
TRANSCRIPT OF PROCEEDINGS

**ENVIRONMENTAL PROTECTION AUTHORITY
HEARING**

**APP203989 - FIRE FIGHTING CHEMICALS
GROUP STANDARD
Hazardous Substances, Notified Amended Group Standard**

**VIRTUAL HEARING and at
TERRACE CONFERENCE CENTRE
114 THE TERRACE, WELLINGTON
on 6 November 2020**

DECISION-MAKING COMMITTEE:

Dr Ngaire Phillips (Chair)

Dr Kerry Laing

Dr Derek Belton

Hearing Proceedings

Day 02 Friday 6 November 2020

Time	Name	Representing	Topic	Documents Submitted / Presented	Transcript Ref. Page no's
9.30 am	Chair		Introduction		84
9.33 am	Mitch Hubert	Fire Fighting Foam Coalition	Presentation	Submission 15	85
9.40 am	DMC		Questions		87
9.49 am	Submitters		Questions		90
9.55 am	Wayne Andrews-Paul	NZ Defence Force	Presentation	Submission 31	92
10.04 am	DMC		Questions		95
10.08 am	Kevin Ward	NZ Airports Association	Presentation	Submission 27	97
10.12 am	Nicola Cordner	NZ Airports Association	Presentation	Submission 27	98
10.16 am	DMC		Questions		99
10.28 am	Submitters		Questions		100
10.31 am			Morning Tea		104
10.48 am	Paul Turner	Fire and Emergency New Zealand	Presentation	Submission 33	104
10.52 am	DMC		Questions		106
11.02 am	Submitters		Questions		108

11.03 am	Phil Lacey	Fire Protection Association	Presentation	Submission 10	109
11.19 am	DMC		Questions		114
11.28 am	Submitters		Questions		117
11.31 am	Sarah Lloyd	Air New Zealand	Presentation	Submission 17	117
11.47 am	Submitters		Questions		123
11.49 am			Adjournment		124
12.10 pm	Peter Dawson	EPA	Applicant's Right of Reply		124
12.20 pm	Nigel Holmes	EPA	Applicant's Right of Reply		127
12.22 pm			Closing Karakia		127
12.23 pm			Adjourn		128

[9.30 am]

CHAIR: Morena, everyone. We will make a start on the day. Just because we have some people here who weren't here yesterday, and we have people on line presumably who weren't here yesterday, I am going to go through the formalities again very quickly.

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My name is Dr Ngaire Phillips, I am the chairperson of this Decision-making Committee. On my left I have Dr Kerry Laing and on my right I have Dr Derek Belton.

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As you know, we are here to consider and decide on application APP203989 to amend the Fire Fighting Chemicals Group Standard for 2017. This hearing is specifically to address this application and the HSNO Act does not permit the Committee to make decisions about other substances that are currently approved as part of this process.

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The Committee shall consider and decide any application other than an application which is the subject of a ministerial direction under section 68 of the HSNO and shall have in relation to any such consideration and decision on any matter the same immunities and privileges as are possessed by a District Court Judge.

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The objective of this 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. What we did yesterday was we heard from the applicant and some of the submitters and today, in day 2, we are going to continue to hear from submitters. When you give your submission I would ask that submitters come up the lectern, up the front there, and speak into the microphone. If you are asking a question there are a couple of roving microphones so please identify yourself. That is because we have a stenographer who is transcribing all of the information and they need to know who is speaking. So I ask you to do that.

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The questions are questions of clarity rather than cross-examination and it is also not an opportunity to expand on your own submissions. It is purely for questions.

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For those who are on Zoom and you wish to ask a question, go through the chat facility that Marree has set up and Marree will notify me as chairperson of anyone wanting to ask any questions.

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In terms of housekeeping, to evacuate in an emergency, if it is not an earthquake, please leave the building by the main entrance that you entered through, via the stairs. If you are on Zoom, we just ask you have practices in place to ensure that you are safe and can get out in an emergency.

We ask that all cell phones are turned off or on silent. If everyone can just do a mental check of that now. I assume there are no media present? No, thank you.

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Okay, so we can make a start on the submissions. The first up this morning we have the Fire Fighting Foam Coalition who are coming in from the US, Thomas Cortina and, I assume, Mitch Hubert as well. They are both there. If you would like to go ahead, Mr Cortina, Mr Hubert.

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SUBMISSION 15 - FIRE FIGHTING FOAM COALITION

15 MR CORTINA: Thank you very much I am unable to get my camera to come on but I am not going to be speaking, it is going to be Mitch.

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I am Tom Cortina, I am Executive Director of the Fire Fighting Foam Coalition and I have asked Mitch Hubert, who is our Technical Director and a very renown foam expert to speaker for our organisation so Mitch will take over.

MITCH HUBERT PRESENTING

25 MR HUBERT: Great, can everybody hear me?

CHAIR: Yes, we can, thank you.

30 MR HUBERT: Okay, well unfortunately I could get my camera to work so you are going to wind up seeing me. Morning, my name is Mitch Hubert and thank you for the opportunity to address the hearing today. By way of background, I hold degrees in both chemistry and biology and have been working in the Fire Fighting Foam industry for more than 40 years both as a formulation chemist and a fire fighter. I am speaking today as Technical Director of the Fire Fighting Foam Coalition, FFFC, which is a global association that represents manufacturers of fire fighting foams and their chemical components on regulatory and legislative issues.

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40 Foam manufacturers who are members of the FFFC provide a majority of the fire fighting foam that is used in New Zealand. FFFC fully supports the goal of minimising the environmental impact of fire fighting foams and reducing the use of PFAS chemicals. In pursuit of this goal, FFFC has supported regulations on long-chain PFAS in foam in the EU, Canada, United States and the Stockholm POPs.

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[9.35 am]

5 In addition, we have developed and promoted best practice guidance that is focused on proper containment and treatment of foam discharges and use of PFAS alternatives for training and testing. We fully support the proposals to amend the Fire Fighting Chemical Group Standard to phase out the sale and use of legacy C8 foams and to prohibit the use of all PFAS foam for testing and training. FFFC believes these steps alone will significantly reduce the environmental impact from foam use.

10 We also support a transition to the use of Fluorine Free Foams for most municipal fire responses and spill fire scenarios. In our submission we identified certain fire scenarios in industry segments where the current technology utilised in Fluorine Free Foam falls short of providing the type of performance that we can assure that large catastrophic fires can
15 successful be fought and extinguished and which provide a measure of safety for the fire fighters and other first responders.

20 While we continue to make advances in Fluorine Free Foam technology we are still not at the point where those products can be considered as drop in replacements. This is substantiated by recent extensive study on the effectiveness of Fluorine Free Foams conducted by the National Fire Protection Association Research Foundation. The conclusion of that report is that there is more work to do with these products in some of the fire scenarios.

25 The technological problem that we face as formulators is that these Fluorine Free Foams tend to pick up fuel and become contaminated when there is as chance for the foam to be submerged in the fuel, such as when fighting large fuel storage tanks or bonfires where there is a chance of what we in the industry call fuel in depth fire. These large catastrophic fires can very quickly get out of control and grow to
30 immense conflagrations. We recently saw this with the International Terminal Company fire in Texas.

35 While these types of fires are rare they do happen. In that particular case, a single fuel storage tank grew from just one tank to a total of 11 tanks that burned for four days before it was successfully extinguished. During and immediately after the fire levels of benzene were elevated and caused schools and businesses to shut down, and some residences
40 to have to shelter in place.

45 In our submission the Fire Fighting Foam Coalition recommend the exemption to be included in the group standard that would allow for the continued sale and use of C6 fluorotelomer foams for high hazard uses such as the following: use at refineries and chemical plants that handle flammable liquids; use at storage facilities, tank farms and terminals for flammable liquids; use to recharge existing fixed foam

systems, including fire sprinkler systems to ensure design protection levels are maintained.

5 We note that the update to the initial EPA proposal extends to the use of C6 fluorotelomers from two years to five years and provides a provision for extension beyond five years on a case-by-case basis. FFFC supports providing users with this additional time to make the transition to Fluorine Free Foams.

10 As we noted earlier, fluorine foams are not drop in replacements for fluorinated foams. For many users transitioning them will require equipment and operational changes that can take time and be costly to implement. In addition to these costs, foam users will also be responsible for the cost of disposal of foam concentrates and PFAS contaminated equipment cleaning. As the current recommended method for disposing of these solution is high temperature incineration, this is also likely to entail significant costs.

20 It is in response to a recent consultation on fire fighting foams by the European Chemical Agency, the European Fire Protection Association presented a realistic time period to transition away from fluorinated foams and concluded a minimum of 10 years is considered necessary. Serious consideration should be given to extending the use of C6 fluorotelomer foams beyond the five year period currently proposed. However if end users support the shorter five year period, we are certainly in favour of that timeframe as well.

Thank you for the opportunity to present today.

30 [9.40 am]

QUESTIONS

35 CHAIR: Thank you very much, Mr Hubert. Derek, do you have any questions?

DR BELTON: Yes, thanks for that presentation, that was excellent. Just wanting to clarify your final point there. I think I interpreted it as saying you could live with the amended proposal for the group standard with those extension provisions in there, is that it? Am I correct on that?

40 MR CORTINA: Mitch, you want me to take that?

MR HUBERT: Sure, go ahead.

45 MR CORTINA: I think -- go ahead, Mitch, I lost my train of thought.

MR HUBERT: No, that's fine. I mean, quite honestly the entire formulation side of the business is scrambling to come up with better performing Fluorine Free

5 Foams and while everybody is making progress along those lines, we're just not sure how long that's going to take. Quite honestly, if your end users at your part of the world are happy with the five years, I think the fire fighting foam coalition would be also. The only caveat I would add is that it's really an unknown right now, the crystal ball's a little bit hazy as to how quickly we can get to the higher performance that is necessary for some of these fuel and depth fires in particular.

10 You'll recall yesterday that Rod Rutledge said that they're comfortable with transitioning to Fluorine Free Foams on smaller tanks up to 20 metres, but once you get above that and once you get the refined fuels and some of the crudes that the confidence level in the Fluorine Free Foams is not quite there yet. So I think it really depends upon how quickly the industry can get to where we would like to be.

15 DR BELTON: Sure, thank you very much.

CHAIR: Kerry, have you got any questions?

20 DR LAING: Thanks, Ngairé. Thanks very much for the presentation, Mitch, appreciate the support you're giving to the EPA revised group standard. I've got a couple of questions and they're related to things that I talked about yesterday. I understand from the submission you made that, and
25 you're basically speaking on behalf of a number of manufacturers who supply foams to New Zealand, that in fact they or the coalition would be happy to provide compositional information on a confidential basis, but you've also made the statement in the submission about requiring a base set of toxicological and environmental testing data as well, and nobody else seems to have gone down this route. Do you think the
30 manufacturers have got that information and would also be happy to share that?

