1. 3M produced the Lightwater Firefighting foams which all fire services in Australia used and were advised that it was safe and biodegradable, which it obviously was not. What do you think is 3M's role in addressing the health and environmental damage that has resulted from their product?

As detailed in both UFU submissions to the committee, 3M continued to market Lightwater firefighting foam until 2000 as safe and biodegradable, despite knowing that it wasn't. The company had knowledge of the toxicity of its PFAS products and attempted to play down and cover these up, as early as the 1950s. 3M's unethical behaviour in relation to its PFAS-containing products is a matter of public record.

The question now before Australian legislators and regulators is what is 3M going to be forced to do to address the human and environmental harm caused by Lightwater? Lawsuits against 3M in the United States have already resulted in payouts totalling billions of dollars with many more in the pipeline. These have included compensation payments to authorities that have to deal with the legacy of Lightwater contamination of drinking water. There are thousands of claims lodged against 3M by firefighters, workers involved in the manufacture of Lightwater and other individuals.

Given the liability of 3M for contamination due to Lightwater is established, it should not be necessary in Australia for continual litigation to achieve compensation for firefighters, other workers and communities harmed by this product. Nor should public authorities left to remediate Lightwater-contaminated ground and water be forced into expensive and lengthy lawsuits against 3M. Instead, the Commonwealth Government needs to facilitate a PFAS compensation scheme based on the Asbestos Injuries Compensation Fund established to compensate victims of James Hardie. 3M must be required to place sufficient money in trust to cover costs of compensating individuals suffering health effects of exposure to Lightwater and funding authorities to remediate contaminated sites.

2. Airservices Australia's submission to this committee stated that "despite working on sites known to be contaminated with PFAS, there was no current occupational exposure for aviation rescue firefighting staff". Do you agree with this?

a) No. Misrepresentation of body of research into PFAS contamination among ARFFS employees.

Airservices' claim that "despite working on sites known to be contaminated with PFAS, there was no current occupational exposure for aviation rescue firefighting staff" is a blinkered and inaccurate statement. While exposure pathways have over time certainly been reduced, true to form, Airservices' remains distracted from the reality of health and safety risks faced by its workers. Airservices' PFAS-related risk analysis activities are continually focussed on environment, potential litigation and reputation. Airservices has, despite the science, convinced itself that there are *no* negative health implications caused by the bioaccumulation of PFAS.

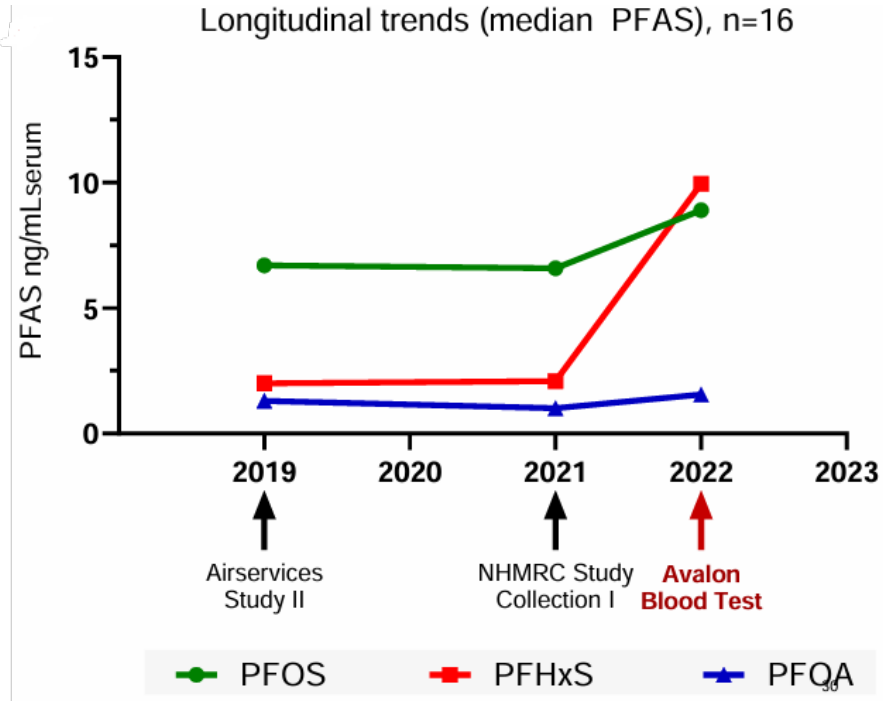
Compounding this position and the attitude it generates, it is either naivety or a disingenuous decision to incorrectly assert that there are no active exposure routes for aviation rescue fire

fighting staff. Any rudimentary WHS focussed risk assessment of the ARFFS workplace would enable a contemporary and fact-based position to be established. Due either to legacy contamination, or the lack of a uniform national policy restricting the use of PFAS chemistries, exposure routes, although diminishing, continue to be present in respect of ARFFS operational firefighters. Several examples qualifying this position are detailed below.

