current test method, or testing post-2010 that does use the nitrogen purge, is likely to be more accurate.

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MS SIMPSON: And for the larger sources that would now be required to use a different test method, than they might have in the past, it may be a hard question to answer, but what is your sense of how much large the STAT concentrations will be, than if they looked at that filterable particulate, alone?

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MR ISELI: Yes, it is a good question. The data I have looked at in terms of the percentage of condensable coming from sources, the best, or at least the most reliable data I have been able to find, relates to US EPA emission factors, which are somewhat aged now.

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So they often, depending on the source they have different dates, but late-90s to mid-2000s, the problem with that of course is that that was older, those emission factors rely on older test results and, therefore, may be contaminated to some degree by the issue around the test method used at that time. So there is a rider on how much weight you can put to those EPA emission factors.

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5 That said, the emission factors indicate that for the major sources in Canterbury, which tend to be the large scale boilers for example, tend to be primarily coal and wood fired boilers, the condensable particular percentage or proportion, is relatively low at six to 11 percent of the total.

The picture is different for gassed, a gas fire boilers I think the number is in the – perhaps I can tell you what the number is.

10 So for the EPA emission factors for LPG combustion, they are dated 2008, and they indicate a percentage of condensable PM – as a percentage of total PM10, which is a condensable plus filterable – so they indicate; 73 percent condensable for LPG combustion; 39% for
15 diesel combustion in a boiler; 13 percent for diesel internal combustion in a generator or other large engine; 6 percent for a wood fired boiler;and 11 percent for a coal fired boiler.

[11.55 am]

20 So, bearing in mind the rider I mentioned about the date of some of this information, that indicates to me that for the large, or for solid fuel fired combustion sources, that condensables are less important, than for the gas and diesel fired sources.

25 But of course, in terms of gas and diesel fired sources, the total amount of PM10 discharge is much less. The primary sources of PM10 and PM2.5 as well of – I mean from the industrial sector in Canterbury are from the large wood and coal fired boilers and, to a lesser extent of course, the moderate boilers that are less than two megawatts in the air
30 shed and five megawatts outside.

35 So, hence, the approach of the plan as proposed is to not require testing of the smaller sources for condensables, given that the information that we have is that it is not a major component of the discharge and the extra cost associated with that is significant.

40 MS SIMPSON: That was going to be another one of my questions, is it more expensive for industries wanting to, if they have to do the testing for both, what is the difference in cost?

45 MR ISELI: Yes, I have prepared a, some draft information at this stage which could be presented to the Panel at the time of your choosing in reply, or earlier if you wish. I am essentially reading from that. And in terms of costing; clearly it varies depending on the site and the specifics of the site, as you will know.

Measurement of filterable particulate matter, or otherwise known as total suspended particulate, is relatively cost effective for smaller sources at approximately \$2,000 plus GST per test.

5 Testing specifically for PM10, costs in the order of an additional \$500 to \$800, plus GST, and KTM Environmental, Mr Keer-Keer's company, who is a submitter, indicated a measurement of condensable PM would typically cost in the order of a further \$1,000 to \$1,500 plus GST.

10 MS SIMPSON: So, and you may not be the right person to ask this question, but in terms of the emissions estimates that the Council have made, so where they have estimated the relative contribution of different sources to PM10 in the air shed; do you know, does any of that take into
15 account condensable particulate?

MR ISELI: I am – you are correct in that I am not the right person to answer that. I was not involved in the emissions inventory, or that part of
20 development of the Plan.

MS SIMPSON: Okay, so I mean, just, I guess I am just, yeah, where I am getting at with that question is just to what extent that, if the management approach is based on an understanding of the contribution of different sources and it is all been based on filterable only, I am just
25 wondering what the difference would be if we start then to take into account condensable as well; and an example would be LPG combustion, which if you are only looking at filterable, you would say is pretty clean and almost discount it, whereas if you start looking at condensable it becomes more significant.

30 So one last question, and that is that Schedule 6 talks about different test methods for combustion sources, but it is actually referred to in other rules which are more general, they are the two rules that talk about the activity status for discharges greater than 250 mg per cubic
35 metre, which could apply to other non-combustion sources, and I am just wondering where they will fit within needing to test for, yeah, it does not appear that, that schedule contemplates anything other than combustion sources, but I just notice that it seems to be referred to in other rules.

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[12.00 pm]

MR ISELI: I am not sure who the best person to respond to that would, would
45 you like to, or would you like me to deal with that?

5 I think so, I think having read through the evidence submitters have provided, the intent is, the intent in drafting Schedule 6 was that it applied to combustion sources and the rules, those rules that specified the 250 mg per cubic metre limit, I believe the intent was also that they apply to combustion sources and not other sources, and perhaps the solution then is to specify that in those rules.

10 MS SIMPSON: I could have this wrong, but I have a feeling that that schedule was also referred to – sorry I am just trying to find it, in another rule which was for something quite unrelated, I think it was emissions from mechanical grinding activity.

15 MR ISELI: I think you may well be correct that there was, there is a proposed rule emissions from metal working and grinding, and such, that there was metal fumes that has, I believe, a 20 mg per cubic metre limit.

If that rules refers specifically to Schedule 6, there may be need to correct that, yes.

20 MS SIMPSON: Okay, but the intention is that this is only relevant to combustion sources and so the rules should reflect that?

25 MR ISELI: That is right, and the intention of rules, and at least in my understand, and Mr (**INDISTINCT 1.30.31**) will correct me if I am wrong, but the drafting around rule 7.15 and 7.16, that deal with the 250 mg per cubic metre concentration limit was to deal with combustibles.

30 MS SIMPSON: Okay. Thank you.

35 CHAIRMAN: There has been made reference to a draft written response and wondered whether it might be best (**INDISTINCT 1.30.53**), you might be best placed to answer that question. Mr (**INDISTINCT 1.30.59**) is due to appear before us on Thursday of next week; would it be helpful to have that response before then, or does it not matter?

40 MS SIMPSON: I think it would be helpful. The two key submitters are Mr Keer-Keer and Fonterra, who I think are in the last week. So if we could have it before we hear from Mr Keer-Keer, as you say, on the Thursday, that would be helpful.

MR ISELI: Certainly.

45 MS SIMPSON: With enough time to read it.

CHAIRMAN: Thank you.