MR HUBERT: Well, I quite honestly think that it's most likely a manufacturer by
35 manufacturer decision, and since the composition of the Fluorine Free Foams is evolving, even as we speak, a lot of that testing data may not be available, but as we finalise formulations, kind of across the board from all of the manufacturers, that's information that we typically go out and seek. Now, whether or not it's to the level of detail that you might want, I really can't speak to that at this point, but certainly when
40 it comes to toxicological studies more information is better, but at some point costs also override the amount of testing that we can do. So if there are specific toxicological tests that are more important than others, I think all of the manufacturers would certainly entertain those types of things.

45 DR LAING: Okay, that's good. A related question, some of the information that Mike Wilson provided when he looked at ecotox Fluorine Free Foams

was based on earlier studies around about 2006, have there been any updated material on ecological testing that's similar to that?

MR HUBERT:

Again, it's kind of hard to define where everybody is right now. Obviously I can't speak for all of the manufacturers beyond what we have put together collectively. Again, because formulation technology is evolving, the types of information that were available back in 2006, 2007, some of that information would continue to hold true, others of that information are probably in need of being updated.

[9.45 am]

What I can say is that all of the manufacturers are very, very cognisant of some of the points that were brought up from the work that was done in Queensland, and that is that we do have to avoid other types of raw materials that, at some point in time, may prove to be persistent in the environment, most importantly the siloxanes. So as much as I know from speaking with colleagues, and of course we all can't share what we're doing, but as much as I know the manufacturers are seeking to avoid things like siloxanes.

DR LAING:

Okay, thanks very much, Mitch. That's all, Ngaire.

CHAIR:

Okay, thank you, Mitch. I had a question which was related to what is the state of play in terms of progress in developing these products to a level where they are more effective and more acceptable in these high hazard situations, but I think you kind of answered that question, that it's probably a crystal ball. Is that right?

MR HUBERT:

Yes, it's a little bit hazy at this point in time. I think that by and large throughout the industry the things that we're struggling most with, and these were topics that were brought up yesterday, is the performance of these types of products, in particular, on water miscible or what we call "polar fuels". The chemistry behind the fluorinated foam seems to work very, very well on a broad spectrum of polar solvents, whereas for the Fluorine Free Foams it becomes a little more difficult, especially when we talk about things like using these foams through fixed sprinkler systems, which is very, very common, and so that's one of the areas where we fall short.

In terms of hydrocarbon fires, I think we're further ahead than we are with the polar solvents, but even there work still needs to be done in terms of over the top type applications for large fuel storage tanks, where you're taking monitors that are putting out 15-20,000 litres per minute and you can imagine what the impact velocity of those would be on a fuel surface. That foam actually submerges 2, sometimes 3 feet below the surface and then it floats up to the top, but while it's submerged, because it doesn't have the fuel shedding characteristics

that we see with fluorinated foams, because of the fluorosurfactants, that's a challenge for us, and that's part of the reason why Rod feels relatively comfortable with doing small diameter tanks as opposed to the large diameter tanks.

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CHAIR: I mean, clearly there's got to be some sort of incentive for effort and time and money to be put in to developing these products further, so does your organisation, because you're a representation of a collective of manufacturers, is there sort of a policy imperative for the industry to be putting their effort into these products rather than just continuing with, say, the C6 chemical or formulations?

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MR HUBERT: Well, the incentive is, for all of the manufacturers, that he who solves the problem first gets the lion's share of business early on, right, and so all of the manufacturers are spending the majority of the R and D money that they have allocated to them on development of Fluorine Free Foams. I'm not aware of any of our colleagues out there that are spending very much time on fluorinated foams, other than just to maintain those foam products in the market place. But all of the real new development work is fluorine free.

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CHAIR: That's great, thank you very much. I have no further questions. Does the EPA have any questions for Tom or Mitch? Okay, so if you can identify yourself?

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MR DAWSON: Yes, hello, Mitch and Thomas. It's Peter Dawson here, I'm the principal scientist at the EPA on the EPA project team. We're quite familiar with some of the technical guidance material that you've put out, but have you got some really detailed guidance on actually how to go about cleaning out systems and what are reasonable levels to clean things down to, and maybe associated with that the suitable analytical methods to determine residual levels of PFAS compounds?

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[9.50 am]

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MR HUBERT: Tom, you want to handle that or you want me to?

MR CORTINA: I'll take it, Mitch. We have developed analytical methods, in fact we worked SGS AXYS to develop an analytical method specific for measuring PFAS, PFOA, perfluoroalkyl gas, 62FDS, everything in foam concentrates. So we certainly do have that. We do not have any particular guidance of any kind as it relates to cleaning or levels you need to clean to or the whole issue of transitioning from a fluorinated foam to a fluorine foam outside of the best practice guidance that you've seen. So the answer to that one is, no, we have not developed that. That's been kind of a company by company situation, where companies have kind of worked with their customers on those issues and it's the whole issue of making those transitions is, we've seen it in

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Queensland and places like that, so we're kind of taking our lead from places that it's already happened.

5 MR DAWSON: Okay, thanks, that's good. The other thing that we've noticed and we've wrote something about it in the updated report, is that we've seen there's an enormous amount of regulatory activity in the United States in various States on the regulation of the fire fighting foam, so I was wondering is the fire fighting foam coalition happy with the direction that States like Washington and California have taken?

10 MR CORTINA: We were happy with, where Washington had gone in 2018, when they had some fairly broad exemptions for the high type of hazard uses that we outlined in our comments. Even the updated Washington State thing still allows those exemptions, it puts a timeframe on them but it extends it out to the 2028 timeframe. The California one, we are not as happy with, I would say. They really got deep into the woods and exemptions are really narrow and I think it is going to cause some difficulties for some of the oil and gas industries in California to meet it. That is, I guess, the way I would describe our feelings on those two laws.

15 MR HUBERT: I think it is probably also interesting to note that their latest regulations and laws will be in conflict with other regulations and laws they on the book because California has codified NFPA1, the building standard, which requires the use of fixed fire systems in many of the applications and, as I mentioned earlier, we are struggling with the ability to do, in particular, polar solvents through sprinkler systems and so there may be coming down the road some conflict between the environmental side of the law and the building code or fire protection side of the law.

25 CHAIR: Thank you, any other questions from the EPA? Okay, have any of the submitters in the room got any questions on this? No? Okay. Marree, are there any questions from Zoom participants? No questions from Zoom participants. Thank you very much, Tom and Mitch. That is about it. Good luck with whatever is happening over there.

30 MR CORTINA: We were hoping no one was going to mention it.

35 CHAIR: That was all I was going to mention about that. Thank you very much, appreciate your submission.

40 MR CORTINA: Thank you so much, we appreciate it.

45 CHAIR: So our next presenter is Kevin Ward. Is Kevin here?

MS QUINN: Unfortunately Kevin is not here at the moment.

CHAIR: Okay, who have we got next on the list. Wayne Andrews-Paul. Yes, are you happy to give your presentation now? Okay, great, thank you. Is Tim Hunt -- you are both here, excellent.

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[9.55 am]

SUBMISSION 31 - NEW ZEALAND DEFENCE FORCE

WAYNE ANDREWS-PAUL PRESENTING

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MR ANDREWS-PAUL: Thank you very much for the opportunity. Just by means of background, my name is Wayne Andrews-Paul and I am the Hazardous Substance Assurance Officer for the New Zealand Defence Force and I cover all classes, class 1 through to class 9. On my left here, assisting me this morning from a technical perspective will be Mr Tim Hunt, who is the Technical Fire Officer with the Royal New Zealand Air Force.

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This morning all I am doing is really just reiterating our initial submission, which hasn't changed in the 12 months since we submitted it. The New Zealand Defence Force currently has AFFF product across a range of applications for emergency purposes, for example, naval ships, airfield crash fire vehicles, fuel installations and within our aircraft hangars. To note, a decision has been taken recently by our aircraft hangars to phase out AFFF8 and transition to a PFAS free fire fighting foam option.

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However, the risk is considered as significantly high to not to continue to use military specification AFFF where applicable within the military environment, for example, on board our ships, within the Aviation Rescue fire fighting vehicles and fuel installations. With regards to the fuel fighting, Aviation Rescue fire fighting vehicles, that is in regard to addressing any incident on the airfield with our aircraft.

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The performance required by defence for fire fighting foam is to achieve a fast and sustained knock back of a fire incident. Protection of the emergency response teams, for example, our fire fighters are rapid extraction of crew and passengers, protection, security, recovery of the platform to enable repair and/or continued operation with minimal impact on the environment.

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Having reviewed the revised draft Fire Fighting Chemical Standard, the New Zealand Defence Force support the proposal to cease the general importation of AFFF. However, the Defence Force remain concerned at the absence of any reputable scientific testing to provide confidence and assurance the PFAS free fire fighting foams will suitably and effectively address high volatile fuel fires at a scale in

situations which resemble true operating conditions experienced on military ships, aircraft and at our fuel storage installations.

5 Consideration is necessary, therefore, to allow continued use of AFFF
C6 foams in our environments where there is a potential for a fully
involved high volatile fuel fire - for example, on board our naval ship,
our fuel installations and an aircraft incident on the airfield - at least
until such time as viable alternatives are proven summarily effective
for such occurrences. This is currently not the case.

10 The assumption that PFAS free fire fighting foams are viable
alternatives to fluorinated foams in most applications is from my
research unfounded. Consideration must therefore be given to the
potential adverse impacts such an assumption could have on safety of
15 personnel, safety of emergency response teams and critical
infrastructure and platform safety and the environment. In proposing
this arbitrary two year, five year phase out of AFFF, and assuming
PFAS free fire fighting foams will be good enough by the end of this
period requires further review.

20 As stated in our covering letter to the submission, acknowledging
PFAS free fire fighting foam formulations will continue to improve, a
two-tier standard was proposed be adopted for the period 2025 to 2030
allowing select industry sectors to continue to use AFFF for high
25 volatile fuel fires. At the end of this period it would be considered
appropriate for EPA to review the suitability of PFAS free fire fighting
foams to determine if they meet the required performance standards.
That said, I acknowledge the permission process that is proposed as an
alternative.

30 The national inventory of users of AFFF appears to be small and I
consider it might be better managed through a direct liaison and
collaboration as suggested within our initial letter, as opposed to having
this permission process.

35 A question which I have for EPA is does that proposed permission
process also attract some monetary component? Do we have to apply
every two to five years? Based on the small inventory of conceivably
small users of AFFF, I think a select committee might be a better use
40 of time and resources to manage this process.

[10.00 am]

45 Focusing only on the foam concentrates in isolation is misleading.
When considering the impacts the whole incident requires to be
considered. All fire fighting effluent in is a contaminant. Smoke,
firewater runoff and potential overflowing of containment due to

higher application rates potentially contributes to more, not less, environmental harm.