The above quoted claim is made specifically in relation to results of the 2018-19 study of ARFFS employees undertaken by the Queensland Alliance for Environmental Health Sciences (QAEHS) unit at the University of Queensland. Blood serum testing undertaken as part of this study found overall, declining PFAS concentrations between the 2013-14 and 2018-19 studies, and this is the basis of Airservices' claim. This is however not the whole story. Far from it.

Further large scale blood serum testing of ARFFS employees was undertaken in 2021-22 and 2023-24 as part of a NHMRC study. 2021 results found that PFAS concentrations for Airservices employees based at Avalon airport had not declined, or had increased slightly since 2019, suggesting 'current occupational exposure' (as in the absence of further exposure, blood levels decline over time). Had these results been interrogated thoroughly at the time through a WHS lens, they should have prompted concerns of an active PFAS exposure pathway at Avalon and led to further investigation and environmental testing. Instead, it took the accidental detection of PFAS in tap water by a third party in November 2022 to raise the alarm. Subsequent further blood testing of Avalon employees in late 2022 revealed markedly increased PFAS blood concentrations among employees.

This revealing pattern of test results is visible in the below time series chart of Avalon employees' PFAS blood concentrations, which is also included at p.12 of our submission.



The findings from the 2018-19 QAEHS, 2021 NHMRC and 2022 local testing suggest the Avalon contamination event began before 2021 and possibly as far back as 2019.

It is telling that Airservices discussion of testing of its employees ends in 2019 and makes no mention of the NHMRC study and further testing among Avalon employees. In fact, Airservices' submission does not mention the 2022 contamination event at Avalon, a remarkable omission. This selective citing of evidence is intended to convey a false impression of no further occupational exposure to PFAS among its employees.

Such selective citing of the available evidence might be expected from a private corporation looking to protect its image and interests but is not appropriate conduct for a government-owned entity responsible for aviation safety. Most ARFFS stations are located atop or adjacent to PFAS contaminated land. The risk of another Avalon type exposure event is clear and present. Airservices should have reported the findings of all available research concerning PFAS blood levels conducted among its employees in its submission. Doing so openly and honestly would have conveyed a very different picture of the situation facing ARFFS employees than that of 'no current occupational exposure' .

b) Current and ongoing occupational exposure to PFAS among Airservices ARFFS employees in the course of their work.

The failure of Australia to ratify the Stockholm Convention and implement a blanket ban on PFAS-containing fire fighting products results in Airservices ARFFS employees experiencing 'current occupational exposure' on a recurring basis.