5 Accepting that PFAS free fire fighting foams are being used does not necessarily mean that PFAS is not present in the fire or firewater runoff. PFAS is ubiquitous.

10 Cleaning of equipment on transition. PFAS free fire fighting foams are not drop in replacements. By not drop in I am talking also it is not clearly a PFAS free foam drop in to replace the actual foam it is also all the componentry and parts and mechanisms to support the operation. There is currently no clear system design guidance for PFAS free fire fighting foam agents in existing or new design foam systems that I am aware of.

15 The fire fighting foam transition phase out process will require detailed planning and close management, financial budgeting, co-ordination, which is inclusive disposal, destruction and, in our case, potentially a long transition to the approved new generation foams.

20 EPA guidance and early direction in this area is desirable, together with defining what "so far is reasonably practicable" means in this context. We are talking about disposal of the product, the AFFF product, when we transition out of it. I am not seeing any commentary or communication around the componentry parts of the systems that we may use that may be contaminated with the AFFF. How are we going to dispose of that?

30 Wet wipe systems may contain significantly the residue hardening PFAS that will not simply flush away with water and over time you might get a rebound effect likely if we were to retest downstream. Successive rinsing or flushing of highly complex systems or componentry with water alone may not materially alter the amount of PFAS in a system. Therefore, are we going to get some direction, are we flushing with water, are we using organic solvents, etc?

40 Continued use of AFFF C6 until such time as there is a PFAS free fire fighting foam that is comparable or exceeds the current required performance requirement is considered as taking all reasonably practicable steps to prevent environmental harm. This would achieve the community's goal of moving towards safer choices while decreasing environmental impact, and reducing and minimising public health risks as a result of fire fighting foam use. We only use it in emergency situations, we don't train with it.

45 I believe also this is a key objective of this Fire Fighting Chemical Group Standard review and revision process. The New Zealand Defence Force position is unchanged in proposing the continued use of

5 high purity AFFF C6 until such time realistic and scientific testing of
PFAS free fire fighting foams demonstrate equal or exceed
performance of that required currently by military specialised
fluorinated foam. The requirement for military specialised fluorinated
foam that have fluorinated surfactant as part of its composition has now
been removed. And, as we have heard from various speakers, there is
significant funding to be provided to manufacturers to come up with a
military specification PFAS free foam. That is a number of years away.
10 That is not going to happen in the next two years, five years, it is very
distant.

15 To date results have been unsuccessful in creating a PFAS free fire
fighting foam that is able to satisfy the performance criteria required
by the military in most of its operational environments.

Thank you for this opportunity to speak on our submission and I am
happy to take any questions.

20 QUESTIONS

CHAIR: Okay, thank you very much. Kerry?

DR LAING: No questions.

25 CHAIR: All right, Derek, have you got any questions?

DR BELTON: Yes. Thanks very much, Wayne, that's excellent. You acknowledge
the permission process as an alternative to your suggestion for dealing
with how we go with potential use going forward. I interpret that you
30 are saying that that is workable.

MR ANDREWS-PAUL: Yes, I agree with that. I was just asking on top of that if that's the
direction we're going to go based on the small inventory of those
35 potential users. Does that attract a funding component to it and, if so,
what is it, and then I just, again, questioned the value of having it every
two years, five years, if we know there's no alternative at this stage and
it's quite a distance away.

[10.05 am]

40 DR BELTON: Sure, yes. The other thing, I guess more of a comment but I'm
interested in your view, on your comments about more direction on
cleaning and so on, it's sounding a bit like the debate that's often had
between prescriptive standards and outcome based standards. I mean
45 prescriptive standards people argue are easier to follow because it's all
black and white, we do this and we're done, we tick the box, whereas
the outcome standard does give you more flexibility, but obviously

requires a lot more engagement in determining how to achieve the objective we're after.

5 MR ANDREWS-PAUL: I take your point, and there may be situations or examples where we
may not, no matter how much purging you might do of a system, for
example our ships, now they're particular systems and they're miles
long, so all the nooks and crannies, we may never get to a point we will
satisfy 25 parts per million or any other tolerance levels that are
10 necessary. So that's one side of it. The other side is if we are able to
contain AFFF and we're transitioning from a C8 to a C6, the question
is why purge it? We've still got to remove it and dispose of it in the
same way as we would do the C8. Again, that's a lot of effort, but
again, we'll go with the consensus, but it was just an observation that if
15 I'm going to be able to contain it anyway. A bit different when we do
transition to PFAS.

The other part of the cleaning operation is with our ships, in particular,
that transition phase will take a lot longer, so it will not occur - or even
with our aircraft - until such time as they would go into planned
20 maintenance and that doesn't happen every year, that might be a ten
year cycle. If we use some of our ships, they've got an end of life out
to 2035. We're not going to change a ship out in that period of time,
it's just not logical, feasible or viable for us to consider that. So, again,
two year, five year permission to continue to operate is where I'm sort
25 of a little bit unsure at the moment.

DR BELTON: Great, thank you very much.

30 CHAIR: Thanks, Derek, and Derek asked my question, so I have no questions.
EPA, do you have any questions?

MR DEEBLE: No questions from us, thanks.

35 CHAIR: Okay. Do any of the submitters in the room have any questions for this
speaker? No, it looks that way. Marree, do we have anyone online?
No, okay. Thank you both very much.

MR ANDREWS-PAUL: Thank you.

40 CHAIR: All right. Now, we've jumped ahead a little bit. Is that Kevin Ward?
We were a bit ahead of time, so we thought we'd fit that one in before
you arrived, so thank you very much. So if you'd like to come up to
the lectern and make your submission now, and you're from the
45 New Zealand Airports Association.

MR WARD: I have a colleague with me, Nicola Cordner, from Wellington Airport,
who is going to help with the submission.

CHAIR: Okay, can you just repeat that into the microphone because I'm not sure that they would have picked that up.

SUBMISSION 27 - NEW ZEALAND AIRPORTS ASSOCIATION

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KEVIN WARD PRESENTING

MR WARD: Yes, I am Kevin Ward from the New Zealand Airports Association, I have with me Nicola Cordner, who is the manager of sustainability and environment at Wellington Airport, so she is more of a hands-on practitioner than I am, and I just would like to say a few introductory remarks and then handover to Nicola.

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To introduce who we are, the Association is essentially the commercial airports around New Zealand. We have 42 member airports, we cover all the airports that have airline activity, plus a number that operate below that level, but in particular 15 of our member airports are required to have their own airport fire rescue capability under civil aviation regulations. It is probably self-evident, but this issue is important to us because fire fighting is a vital public safety measure at airports. It's a regulatory requirement to have foam available for immediate use and we don't have a choice except to have effective fire fighting capability, so it is part of the way that aviation operates.

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We are very comfortable in a highly regulated environment, that's the way we work generally. For example, for each of those 15 airports I mentioned, the number of fire appliances is set down according to their size and the sort of aircraft they serve, the minimum rates of foam application is set, the first rescue fire appliance at an event has to be able to reach the furthest part of the airfield within three minute and be ready to discharge foam. So there's that sort of level of detail and risk management in the environment that we work in.

[10.10 am]

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Airports have been very supportive of the removal of PFOS foams from airports over the last couple of years, but we've found that the prohibition of PFOS foam was not well communicated at the time and some airports were caught short, essentially they were unaware of that change, and we consider that's a shortfall of the regulatory system and better practices to support future recalls or standard changes should be built in as part of the system in the future, and we are very pleased to be here to contribute to this phase of standard setting.

45

From our experience, from an aviation perspective and from users and recipients of the new standard, we think there are some guiding principles that we've applied in our minds when we're looking at the standard, and that is that rules and responsibilities of the participants

5 should be clear and unambiguous, the standards and requirements should be clear and unambiguous and they should be achievable in practical terms, and there should be acceptable means of compliance and supporting guidance available, preferably in advance of the standards coming into force. Some of the issues that Nicola will raise in more detail come back to those overarching principles.

I will handover to Nicola.

10 NICOLA CORDNER PRESENTING

MS CORDNER: Thank you. Just a couple of points in particular. So Kevin mentioned the procedural element of compliance and what's the procedure in place to ensure that users of the foam understand when the rules change, and Kevin eluded to that being an issue previously for airports. So as the revised drafting of the standard, great to see that there's an EPA procedure in place for recording import and manufacture of foam, but we would quite like to see some pathway of those importers or manufacturers also understanding who they supply to, so that in the case of a recall or the rules changing, that there is a point to advise and provide an opportunity for changes to be made to those systems.

25 So, I guess, having been through this before, not just for PFAS but other issues as well, it happens. We could go through this process and then fluorine free won't be ideal. What gives us the certainty and that lack of unambiguity of not being caught again and knowing that this can happen? So just a simple procedure in place, let's use another hazardous substances just to understand exactly who has what stocks, so that we can keep on top of that would be quite good.

30 The other issue, and having come from an airport where we have transitioned Fluorine Free Foam and gone through the procedure of that transition, and also having a lot of experience in phraseology, such as "as far as reasonably practicable", what does that mean and the staff report refers to the guidance, and obviously we're advocates for there being guidance around that, the standard as drafted now includes no reference to that guidance being forthcoming. Will this continuously be re-litigated? Also, the relationship between the transitioning and that residual fire fighting foam and waste product and the disposal criteria. So, to me, it's the relationship between clause 24 and, specifically, clauses 16 and 23.

45 We are somewhat concerned that we could end up with a disposal pathway that doesn't exist, in lack of clarify around what those disposal criteria may be and for what purpose. So the staff report wasn't clear if those outlined levels were for health or environment purpose, and also the relationship between discharge rules and the RMA. If this process includes guidance, what is that relationship? Because the EPA

is not the regulator for a discharge to the environment, however we know that our landfills are looking for guidance to what are acceptable limits, as are trade waste.

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[10.15 am]

10 So we litigated that for Wellington and came up with an acceptable solution, but that takes time and it does cost as well. So I understand the reasonably practicable and why we want that, but it also needs to be achievable, and it comes to the point of defence as well, what does this look like and is compliance with the EPA and the group standard achievable in the RMA context? Noting the regulatory shift there and who has what statutory function for what purpose. So they're the key points from an airport's perspective. From, I guess, that in practice user of the foam.

15

MR WARD: Happy to answer any questions about our original submission as well if required.

20 CHAIR: Okay, thank you very much. You've certainly given us something to think about there. Kerry, any questions? Do you want me to go to Derek first?

QUESTIONS

25

DR LAING: Thank you, Ngaire. It's a matter of whether they're questions or comments. You did talk about a need for a more comprehensive database as to who has what so that if there are any problems all parties can be communicated with. I will leave the EPA to address that later on. The rest of your comments are really around guidance. You made the comment that the guidance should be in place before the standard comes into effect and you want to be sure that what guidance is there is not going to be relitigated or go through again in future. Yes, I understand all that.