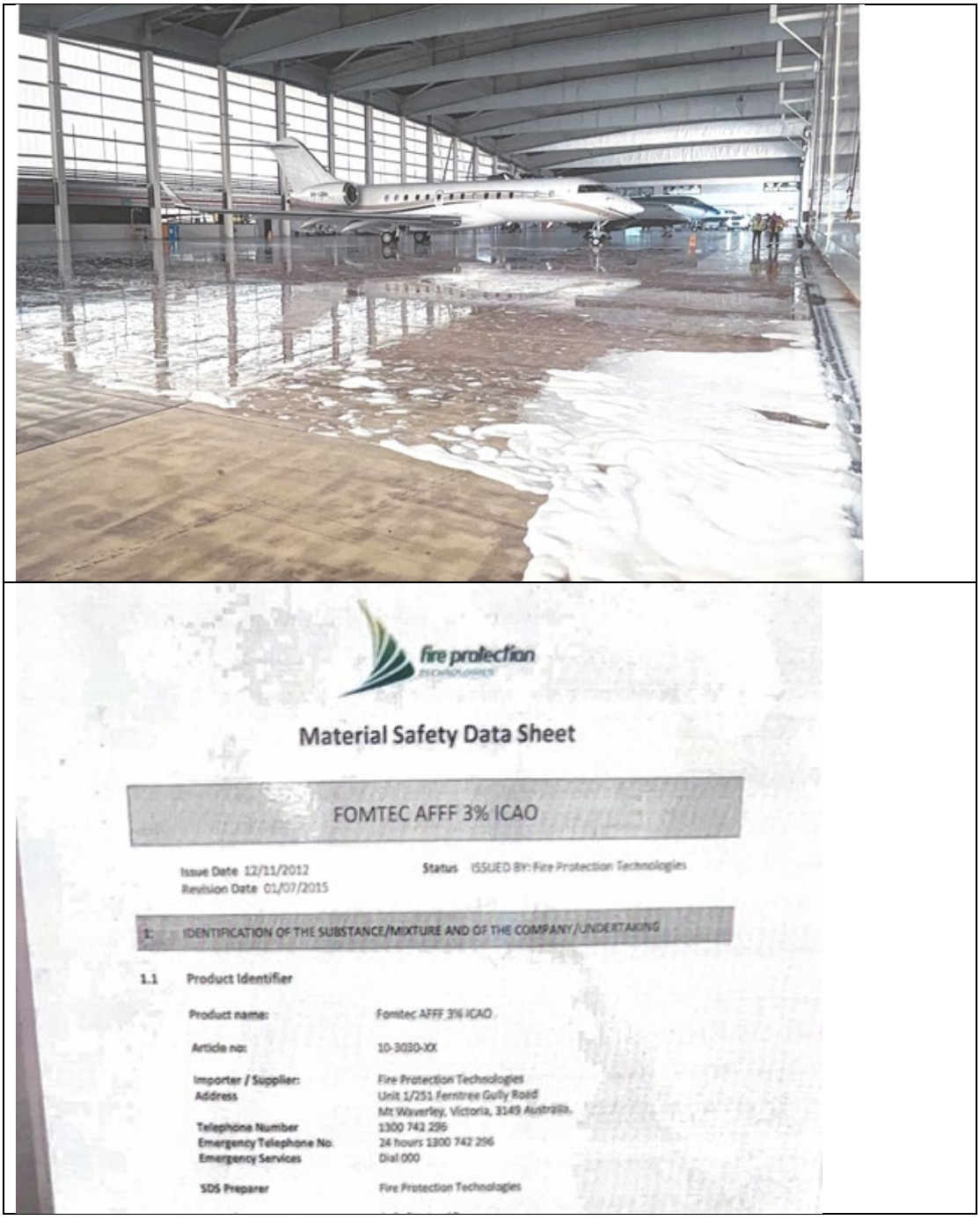
The lack of a comprehensive ban on PFAS in Australia means many firefighting products containing PFAS chemicals remain in use here, including on and around airports. Many of these contain so-called C6 fluorosurfactants, types of per and polyfluoroalkyl substances that, while not as stable as longer chain C8 chemicals such as PFOS and PFOA that have given PFAS the 'forever chemical' label, accumulate in the environment and are associated with serious human health risks. PFHxS, a C6 PFAS substance found in fire fighting foams, is associated with changes to liver function, elevated cholesterol, changes in thyroid hormone levels and reduced immune response.[1] Research into the health effects of PFHxS and other C6 compounds is a maturing field, as these have entered into wider use following the withdrawal of C8 PFAS products. The UFUA considers this development a regrettable substitution of one group of toxic chemicals for another, particularly given the availability of fluorine-free fire fighting foams.

Exposure to firefighting foam containing C6 PFAS continues to this day for employees of Airservices ARFFS, as two recent episodes at Melbourne Airport attest.

1. On two separate occasions on 20/5/25 and 22/5/25 ARFFS Melbourne crews responded to alarms on the Melbourne Jet Base aircraft hangar, located on Melbourne Airport. On each occasion, the alarm had activated the hangar's automatic foam suppression system, creating and dispersing foam throughout the hangar. During a further visit to the jet base on 28/5/25 it was revealed the fire fighting foam employed by Melbourne Jet Base is Fomtec AFFF 3% foam concentrate. The manufacturer, Fomtec, acknowledges

[1] Minnesota Department of Health (2019). *PFHxS and Groundwater.*

this product contains C6 PFAS fluorosurfactants.