30

35

40 We talked a fair bit yesterday about guidance and what the EPA will prepare, what the scope of that may be and where other parties may go. I guess I have been pushing the barrow a bit, to some extent I think a number of these things can be dealt with through an industry code of practice and that gives all these parties an opportunity to participate in the process and make sure that the guidance does meet the criteria that you have talked about. It is really a matter that obviously will be developed further by the EPA as to just where they might draw the lines around guidance they prepare or different approaches to preparing the guidance.

45

The only thing I would say about codes of practice, that perhaps I didn't make clear yesterday is that -- and I don't know how familiar people

5 are with the industry codes of practice, it is one of those things that if a code of practice is prepared and approved by the EPA, if you act in compliance with it, it is legal defence if something goes wrong. That is the only reason why I may be pushing codes of practice as opposed to other means of providing guidance.

That's all thanks, Ngaire.

10 CHAIR: Okay, Derek?

DR BELTON: No, no questions from me, thanks, Ngaire.

15 CHAIR: Okay. I thought your comment about the links between the different legislation is really significant and I would hope that the EPA had considered that in the broader context of what the role of the HSNO Act is in relation to the various other acts that it feeds into or contributes to in some way. I don't actually have a question but thank you for bringing that up. Does the EPA have any questions?

20 MR DAWSON: No, I don't really have a question as such. I was just going to point out that clearly the HSNO Act is designed to manage the entire lifecycle of substances. So if the use of a substance involves its discharge to the environment then that is covered by the HSNO Act, just the same way as somebody that is using a pesticide to spray on crops.

25 In terms of disposal, disposal is covered by the provisions of the HSNO Act. We do have the HSNO Disposal Notice that covers disposal. But it does come to this tricky line between where does the HSNO control stop and where other controls take over. For example, the EPA in the HSNO Act is not responsible for the management of landfills or the management of waste water treatment plants, so they are covered under their own bylaws and so forth.

35 **[10.20 am]**

40 But what we have put in the group standards now is some reference to disposal of -- we have got the requirements for how wastes must be disposed of and we have listed a number of methods that are acceptable and then we have stipulated when you get down to low level, low concentration wastes, in our view they are acceptable to go to waste water treatment plants when they are liquid waste as long as they are at a level below which they are accepted by the waste water treatment plant.

45 We have already, with the waste water treatment industry, developed some guidelines around that, which in my understanding are being used now by Watercare in Auckland, for example, and other waste water treatment plants in the country.

5 For landfills we have put in there some, like I think mentioned
yesterday, limits on what would be acceptable in going to landfill taken
from the Australasian National Environmental Management Plan on
PFAS, which includes levels on total PFAS and leachable
concentrations of PFAS. If your solid wastes are below those levels,
from our point of view that would be acceptable to go to landfills. It
would then be up to the landfill operators, and there are landfills in New
10 Zealand - Kerry, knows much more about this than me - that are
privately operated and they have to comply with the resource consents
that have been put in place on them by the local regional councils.

15 CHAIR: Nicola, would you like to add anything to that because it seems to me
like you have some experience that might be quite informative of this.

MS CORDNER: This is the crux of the issue for us because in our experience there are
landfill operators that say there is no guidance, this isn't part of our
resource consent when they were consent, so there is no discharge
20 provision. They then come to, "What do we do, how do we address
this?" and there is no firm guidance.

25 As drafted this group standard says, "In accordance with any applicable
landfill acceptance criteria and ..." So the EPA can provide their point
of view of what that may be but it ultimately comes down to the local
regulation and their appetite for what may or may not be acceptable as
per their discharge consent. That is my point about relitigating this. So
we worked, as Wellington Airport, to get that disposal pathway through
the waste water treatment plant here in Wellington but that was fraught
30 in the absence of having any strategic guidance over what is acceptable.
The reality was their starting point was at a concentration that exceeded
drinking water standards before it went into the waste water treatment
plant.

35 We have to be reasonable around -- especially from a landfill
perspective because we are dealing not only, when it comes to landfill,
with fire fighting foam, we are also dealing with legacy issues with
respect to potential contaminants in soil. That is not just us but that is
everyone -- we could reasonably end up at a point in this country, if
40 this isn't considered, where you cannot dispose of any soil anywhere
and we are in an Australian situation.

45 It may be fine to have levels for soil, for example, from an airport or
from an industrial site but without understanding - I think it was
Defence earlier - it is ubiquitous, PFAS is ubiquitous. So every single
input to landfill should therefore be tested to the same level if we are
actually concerned about inputs to landfill as opposed to discharges
from landfill and waste water treatment plants.

It is very circular and that relationship isn't clear cut between HSNO and the RMA but in reality, the in practice understanding of how discharge of hazardous substances work, 100 per cent that is clause 15 and 16 of the bulk product. That is, in practice, who that applies.

5

[10.25 am]

Export. No, I don't think anyone in this room would have an issue with that, to high temperature incineration for that. The issue is when it becomes an RMA discharge issue and what is reasonable and reasonably practicable is fraught in an RMA context.

10

CHAIR: Sorry, I know it this is getting a little bit beyond what we are meant to be doing in this hearing but it seems like there is another layer of discussion that needs to be had on the links between the RMA consenting process and the HSNO approval process in terms of -- because fundamentally the RMA and the HSNO Act are about essentially the same thing, but because they are separate bits of legislation it complicates things.

15

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MR WARD: We would have a lot more comfort if we could see the pathway through.

CHAIR: Yes, I don't know whether this is a legal issue for EPA to consider or it is a process issue that the EPA needs to somehow incorporate into this particular piece of legislation.

25

MR WARD: We are happy to leave it to the experts.

CHAIR: It's actually a bigger issue, isn't it? You are talking about a bigger issue here and this is an example of where it could be a significant problem.

30

MS CORDNER: I think our issue is again thinking not just from a fire fighting foam but that legacy contamination issue can't be -- although it is outside of this group standard, it can't be considered completely in isolation because of the drafting of this group standard and references to acceptable criteria.

35

CHAIR: Yes, and the fact that it is linking to something like a landfill operator, which actually has no jurisdiction under this piece of legislation.

40

MS CORDNER: Yes, that is that point where, from an in practice perspective, we have some hesitation.

CHAIR: Yes, okay. Do you have any more questions, Kerry or Derek? I know this is a little bit of discussion here but it's --

45

DR BELTON: We are out of scope.

- CHAIR: Well, yes and no, I mean in my opinion it is actually important to our Decision-making Committee that we have this level of understanding of the complexity or potential complexities.
- 5 MS CORDNER: Yes, I understand the challenge of scope but that disposal pathway, as per how this is drafted, is important.
- CHAIR: Yes, okay. Do we have any of the submitters in the room who would like to ask a question of these presenters? No? Marree, anyone from the Zoom floor?
- 10 MS QUINN: Yes, we do. Mr Mike Wilson has a question.
- 15 CHAIR: Okay, Mike Wilson. You have a question, if you would like to go ahead?
- MR WILSON: Thank you, Madam Chair. You mentioned that you transitioned to Fluorine Free Foam, was your acceptance of that based on account it will be certification approval only or was there any larger scale fire testing conducted to demonstrate acceptability from your point of view?
- 20 MS CORDNER: I would have to defer that to our head of airport fire service who made that decision and I do not expect that they took that decision lightly. As Kevin said, we are very highly regulated in what our obligations are under the CAA legislation. Like I say, there were environmental reasons and community reasons for that decision to be made, but that wouldn't have forced a decision that didn't comply with the requirements of our fire service. So I am not the one to answer that question unfortunately, but I am confident in our airport's compliance with the regulations for our fire service.
- 25 30 MR WARD: I can only add that there is an international civil aviation organisation that has looked at the future of aviation fire fighting and they prepare standards and recommended practices. So I imagine that the fire fighters on the ground have looked at all that international guidance and approval process as well, but I can't speak to the detail of it.
- 35 MR WILSON: Okay, thank you very much.
- CHAIR: All right, thank you. Is that it, Marree? All right. Well, thank you very much for your presentation.
- 40 MR WARD: Appreciate your consideration, thank you.
- 45

[10.30 am]

CHAIR: Thank you. Okay, sorry, we're just deciding whether we should take a break or not because we're well ahead of schedule. So we might take a break for 15 minutes and come back here at quarter to 11.00. Can I just check to see who's in the room? Do we have Victor Lenting? Yes, great.

5

MR LENTING: We (inaudible).

CHAIR: Okay, that's fine. What about Phil Lacey? Okay, are you happy to bring your presentation forward if need be, because you're scheduled for 12 o'clock, but we're well ahead of schedule. Yes, okay, and Sarah Lloyd, is she?

10

MS QUINN: She's online.

15

CHAIR: She's online, okay, all right. So we might take a break for 15 minutes, come back here at quarter to 11.00. Thank you.

ADJOURNED [10.31 am]

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RESUMED [10.48 am]

CHAIR: All right, thank you very much everyone. We will make a start. Where are we up to? So next up we have Victor Lenting and Paul Turner from Fire and Emergency New Zealand, is that correct? Are you guys both here? Yes, perfect. Morning.

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SUBMISSION 33 - FIRE AND EMERGENCY NEW ZEALAND

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PAUL TURNER PRESENTING

MR TURNER: Tena koutou, my name is Paul Turner and I am the national manager, response capability in the service delivery branch at Fire and Emergency New Zealand. The service delivery branch is the operational arm of Fire and Emergency covering the four R's of risk reduction, readiness, response and recovery. I joined the organisation in 1982 as an operational fire fighter and my current rank is assistant national commander. I am supported here today by Victor Lenting, our flammable liquids and bulk fuel advisor.

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We thank the EPA for the opportunity to address the Decision-making Committee today in support of our submission. I would like to briefly note some key points from that submission and comment on the revised proposals. A short paper has been prepared which elaborates on these matters and myself and Victor will be happy to take any questions that you may have.

45

5 The key points are the transition periods. We support the revised transition periods for PFAS legacy foams and C6 fluorotelomer foams respectively, where the use cannot be fully contained. We understand that this will allow us to continue our current mode of operational use within the respective two year and five year timeframes while we implement that phase out. However, this is not particularly clear in the standard and we seek confirmation our interpretation is correct. Our capability to respond to fires and spills involved in flammable liquids will be severely diminished if the standard were to limit our ability to continue to hold and use up existing drummed foam stocks during the transition period.

[10.50 am]

15 In terms of declarations and notifications, we are concerned that the provisions requiring declaration of fluorine content and notification to the EPA of product composition do not provide sufficient assurance to ourselves as foam users or to the general public who may have concerns about the potential impacts of these products given the issues that have arisen with PFAS in the past. Users and purchasers of fire fighting chemicals should not need to conduct their own due diligence to assure themselves that a product complies with the standard. The provisions should apply to all fire fighting chemicals, not just foams. Evidence of the required notifications being made and EPA acceptance of the product should be available to foam users or purchasers on request.

25 The provisions should apply retrospectively to all products sold in New Zealand, not just future ones on first import or manufacture. There needs to be greater assurance provided that products do not contain potentially harmful or biopersistent compounds used as alternatives to fluorine, which might prove problematic in the future. We suggest that, in addition to fluorine content, the required declaration include any biopersistent compounds. A national list of approved fire fighting chemicals administered by the EPA would be an effective way to address these issues.

30 Point number three on guidance and decontamination and disposal. Cleaning and decontamination of foam systems and disposal of PFAS foams will incur significant costs and logistical difficulties for all foam users. This aspect has major implications for the planning, financial provision and execution for our transition. We request that the EPA commits to providing appropriate guidance on the requirements and available options by mid-2021 at the latest.

45 Point four, discharge to the environment. We note that the revised proposals have retained the wording "to prevent the discharge of foam to the environment", which we previously commented on. We consider this wording quite vague. We would prefer to see the intended outcome

stated more clearly, for example, steps to be taken to minimise environmental harm, which is consistent with our longstanding operational practice.

5 That's the end of our submission, thank you.

QUESTIONS

10 CHAIR: Thank you very much. Did you say you had some hard copies? We'll look at those. All right, so I just had one question. Early on in your submission you were talking about how you supported the revised timelines for phase out and stuff, but you said that in the standard it wasn't clear, and I was just wondering if you could elaborate on that?

15 MR TURNER: Sure, I'll let Victor.

MR LENTING: The standard talks about fire fighting systems, and I think that comes out of the Stockholm Convention. As we explained in our original submission, we don't have, as a rule, systems on our appliances which store and proportion and mix foam with water to produce the foam solution, normally the appliances just provide water and we have external portable equipment for mixing and discharge. Essentially we have stocks of foam in drums on our appliances and we basically supplement those with additional stocks we hold in stations and on other incident support vehicles.

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30 Our understanding is we would be able to continue to do that, although in terms of the wording of the standard and discussions around the convention, it is not clear that that is strictly a system. We did seek clarification on this in the original submission and the staff report does not seem to address it or provide that clarification.

[10.55 am]

35 CHAIR: Okay, thank you. Maybe that is something the EPA can address when I come to ask you about questions or in your right of reply at the end. I will let you choose. Are you two planning to stay around until the end of the hearing?

40 MR LENTING: No, unfortunately.

CHAIR: Well, perhaps when I come to ask you questions. Derek, do you have any questions?

45 DR BELTON: Thanks, Ngaire, and thanks you two for the presentation but, no, I don't have any questions. You have made those very clear and we need to go to the EPA to get appropriate answers.

CHAIR: Okay. Kerry, any questions?

5 DR LAING: I am not sure I have a question, I am just trying to whiz through what you wrote about the suppliers providing information and obviously they will provide some information to EPA. You have made comment about looking at or getting information on existing products rather than just those that come in from now, which is something we covered yesterday. I assume that purchasers and users will be able to get relevant information on request as you said there. I am just looking at 10 the bit you had got on public concerns and the information that be provided to them. You have something here that says the EPA is the agency best suited to get a national list of approved materials. Can you just elaborate on that? Is that the appropriate way to go, do you think?

15 MR LENTING: I guess the issue we have is that we need assurance that the product we are buying complies. We don't need to have the formulation but we would basically like to know that the EPA has that formulation and the EPA is satisfied itself that the product complies and that the supplier or the manufacturer can provide us with at statement to that effect.

20 There are fluorine free products available in New Zealand at the moment so we would like to be assured that if we go and buy those they do fully comply. I made a note in the supplementary information for chemicals that we use in wildfire, retardants and class A foams. The 25 US Forest Service, under the Department of Agriculture, has a wildfire chemicals approval scheme and that basically sets a standard for environmental performance and that is also basically accepted by all the Australian fire and emergency agencies. Essentially we can go to that standard. We know a product is on their so-called qualified 30 products list and we can be assured and the public be assured, and all the users can be assured, that that product essentially meets a certain environmental standard.

35 We don't have the same situation for class B foams here in New Zealand at the moment and I think that type of approach certainly would be beneficial given the big concerns that we have had over recent years.

40 DR LAING: Yes, it will provide a measure of reassurance to the general public. I just don't know how much that would be and I guess the general tenor of what we are talking about is something else that the EPA might have comment on later. Thanks very much.

45 MR LENTING: Yes, and it is noted and it seems what is happening at the moment is that anyone buying foam has to go off and do their own analytical tests for any content and whatever, and really that is not how the system should operate.

DR LAING: No, you are quite right.

CHAIR: Okay, EPA would you like to respond to the questions/comments that were made and also if you have any questions of your own?

5

MR DAWSON: Okay, so just in relation to the first point of clarification over what's allowed and what's not allowed, so, Victor, you are right, the strict reading of the Stockholm Convention listing for the C8 foams is that the exemption only applies to foam that is already installed in systems. I think the strict reading of that, as I have discussed with you before, is that any little tanks or drums that you have to carry on your fire truck would not strictly be covered by that.

10

[11.00 am]

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However, what we have written in the group standard now, and there is a similar wording for both C8 foams and the C6 foam, so the transitional periods that were applied now applies for fire fighting foam contained within the fire fighting system or contained in storage containers that are designed as being part of the fire fighting system for use in refilling the fire fighting system with fire fighting foam. I think that fully addresses your issues. That is our intent behind that provision.

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25 MR LENTING: Thank you.

MR DAWSON: I would have to read your paper to pick up on the other points but in terms of the other persistent and bioaccumulative components and so forth, well there is, of course, always a standing requirement in this group standard and other group standard that products must have safety data sheets for them. We now have a new safety data sheet notice is very much more detailed and explicit than we used to have under the old system. The EPA is now the enforcement agency for safety data sheets. That is one task that we could look at there to make sure that safety data sheets for these products that do come on the market or are on the market, the existing ones, do provide all the necessary information to enable you to make decisions.

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The other thing I could say, because you are a fellow Government agency, some years ago we assisted the fire service in helping to prepare their purchasing specifications for fire fighting foam. I don't think that quite got finalised at the time so we were happy to assist FENZ with formulating your purchasing specification that you would go out to the market with and then I think we were going to assist with the valuation of products that came in. I think that was probably more like a gentlemen's agreement at the time. Because we are all in the same family we could probably do something like that in the future.

MR LENTING: Yes.

5 CHAIR: Okay, so no other questions from EPA? No actual questions? No. Okay, thanks. Would any of our submitters on the floor like to ask any questions? No? Anyone from the Zoom meeting, Marree? No questions? Okay, thank you very much for your presentation.

MR LENTING: Thank you.

10 CHAIR: Are you okay if we make this submission available on the EPA website? We will do that, all right.

15 All right, so next up we have Phil Lacey from the Fire Protection Association. Phil, if you could make your way up to the lectern, thanks.

SUBMISSION 10 - FIRE PROTECTION ASSOCIATION

PHIL LACEY PRESENTING

20 MR LACEY: Good morning, my name is Phil Lacey, I am a Senior Fire Protection Engineer with GHD and I am here today to represent the Fire Protection Association of New Zealand. Thank you for giving me the opportunity to talk to the Decision-making Committee on our submission.

25 The Fire Protection Association is the preeminent trade organisation representing the fire protection industry in New Zealand. We provided as submission to help ensure that the EPA had sufficient information for an informed decision to be made that meets the challenges of preserving the safety of the public, the built environment and the natural environment. FPA comments were in respect of fixed fire protection systems only as opposed to the fire service and others who use portable and mobile equipment.

30 Our preferred outcome was, and continues to be, that the proposed removal of C6 AFFF agents in certain high challenge applications is delayed where there are no viable alternatives until it can be demonstrated that viable alternatives can be supplied, installed and relied upon to do the same job as existing systems. We define viable as being practical, ie sensible, and practicable, ie possible.

35 Those systems that demonstrate a part of that, they must be proven by listing or approval by an accredited testing laboratory or some other approval body. The FPA did note that new and improved technology is emerging to protect against challenging, flammable and combustible liquid fires but we should not be early adopters of new and unproven product. This is especially true of life safety systems.

[11.05 am]

5 Our preferred outcome was to establish a New Zealand code of practice
for fixed fire systems. This would be on a risk based approach for
assessing viability for transitioning to Fluorine Free Foam on a case-
by-case basis. This would include the publishing of clear criteria
around the continued use of C6 AFFFs, assess permissions to continue
10 to use C6 AFFF against these agreed criteria, looking at things like is a
Fluorine Free Foam available for a specific risk? Has its performance
been verified by an accredited testing laboratory or listing body? Can
it be delivered to the risk without replacing or upgrading entire
systems?

15 What about the indirect implications? Things like if an increased
application rate for a Fluorine Free Foam meant that you had to have a
higher flow rate, by default you are also going to have to have large
containment systems which may not be practical.

20 Some of the limitations that we noted for Fluorine Free Foams in our
original submission of nearly a year ago still stand.

25 Aviation and aircraft hangars. A lot of systems have non-air aspirating
devices. AFFF -- that stands for aqueous film-forming foam, as I'm
sure you're aware. The Fluorine Free Foams are predominantly a
mechanical foam. They rely very heavily on aspiration to film a foam
blanket to smother the fire. Very large spaces like aircraft hangars that
have non-air aspirating devices would be extremely difficult to convert
to fluorine free. You're effectively looking at entire replacement
systems in some cases.

30 Limitations around petroleum storage tanks. That was touched on
yesterday, large-diameter tanks and also some technologies such as
subsurface injection where the foam is actually injected into the base
of the tank. That currently will not work with Fluorine Free Foams.

35 Dangerous goods storage. I have a little bit of an example here that I'm
happy to provide later if you wish. Very large warehouses that store
combustible and flammable liquids tend to have quite large and
complicated reticulated piping networks, so not only with they have
overhead pipework but they might have pipework with sprinkler heads
40 coming down in the racks that are storing the product as well. The
design of those systems is based on prescriptive, codified schemes and
standards such as NFPA 30. That information has been derived from
full-scale fire tests for AFFF and alcohol-resistant AFFF as well.

45 If we look at a hypothetical example of a warehouse that's storing
something like isopropyl alcohol, so a polar solvent, under NFPA 30
the solution is quite prescriptive. It gives us an application rate over an
area and a supply. In this particular hypothetical example of a 270

5 square metres of storage, we would need a flow rate of 3,300 litres per minute. If we went to one of the leading manufacturers of Fluorine Free Foam today, that application rate increases to 20 meters per minute per metre squared over the same area and for a 30-minute duration. So not only is our design flow increased from 3,300 to 5,400, but the likely containment capacity has potentially gone up by a factor of 4. You could end up with situations where you've got an AFFF system that is sitting there fully contained, go to fluorine free and have all sorts of issues around containment in certain areas.