Material Safety Data Sheet

FOMTEC AFFF 3% ICAO

Issue Date 12/11/2012
Revision Date 01/07/2015

Status ISSUED BY: Fire Protection Technologies

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product name:	Fomtec AFFF 3% ICAO
Article no:	10-3030-XX
Importer / Supplier:	Fire Protection Technologies
Address	Unit 1/251 Ferntree Gully Road Mt Waverley, Victoria, 3149 Australia.
Telephone Number	1300 742 296
Emergency Telephone No.	24 hours 1300 742 296
Emergency Services	Dial 000
SDS Preparer	Fire Protection Technologies

PFAS-containing foam discharged at Melbourne Jet Base 22/5/25 (top) and material safety data sheet for foam product involved (bottom).

2. A foam-fed fire fire fighting installation within the grounds of Airservices' Melbourne Airport compound has been identified as employing Orchidex AFFF 3% SG fire fighting foam. Further investigation indicates this particular product, while no longer sold by its manufacturer Orchidee/Incendin, is a C6 PFAS-containing product. This installation is maintained for the purposes of fighting fires within the grounds of Airservices' compound, where diesel fuel and other flammable and combustible materials are

stored. In the event of a fire within Airservices' grounds, ARFFS firefighters will be required to use this PFAS foam-fed system.

C6 PFAS foam-fed fire fighting installation within Airservices' Melbourne Airport compound

c) Additional comments on Airservices' submission to the committee

Airservices' submission repeatedly employs qualifiers such as "feasible" and "pragmatic" in describing its actions in relation to PFAS management, suggesting adoption of a safety first

approach is subordinated to operational and financial considerations. This sense of priorities is encapsulated in its statement that its objective in managing PFAS contamination is "ensuring financial sustainability while meeting environmental and safety obligations"; UFUA members would agree that this placing of financial wellbeing ahead of human safety is an accurate characterisation of the Airservices' approach.

Tellingly, in its 'Overview' of the interests it 'balances' in implementing its National PFAS Management Program (NPMP), Airservices does not mention workplace health and safety:

> Airservices' strategic management of PFAS seeks to achieve the appropriate balance of protecting operational service delivery, meeting our environmental obligations, managing stakeholder expectations, and ensuring financially sustainable decision-making (p.6).

In describing the 'Engagement approach' employed in its NPMP, Airservices does not mention consulting with employees and their safety representatives over the impacts of PFAS contamination on their health and safety, which is a requirement under the Commonwealth WHS Act. Incredibly, employees are not listed as one of the stakeholders that are engaged with during site investigations.

5**. The Queensland Alliance for Environmental Health Sciences (QAEHS) unit at the University of Queensland has undertaken two studies so far on occupational exposure to PFAS for aviation rescue firefighting staff and intends to continue this now longitudinal study through 2025-2027. What has been your members' experience with the studies so far and do you think they are of value to firefighters?**

The UFUA approaches studies which engage Professor Jochen Mueller with great caution. This is based on his history of denying or minimising the health effects of PFAS chemicals, including making a statement at a public health conference to the effect that "there is nothing wrong with PFAS, and you could pour it on your cornflakes."

Our position on the QAEHS studies is wholly focussed on their ability to provide:

a) a qualified measure of worker exposure
b) an ability to determine over time, if workplace exposure pathways are active
c) confirmation over time, of the extent to which exposure controls are effective, or otherwise.

At present, medical research studies such as these are the only opportunity for our members to be tested and receive results of their blood serum PFAS concentrations. We would prefer a government-mandated and funded regular testing program that guarantees our members who have been exposed to PFAS and continue to work on PFAS contaminated airport grounds will be able to access testing over their careers and into retirement. As it stands, if the QAEHS were to lose funding for this research, or decide to prioritise different areas of health research, aviation firefighters would be left without access to regular blood testing for PFAS.

Despite these misgiving, the UFUA believes the QAEHS studies are worthwhile exercises and encourages members to take part. The increase in participation from the first to second study was in good part down to UFUA promotion among members. Feedback from members who have participated in the studies is that the opportunity to receive results of their PFAS blood tests from university researchers is appreciated. Those who have participated in multiple studies have found value in being able to observe change in their blood PFAS levels over time.

Of the aviation firefighters who experienced the greatest exposure to PFAS, working prior to 2010 with 3M Lightwater and Ansulite foams, many are now retired. We need to see greater effort from QAEHS and Airservices to ensure all of these people are offered the opportunity to participate in the upcoming study and future studies.

In summary, the UFUA believes the QAEHS studies provide valuable opportunities for our members to understand their PFAS exposure and concentrations within their bodies, and are an important source of longitudinal data on one of the most PFAS-exposed cohorts of the Australian population, and we are critical supporters of the studies.