10 The other one -- and I've been in contact with Port of Taranaki to make sure they were happy I was using them as an example. In their submission they had photos of the e Newton King Wharf showing pipework running along that wharf to monitors up on towers. To convert a system like that, not only potentially would the application rates increase - your foam tanks, your water supplies and your pipework - but you've also got the added issue of having non-air aspirated monitors on those towers that are designed to throw that foam solution on to a ship on fire.

20 **[11.10 am]**

25 As I mentioned before, typically Fluorine Free Foams require air-aspirating systems. Again going to a leading manufacturer of firewater monitors, their non-air aspirated nozzle for AFFF at a 7-bar pressure will throw 72 metres. The air-aspirating nozzle at the same pressure will throw 49 metres. So there may even be situations where it's possible to convert the system in terms of the product but it actually becomes impractical to deliver it in some cases.

30 System cleaning. We had some commentary on that and in the update report the EPA have provided some figures. If you are transitioning from C8 to C6 or C6 to fluorine free, that would give around about 5 milligrams per kilogram for the sum of PFOS and PFH excess and 5 milligrams per kilogram for PFOA. We note that those limits are pretty much the ones out of the Queensland Firefighting Foam Policy.

40 In reference to that document, they do seem to apply to the foam concentrates only. Again with reference back to the likes of your dangerous goods warehouse, to address a fire situation as quickly as possible - and this applies to some other systems as well - the pipework may be pre-primed with foam solution so you potentially have scenarios where the pipework is actually full of foam solution as well. It's not necessarily just concentrate within a contained system that these limits need to be applied to. We're presuming, and as indicated in the EPA document, there was some commentary about apportioning PFAS concentrations across individual areas of a system to come up with an average. The FPA would advocate for an allowance to apportion any

residual PFAS across the total volume of foam solution likely to be discharged from a fixed system.

5 Disposal of PFAS foam waste products. As others have noted, disposal
of liquid contaminated by PFAS to the same standard as PFOS will be
extremely expensive and potentially very difficult in some of the
10 volumes involved with fixed systems. Taking some of those previous
figures, the 5 milligrams per kilogram, adding them together, if we
extrapolated out what they might look like in a foam solution, we end
up with 0.54 milligrams per litre. That would be a 3 per cent foam
solution with a total PFAS loading of 18 milligrams per litre.

15 Currently, as I understand it, the Watercare trade waste controls allow
for a total daily intake of PFOS PFH excess and PFOA of 25 milligrams
per day, so a system could be remediated. If they were then allowed to
drain some of that into trade waste, the Watercare total daily limit
would be exceeded at 65 litres, so it's not really practical at the moment
20 to be disposing anything to trade waste without those limits, Ministry
for Environment or somebody having a look at some of these trade
waste limits.

25 Containment. We had some commentary around what needs to be
contained. Again, the Queensland Operational Policy talks about any
PFAS foams must be fully and completely contained and properly
disposed-of concentrate, foam solution, produced foam, firewater,
wastewater, runoff and contaminated soils and other materials. So
again we feel that there is a lack of information around exactly what
needs to be contained, what kind of an event a client needs to cater for.

30 Again going back to the warehouse example, with closed-head
sprinklers such as the ones in this room, a likely non-emergency
scenario is somebody with a fork hoist hitting a sprinkler head. You
might have a flow rate of a couple of hundred litres a minute coming
35 out, versus the 3,000 or 5,000 litres per minute that the system is
actually designed to discharge in anger in a fire event, so further
guidance around containment requirements would be very beneficial.

[11.15 am]

40 Fluorine-free unknown compounds. The fire protection industry have
been down this path before. In the early 1990s, with the introduction
of the Montreal Protocol, halon 1301 and 1211 were the most prolific
gas-use fire-suppression in the world and effectively, due to their
ozone-depleting potential, they were banned and phased out. One of
45 the replacements for that was a product known as HFC 227ea, or FM
200. Certainly in New Zealand the ratio of halon replacements utilising
FM 200 to other agents was -- the FM 200 probably had about 40 per

cent of the market so the uptake was quite significant and I understand it was quite similar in Australia as well.

5 Unfortunately, FM 200, or HFC 227ea, has a very high global warming potential. Its GWP is 3,220, so now it is also a restricted and controlled substance in many parts of the world. Indeed, under the Kigali Amendment, which came into effect in January 2019, it is now a listed substance. So people who did what they saw as the right thing and replaced their halon systems with FM 200 systems are likely to have issues in terms of getting those systems refilled, and indeed will be looking at alternative replacements again, so we caution against the perils of early adoption of Fluorine Free Foams.

10 C6 AFFF phase-out timing. The Fire Protection Association are supportive, certainly of the phase-out of C8. As stated, they believe that the transition of C6 AFFF should be undertaken via a risk-based approach. The FPA can certainly support the EPA with independent advice on system risk assessments and that could be in the form of preparing a framework document for the assessment of fixed-foam systems.

15 We do note that there is no risk to the environment if the foam is not released into the environment. With fixed systems there is generally no foam-producing training activities undertaken. Nobody trains with these systems generally. Testing is either controlled - and by controlled I mean contained - or can utilise now alternative methods such as surrogate liquids that don't result in the production of foam at discharge devices. So with AFFF systems it is possible to do ongoing testing and maintenance without actually producing any foam in the future.

20 We note that some systems - and Port of Taranaki is a good example - are manual only. You could have a completely uncontained system but the reality is it needs somebody to go and open multiple valves, start pumps and actively fight the fire with these fixed systems. So not all fixed systems are automatic so therefore the risk of an accidental discharge to the environment is extremely low.

25 Finally, again just on the phase-out timing, we have concerns around the potential for people taking a wait-and-see approach for replacement product. As I said in that example about the dangerous goods warehouse, that particular product has a very high application rate compared to existing AFFFs. A client is likely to wait to see what else comes to market. If nothing else suitable comes to market, that is likely to result in a potential flood of applications to the EPA for exemptions. In reality there is also a limited amount of technical expertise in New Zealand to then undertake any change-out that is undertaken, especially if it ends in a bottleneck with people waiting to see what's being developed in this very emerging market.

That's our submission, thank you.

QUESTIONS

5

CHAIR: Thank you very much. just picking up on that last point, what would you like to see in place so that -- in terms of something that the EPA could put in place? Are you talking about guidance, early guidance? This is talking about this idea of avoiding this situation where you might have a flood of applications for exemptions getting close to the time.

10

[11.20 am]

15 MR LACEY: A code of practice document that will allow systems to be assessed. Again speaking to Port of Taranaki, they have AFFF but they have a manual system. It has never gone off, it has never been used in anger and hopefully it will never be used in anger. It's a very easy one to put controls into place to ensure that the AFFF that they have stays in the tank and would only ever leave the storage tank in a credible fire scenario.

20

We do note that if fluorine-free replacement did become available and they opted to undertake that replacement, part of the signoff from the authority having jurisdiction over water-based systems in New Zealand, and indeed any responsible party that is signing that off or has a vested interest such as insurers, would involve a discharge test. So you've potentially got a system that the AFFF is never going to leave, versus putting in a new system where you're going to have to discharge to the environment in that example if you use Fluorine Free Foams. So we'd like to see some kind of code of practice that includes a risk framework for assessing all the different kinds of systems and whether it's either practical or practicable to replace them with fluorine free.

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35 CHAIR: Thanks for that. Derek.

DR BELTON: Thanks, Phil. Just following up on that point, who do you see as developing the code of practice?

40 MR LACEY: That would be the Fire Protection Association along with I guess industry bodies, insurers, the EPA.

DR BELTON: Who's leading, I guess is what I'm asking? Who's going to initiate it and get the thing rolling?

45

MR LACEY: Well, the Fire Protection Association are happy to lead it. We've done codes of practice for the likes of gas-flood systems and water-mists systems and so forth, other specialised systems. I guess it's really

whether the EPA are looking to produce something similar to their counterparts overseas.

5 DR BELTON: Okay, that's very helpful, thanks. Timing is, in many situations, everything, but you mentioned a number of times you don't want us to be early adopters. That's early adopters in the use of the Fluorine Free Foams --

10 MR LACEY: Correct.

DR BELTON: -- as opposed to early adopters in the removal of the existing accumulating and non-biodegradable Fluorine Free Foams that are around the place now?

15 MR LACEY: So the risk as we see it is early adoption, again going back to that example of that dangerous goods warehouse. So your application rate, which is obviously directly proportional to your flow rate, has gone from 12.2 to 20 litres per minute. So if you were operating an existing warehouse, that's going to be extremely problematic. It's effectively an
20 entirely new system: pumps, water tanks, pipework everything. If you're building a new one, then you could obviously design for that at the moment, but then what happens in two years' time when some clever chemist comes up with a new Fluorine Free Foam that brings the application rate back down again, or further testing is undertaken that
25 gets the application rate back down?

DR BELTON: I guess the other side of the argument that I'm posing to you indirectly is -- as I read the background to the development of this group standard, we're not early adopters in terms of wanting to phase out the Fluorine
30 Free Foams that the standard is aiming to achieve.

MR LACEY: The FPA are very supportive with the principle of phasing out Fluorine Free Foams, but on a risk basis. So Fluorine Free Foams have been shown to be pretty effective at shallow pool fires. Where you might
35 have a bunded area with product tanks in, you typically have foam makers that are air-aspirating devices, you typically have application rates that are very comparable to AFFF. They wouldn't be difficult systems, potentially, compared to some, to convert to fluorine free. But there's a very wide and varied range of fixed systems and there's a
40 number of them that would be extremely problematic.

[11.25 am]

45 As I said, some of them are counterintuitive. Port of Taranaki, you look at it and say that's an uncontained system, it's on a wharf, any discharge is going to go straight into the environment. But that has to be weighed up with the fact that it's not an automatic system, the foam

is not permanently connected, if you like, to the system. There's no single point of failure that's ever going to result in that scenario.

5 DR BELTON: Thanks, that's great.

DR LAING: Thanks, Ngaire, thanks, Phil. I've only got a question in one area, which is related to some of the comments that have already been made. It's around the area of expectations with respect to exemptions and the comment that people may wait and see and then there's suddenly a flood of applications for exemptions. I'm looking in particular at your submission where you talked about WorkSafe working with a number of organisations and retrofitting systems but that's costing them a fair amount of money and should they need to go down that route any further they may become economically not viable any longer. I guess that's fitting into the same category of a number we've heard already where people have made recent changes, often working in tandem with EPA and may be required to do things again in the future when they had expectations that they wouldn't have to do much at all.

20 Looking at some of those things that WorkSafe has been working with, you've talked mainly about dangerous goods storage facilities. I guess they range in size and complexity as to what they might store. Are they likely to fall into the category of being classified as a major hazard facility and therefore may be high on the priority list for exemptions or are some of them going to be of such a scale that they wouldn't be a major hazard facility?

25 MR LACEY: No, they wouldn't be a major hazard facility.

30 DR LAING: Yes. I'm sympathetic to people that have been taking some proactive stance on some of these things that they may be caught in a bind with changes that are coming through but I just would hope that we don't get to a situation where there are a whole lot of people that are operating, either sitting, waiting and seeing or otherwise, thinking, "Right, when we get to the end of this we'll apply for an exemption" and they may not be successful.

35 MR LACEY: Indeed.

40 DR LAING: Thanks.

CHAIR: Thanks, Kerry. EPA staff, do you have any questions? No. Okay. Any questions from the floor here in the room? No. Marree, any questions from Zoom participants? Who have we got?

45 MS QUINN: Yes, Rodney Rutledge.

CHAIR: Okay, Rodney, please go ahead.

MR RUTLEDGE: Thank you, Madam, Chair. Phil, thanks very much for the presentation and insights. I always enjoy listening to FPA because it provides access to the design consultants et cetera that are grappling with these issues, not only for existing facilities but also for new builds. It's that aspect of new build and the potential for operational risk in this interim period to emerge as a result of this regulation.

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What am I referring to there? I'm referring to how -- you would have heard me present yesterday on the work that's ongoing in terms of research for Fluorine Free Foams for tank-fire applications, et cetera. That research work is ongoing and is yet to be carried through into design standards such as NFPA, et cetera. My concern is in this interim period, until that research work is completed and you have a clear framework of design guidance, is there the potential for a new-build facility to step off a cliff and design for fluorine free because of the five-year milestone and expose that facility not to compliance risk but to actual operational risk? I guess the question is do we have a sufficient framework of regulatory approval in New Zealand to prevent that?

[11.30 am]

MR LACEY: Yes, thanks, Rodney, I don't believe so at the moment. The fire protection industry, as I stated in one part, we are very codified, we are very code based, we apply standards to come up with designs knowing that those standards have been robustly challenged and reviewed and are subject to the actual repeated and repeatable fire testing and so forth. What we are currently finding at the moment with the Fluorine Free Foams is there is just not that volume of test information and it has indeed not found its way into the likes of NFPA 30 and other standards that the fire protection industry use.

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CHAIR: Okay, thank you. Is that all from you, Rod.

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MR RUTLEDGE: Yes, thanks.

CHAIR: Okay. Thank you very much, Philip.

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MR LACEY: Thank you very much.

CHAIR: That ends that presentation. Our final submitter presenting is Sarah Lloyd from Air New Zealand, who is online. Sarah, please go ahead with your presentation.

45

SUBMISSION 17 - AIR NEW ZEALAND

SARAH LLOYD PRESENTING

MS LLOYD: Good morning, everybody. Kia ora. My name is Sarah Lloyd and --

5 CHAIR: Sorry, Sarah, unfortunately your sound is very muffled. I wonder if you can improve that in some way.

MS LLOYD: Okay, can you hear me a bit better now?

10 CHAIR: Yes, that's perfect.

MS LLOYD: Okay. Kia ora, my name is Sarah Lloyd, I am in house legal at Air New Zealand and I am joined by Marty Forsman who is our Environmental Manager.

15
20 In the submissions today we will provide a brief overview of Air New Zealand's current use and storage of PFAS foams, address the relevant recommendations in the EPA staff report and identify the specific change sought by Air New Zealand to those proposed amendments.

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30 Air New Zealand holds AFFF foam at hangars in three locations in New Zealand, Nelson, Christchurch and Auckland. The primary use of these obviously is to suppress fire in an emergency activation event to protect our staff and our property, including fuelled aircraft and equipment within the hangars in question. The foam fire systems are, in short, absolutely critical to our business operation. Fire regulations and our insurers require the fire suppressant systems to be online at all times to respond to a fire event.

35
40 Air New Zealand is committed to helping the natural environment and the health and wellbeing of all New Zealanders, including its staff. In that context, over recent years, Air New Zealand has been working very closely with the EPA on its choice of foams and how they are used, stored and disposed of. Throughout 2017, 2018 and 2019, and in consultation with the EPA, Air New Zealand took a full review of its foam stock against the requirements of the then newly updated group standard.

45
The foams which did not comply with this updated standard were identified in only one location, being our Auckland hangars. So over the course of 2017 to 2019 and on the advice of the EPA, these were removed and replaced with C6 foam. The cost of the C6 foam itself was around \$500,000. It has been installed in our system for two years but apparently it has a shelf life of between 10 and 15 years.

Including the purchase of the product, the overall cost of this change in Auckland, including the removal of the legacy C8 foams, waste

disposal, flushing and consultancy, was well over \$1 million, as well as hundreds of hours of our staff's time.

5 As a result of these changes, which were endorsed by the EPA, Air New Zealand's systems and the storage and use of foam does currently comply with the group standard. Against that background the proposed amendments to the group standard would further restrict the role of PFAS foams in New Zealand, including the replacement of the C6 foams currently held at Air New Zealand.

10 For Air New Zealand the implications of these amendments are therefore very significant. To comply with the proposed amendments Air New Zealand would be required to undertake a further major investment hard on the heels of the funds already expended because we do not currently have the infrastructure in Auckland to either readily accommodate a transition to Fluorine Free Foams or achieve full containment of the existing C6 foams in the event of a major deluge.

20 **[11.35 am]**

In view of these constraints and the significant costs required to address them, in our original submission Air New Zealand requested an extension of the timeframes for achieving compliance and/or the adoption of an exception scheme, which would enable its ongoing use for a period of time. We also sought specific relief and/or clarification in relation to disposal solutions and an acceptable level of residue PFAS foams in our systems.

30 Air New Zealand's concerns regarding the compliance requirements and, in particular, the proposed timeframes for meeting those requirements are shared by a majority of other submitters. They were also, along with other matters raised in Air New Zealand's submissions, the subject of specific recommendations in the staff report.

35 Turning now to the staff report, in principle Air New Zealand supports the recommended extension to the transitional timeframes for foam uses that cannot be fully contained. In particular, it agrees that the cost and time associated with transiting to either Fluorine Free Foams or achieving full containment of C6 foams is considerable.

40 As I will discuss further in a moment, Air New Zealand is also of the opinion that these factors are matters under the HSNO Act, which you must take into account in making your decision on the proposed amendments.

45 As alluded to in our original submission in 2019, Air New Zealand began the design of a full containment system in Auckland as part of a new large hangar development. The hangar development is a

5 significant capital cost for Air New Zealand and is currently estimated in the tens of millions of dollars. Critically it would be designed to achieve full containment of whichever foam product is being used in the Auckland hangars, whether that is C6 or high expansion Fluorine Free Foam.

10 In the time since the preliminary design of the hangar development, however, the COVID-19 pandemic has decimated the aviation industry. As a result, many of Air New Zealand's infrastructure projects, including the new hangar development have been placed on hold. These are, in short, exceptional circumstances which have had significant effect on Air New Zealand's operations and its financial position. The effect is ongoing and is likely to continue for some time. In that context, Air New Zealand has had to undertake a full review of its programme's capital expenditure over the next few years. While we still intend to progress with a full containment system and an eventual transition to F3 foam, the uncertainty generated by COVID-19 has added significantly more complexity to this endeavour.

20 We are having to reassess our hangar needs to reflect fleet size changes in a completely new aviation environment. Air New Zealand remains committed to achieving compliance with the group standard and for that reason we will look to progress the hangar development as quickly as we possibly can. However, given the current circumstances, including the added complexity of COVID-19 and the significant reduction in revenue it has caused, we may be unable to achieve full containment through the hangar development in whatever form that takes following our review, and/or facilitate a transition to F3 foams in the Auckland facility by the December 2025 deadline.

30 Air New Zealand therefore requests that an opportunity is provided through the proposed amendments to extend the compliance timeframes under proposal 3. That might simply be effected through an extension from the recommended phase out date of December 2025. Alternatively the same HSNO Act, section 95(a), permissions control referenced in relation to proposal 4 could be applied for a limited time to users of C6 foam after December 2025 that it cannot be fully contained. I am happy to share an example of how this might be applied if it is helpful.

40 Under this scenario the phase out date of December 2025 for the C6 foam would remain in place but it would provide a time limited opportunity for parties to apply for an extension. The EPA would also retain the ability to consider those ongoing uses on a case-by-case basis and determine, in accordance with the HSNO, whether it is appropriate for them to continue for a limited period of time.

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In our opinion this represents a more effective and efficient approach to managing the risks of C6 foam, taking into account both the identified level of harm associated with it relative to legacy C8 foam and the economic costs associated with compliance.

[11.40 am]

On that matter I draw your attention to section 95(c) of the HSNO which asks you to be satisfied that the benefit associated with the reduction of environmental and health risks outweigh the economic costs associated with complying with the standard, that the proposed amendments are the most effective and efficient way of managing the cost of all the products in the identified group, having considered alternative methods for managing the risks proposed by PFAS, including C6 foams. The provision of the proposed amendments are only applied to the extent that it is reasonably necessary to manage the risk of the products.

The purpose of the HSNO Act and the principles and matters relevant to that purpose, which apply in your decision-making on the proposed amendments, are the protection of the environment and the health and safety of people in communities, the maintenance and enhancement of the capacity of people in communities to provide for their own economic, social and culture wellbeing and for the reasonably foreseeable needs of future generations. Thirdly, the economic and related benefits and costs of using a particular hazardous substance or new organism.

In my submission, these considerations support the inclusion of a time limited opportunity to apply for a permission control which could authorise ongoing use of C6 foam where it is already installed in systems and where it cannot be fully contained yet.

In recommending an extension to the initial phase out period and providing for commission controls where the foam discharge can be fully contained, the EPA staff have, to a degree, accepted that there is a difference between how C8 foam and C6 foam should be managed in New Zealand. In particular, they have agreed that the economic cost of this transition, and in some cases the availability and the efficacy of the fluorine free alternatives warrants a slightly different approach. That position is also supported in terms of the identified potential level of harm posed by C6 foam compared with C8 foam.

In that context, Air New Zealand is simply requesting one further departure to the way in which C6 foam is managed and eventually phased out, compared to C8 foam. Critically, it is a departure which would remain under the control of the EPA, who would have the opportunity to assess each application under section 95(a) and

determine whether, in accordance with those provisions, ongoing use of the uncontained C6 foams is appropriate beyond December 2025. Where it determines, in accordance with the HSNO Act, that that use is no longer appropriate, it can decline any such permission.

5

Moving very quickly on to the importation, Air New Zealand supports the inclusion of those provisions and the values that were referenced in relation to proposal 5, residual contamination. Air New Zealand supports the guidance levels for the residual PFAS compounds within fire fighting systems cited in the staff report. However, a comment we've had from our consultants was that the criteria provided for consideration in the staff report appears to apply directly to foam concentrate only. As such, it is unclear if the values can be directly applied to water and/or foam-solution levels. We therefore just ask for a clarification on this matter within the final proposed amendments.

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15

Proposal 6, which relates to disposal. The detail provided in the staff report has addressed the concerns raised in our earlier submission. In particular, we are supportive of the criteria for disposal to landfill, including recommended disposal values. We do, however, note that despite complying with these requirements on previous occasions, local authorities have occasionally rejected disposal and have applied a more stringent dilution requirement. While we appreciate this may not be a matter for the Committee, we would like to see better alignment between the parties on this moving forward.

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Similarly, we have also struck some delays in exporting PFAS wastes offshore, in part due to delays from the EPA in issuing export permits. Again while perhaps not a matter for the Committee, the success in managing the risk posed by these foams depends on the efficient operational as well as regulatory action. The support of the EPA in that regard we believe is critical.

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[11.45 pm]

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In conclusion, Air New Zealand is committed to complying with these group standards and ensuring that New Zealand's obligations in regard to the health and safety of communities and the environment are upheld. As discussed already, Air New Zealand has, at considerable expense, demonstrated its committed to the initial transition to the C6 foam products two years ago. We will continue to make every effort to achieve compliance with these proposed amendments. As it was with the transition to C6 foam, this does, however, require significant further investment on the part of Air New Zealand at a time where it is facing unparalleled financial and operational challenges.

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45

The change we've requested to the proposed amendments, being the application of the permission-control provisions to the ongoing use of

5 C6 foams which cannot be fully contained, represents, we believe a small addition to the overall approach recommended by the staff report to managing phasing out of the C6 foams. It is a change that, in my submission, will enhance the extent to which this group standard furthers the purpose of the HSNO Act, taking into account the principles and matters described in sections 5 and 6 of that Act. It is also more consistent with the matters more relevant to your decision under section 95(c).

10 For that reason, Air New Zealand requests that the proposed amendments, as recommended by the staff report, are approved with the addition of the ability to apply for a permission control in proposal 3. I'm happy to share detail of how that change might be incorporated, as well as the submissions, if that's useful for the Committee. Thanks very much.

QUESTIONS

20 CHAIR: Thank you very much, Ms Lloyd. Kerry, any questions?

DR LAING: Thank, Ngaire, no, I have no questions. Thanks very much, Sarah.

MS LLOYD: Thank you.

25 CHAIR: Derek?

DR BELTON: Likewise no questions for me. Thank you very much for a very clear presentation, Sarah.

30 CHAIR: Likewise from me. That was a very clear presentation, thank you. EPA staff, do you have any questions?

35 MR DEEBLE: Yes, just a two-part question on your proposal for permissions for not fully contained. You talked about a short term. Do you have any idea of how long you would expect?

40 MS LLOYD: No, we haven't specifically discussed a timeframe. Bear in mind that we are in design process, or we certainly were before COVID, to create a full containment system, and that's currently on hold. The initial panning was to comply just after December 2025, so just towards 2026 at some point. It's just incredibly difficult to say, in the current environment, when that project will go ahead and what those timeframes will look like, so I'd rather not give a specific timeframe at this stage.

45 MR DEEBLE: Yes, I appreciate there are a lot of factors to be considered. Just further to that, if we were to go down that route, one of the things we might

look at is alternative mitigation measures to full containment. I don't know if you could comment on some things you might suggest there?

5 MS LLOYD: I believe earlier in one of the other submissions somebody put forward some information about what partial containment means and whether there might be a way to -- for example, fully sealed sites. I can't really give detail on that. However, I do have plenty experts who might be able to, so I'm very happy to forward those to you if that would be helpful.

10 MR DEEBLE: That would be great, thanks. Nothing further.

15 CHAIR: Okay, thank you. Does anyone in the room have questions for Sarah? No. Marree, do we have any questions online? No, we don't. Okay, thank you very much to both of you for your presentation.

20 That ends the presentation by submitters. The next step is that we have the applicant's right of reply, which is the EPA in this case. I guess the question for you guys is do you need a bit of time to prepare for your right of reply and, if so, how long would you like? Fifteen minutes? Okay, so let's go until 12.10 pm. We'll give you 20 minutes. 12.10 pm for your right of reply. We'll break now for 20 minutes, then come back for the EPA's right of reply.

25 **ADJOURNED** [11.49 pm]

RESUMED [12.10 pm]

30 CHAIR: Okay, thanks, everyone. I think we'll make a start on the final leg of the race. EPA, over to you guys.

APPLICANT'S RIGHT OF REPLY

35 MR DAWSON: Thank you. Yes, I think we've heard some very useful submissions over the two days. What I've heard is that by and large they have been broadly supportive of the direction that we want to travel in. We heard from Rod Rutledge yesterday that some of our proposals are a little bit aspirational. At the EPA we like to use the word "proactive". You want to get ahead of the problems a little bit before they become overwhelming.

40 I think we heard that quite a few of our proposals were fully supported. For example, nobody had any issues with the proposals for banning PFAS foams from training uses and testing uses. I don't think there were many objections to the proposals that we've got for the C8 foams, which is what we have to do anyway, in line with our obligations under the Stockholm Convention. In terms of C6 foams, I think again there was general acceptance of what we have in place now, the acceptance

that we have extended the phase-out period to five years for both contained and uncontained uses and the allowance for the permissions mechanism would work there for uses where there's still a critical need to use those C6 foams past the five-year period.

5

We have heard from a couple of submitters, including Air New Zealand just at the last point there, that they may need more than five years for their particular situation. That's something that we will probably have to consider with the Committee. The permissions mechanism at the moment is restricted to contained uses. But we did have as well, I think, some point that we might have to go back to the lawyers and look at the wording around the definition that we have for contained system. We heard from the 4Sight Consulting yesterday for the oil companies. They had some concerns about what's really meant by the term "fully contained".

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What else? A lot of the things really that people were asking for is not stuff that we've got in the actual group standard, which is a strictly legal document. Bear in mind this is like writing a regulation. This has to be, at the end of the day, tabled at parliament so you don't want a lot of technical detail and descriptive detail in there. A lot of we heard is really stuff that is going to have to come in guidance material. I was very heartened to hear that the industry will be very happy to take a lead with that, because that's always our thought at the EPA. It's really for industry to put forward proposals and detailed guidance documents on to actually manage their hazardous substances and it's the EPA job to check that those proposals, those methodologies, meet the regulatory performance standards. So we'll most certainly be happy to work with industry and facilitate the development, whether it's guidance, whether it ends up as fully approved codes of practice. We'll be very happy to do that. That could be guidance around a number of aspects.

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One thing that we would do off our own initiative is -- this does tie in, I think, with what we heard from the Fire Protection Association. We would develop some guidance on how to submit a permission. We already have permission mechanisms in place for certain types of pesticide uses and there was guidance material originally developed around how to apply for permissions for those that needed to be submitted. We, like all good regulators, do develop some forms that will have to be completed.

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[12.15 pm]

I know in South Australia, for example, their exemptions are done through a mechanism called the environmental improvement plans and they have a set of guidance on how people should make application for those environmental improvement plans. One question that we're asking of Nigel is whether Queensland has something similar.

45

5 What else did we have? Certainly there was a lot of discussion around
clean-out levels and whether the suggested residual levels that we
mentioned in the updated report were for a foam concentrate or a
diluted material. The point to know here is those threshold levels are
not put into the group standard. We haven't got those. Our position in
the group standard is all practicable steps. That's then when you go
back to the guidance to develop that. We're quite clear that we really
want a clean-out operation to be risk based. If it's just impossible to
10 flush out certain parts of systems, then that would not be required. We
would take a risk-based approach as long as the end result is that you
still wouldn't get a large amount of PFAS contamination coming out
into the environment when the system is used.

15 Disposal. Yes, we did mention there are some issues around disposal.
Obviously there are no facilities in New Zealand at the moment for
disposing of POPs or other intractable wastes like these fluorinated fire
fighting foams. That's just one of the realities of life in New Zealand.
It's a small country and these operations are quite expensive. But we
20 have allowed for a range of methods to be used. We have developed
already a couple of years ago with the water treatment industry some
guidance around what they can accept in their wastewater treatment
plants. If necessary we can elaborate and work with the Ministry for
the Environment and the landfill industry, because I believe there's still
25 work going on there in the development of landfill guidelines and
waste-acceptance criteria for those, so we could link in with that work
and put forward what we've got.

30 I think in our section that we have in there for the disposal of legacy
foams or low-concentration legacy PFAS waste to landfill, we have
linked into the HEPA National Environmental Management Plan and
there's a whole section in here on landfill guidance, disposal to landfill.
So I'd take issue if people said there's not already guidance available
on disposal of these type of things to landfills.

35 I think there was some mention that when we wrote the group standard
in 2006, the fact that PFOS foams were prohibited then wasn't well
communicated. I think that probably is a fair criticism, but there were
210 group standards put out at that time that covered the entire universe
40 of hazardous substances in New Zealand. I think at that stage fire
fighting foams were pretty much down the bottom of our list of
priorities.

45 With this group standard amendment there will obviously be a
communications programme go out and a compliance programme will
be developed around this as well. I mentioned earlier that we will now
have this requirement where people must submit to us they
compositional details of their foams and have they've correctly

5 assigned the product to the group standard, which we'll be able to check. There's always the requirement for any product under a group standard to have a fully compliant safety datasheet and we can always verify those safety datasheets are giving the right amount of information on any other environmentally harmful components that might be in the formulations.

[12.20 pm]

10 So I think I was quite heartened by the submissions over all. There are a few things that I think we need to discuss and talk with the Committee and get our legal advisors to look at as well.

15 Nigel, if you're online, have you got any comments you'd like to make from what you've heard, or information on any guidance material that you might already have up there in Queensland?

MR HOLMES: 20 Sure. Yes, thanks, Peter, and good morning, everybody. Certainly with Queensland's experiences in mind, the practicality during transition is very important and I think the New Zealand proposed group standard achieves that. It has achievable goals. The interim measures to reduce risk were a very important aspect of what we did so that we could reduce the risk to the community and to the environment as far as possible.

25 In regards to the mechanisms for extensions, we certainly shied away from sector-wide exemptions, because sectors are highly variable in the risk they pose. We had already within our Environmental Protection Act a mechanism called "temporary environmental programme" which is essentially a temporary licence to allow somebody timelines and milestones to come into compliance. That has worked very well. I think we might have six to eight that are still operating and it's the larger facilities. The small facilities don't have a problem in transitioning. So I think you're definitely on track there and I agree with the group standard as it stand. Thanks.

CHAIR: 30 Okay, thank you very much. That ends the EPA's right of reply. I'm just going to check to see if the DMC has any final questions. Kerry, do you have any final questions of the applicant? Derek?

40 DR BELTON: No, thanks, Ngairé.

CHAIR: 45 Okay. Thank you, everyone. That basically ends the process from here. I want to thank you all for contributing. We will now adjourn the hearing to consider our decision.

CLOSING KARAKIA

CHAIR: Kia ora. Safe travels, everyone, and thanks again for your important contributions to this process.

MATTER ADJOURNED AT 12.23 PM

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