

Submission  
No 40

**INQUIRY INTO INQUIRY INTO PFAS CONTAMINATION  
IN WATERWAYS AND DRINKING WATER SUPPLIES  
THROUGHOUT NEW SOUTH WALES**

**Organisation:** Fire Brigade Employees' Union of New South Wales  
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27 November 2024

Ms Cate Faehrmann MLC  
Chair, Select Committee  
Parliament House  
Macquarie St  
Sydney NSW 2000



Dear Ms Faehrmann,

### **Select Committee on PFAS Contamination in Waterways and Drinking Water Supplies**

Thank you for the opportunity to make a submission to this inquiry. The Fire Brigade Employees' Union (**FBEU**) is a trade union registered under the *Industrial Relations Act 1996* (NSW). The FBEU represents over 6000 permanent and retained professional firefighters in Australia's largest fire and rescue service, Fire and Rescue NSW (**FRNSW**). FBEU members work across metropolitan and regional areas and are involved in all manner of emergency response. NSW professional firefighters provide a range of emergency management activities, including prevention/mitigation, preparedness, response, and recovery.

### **Background**

In 2023, FRNSW published the report 'Adverse Structure Fire Outcomes 2016-2021'.<sup>1</sup> The report, peer-reviewed by Monash University, documented a statistically significant increase in fire fatalities across FRNSW jurisdictions. The report underscored the importance of mandated response standards for firefighters, noting that survivability in a structural fire began to decrease rapidly after only four minutes from the point of ignition.

The modern construction of buildings and furnishings, including widespread increases in the use of synthetic products, rapidly increases the spread of fires today, exposing firefighters and the public to unprecedented levels of risk. These circumstances reinforce response time performance as critically important to community outcomes and firefighter safety.

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<sup>1</sup>[FRNSW Adverse Structure Fire Outcomes 2016-2021](#), (2023). In *Fire and Rescue NSW*. Fire Investigation and Research Unit.

## Firefighter exposure

Firefighting is fundamentally dangerous work. Research has found that a typical structural fire can expose firefighters to a toxic combination of more than 70,000 different chemicals. Such exposures include polycyclic aromatic hydrocarbons (**PAHs**), asbestos, benzene, arsenic, and a host of other known and unknown carcinogens.

In 2018, the FBEU successfully campaigned to amend NSW workers compensation legislation to enable professional firefighters diagnosed with 12 specific primary cancers access to compensation entitlements and support.<sup>2</sup> In acceptance of the scientific research underpinning these occupational risks, it is now automatically presumed these specified cancers are developed via working as a firefighter.

Historically, firefighters have also been exposed to per' and 'poly'-fluoroalkyl Substances (**PFAS**) firefighting foams. PFAS-related chemicals are considered to have links to high cholesterol, testicular and kidney cancer, as well as other long-term health impacts.

These circumstances were cited as a significant cause of stress for professional firefighters in a report recently commissioned by the FBEU through the Centre of Full Employment and Equity. The report states as follows:

*'Firefighters have PFAS levels in blood samples that are higher than the general population. There is legitimate concern about PFAS levels due to the emerging evidence about adverse health outcomes associated with elevated blood levels of these substances.'*

These occupational realities lead the World Health Organisation's International Agency for Research on Cancer (**IARC**) to recently declare firefighting a "cancer-causing profession" in 2022.<sup>3</sup>

Following the developments of the IARC, several Australian states have successfully expanded the list of presumed firefighter diseases. Most recently, the Queensland Labor Government amended their existing Presumptive Legislation to include a total of 23 occupational cancers.<sup>4</sup>

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<sup>2</sup> [Workers compensation reforms for firefighters](#). (2018). State Insurance Regulatory Authority.

<sup>3</sup> [IARC Monographs Volume 132: Occupational exposure as a firefighter](#). (2023). International Agency for Research on Cancer.

<sup>4</sup> [Miles Government continues to improve workers' compensation scheme](#). (2024). The Queensland Cabinet and Ministerial Directory; Queensland Government.

The FBEU have consistently lobbied the NSW Government to provide equivalent protections for professional firefighters employed in NSW. Despite reports from the NSW Government that improvements to NSW Presumptive Legislation have been costed, changes have not been implemented and the state continues to lag in providing firefighters with equivalent access to compensation.

### **Use of PFAS foams**

Historically FRNSW like many fire agencies, utilised firefighting foams containing PFAS-related chemicals, known as “B” class firefighting foams. During this time, PFAS-related foams were used extensively during emergency incidents and training. FRNSW archives detail a timeline of these events, from commencement in 1976 to the phasing out of various chemicals between 2007-2014 **[Appendix 1]**. As the Committee will be aware, this timeline correlates with other significant global events, such as the 2009 decision to include these chemicals within the Stockholm Convention Persistent Organic Pollutants framework.<sup>5</sup>

PFAS foams were introduced to the fire industry as non-toxic, economic solutions to hydrocarbon fires. As it has transpired PFAS had neither of these characteristics.

Particularly in the context of climate change, the industry will continue to face new challenges in the suppression of fires. Predictably, these circumstances can provide market opportunity for new fire suppression products. Nevertheless, scrutiny and transparency around such products must be upheld.

On the back of sustained criticism of the NSW Rural Fire Service (**NSW RFS**) and the agency’s capacity to meet mitigation targets, NSW has seen significant increases in the use of fire retardant dropped from aircraft.<sup>6</sup> According to Ministerial Briefings, the RFS dropped 24 million litres of retardant during the 2019-2020 bushfires alone (**Appendix 2**).

The aerial firefighting industry is a booming market with unprecedented amounts of public money being spent by the RFS on aviation contracts (**Appendix 3 & 4**). Manufacturers of aerial firefighting retardants, like “Phos-Chek”, are also reporting record profits in Australia.<sup>7</sup>

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<sup>5</sup> [PFASs listed under the Stockholm Convention](#). (2024). Stockholm Convention on Persistent Organic Pollutants (POPs).

<sup>6</sup> Evans, I. (2024). [RFS falls short of target for hazard reduction burns ahead of bushfire season](#) - ABC News. ABC News.

<sup>7</sup> [Perimeter Solutions SA. Q2 2023 Earnings Call](#). (2023). Perimeter Solutions.

While retardant like Phos-Chek is reported not to contain PFAS, these products have undergone limited testing in Australian environments and manufacturers may be excluded from full disclosure of their additives due to the “trade-secret” nature of their chemical makeup.<sup>8</sup>

The FBEU is aware of at least one example where the use of aerial firefighting retardant prompted concerns of legal liability. It remains unclear how the situation was rectified.

From the limited Australian research available, the application of these chemicals in and around waterways (including from runoff) may have some environmental impact.<sup>9</sup> With increased occurrences in environmental events, such as the 2023 mass fish kills in the Darling-Baaka River, understanding the long-term effects of these products is critical.<sup>10</sup>

### **PFAS legacy issues**

Despite the phasing out of PFAS-related foams between 2007-2014, FBEU members have continued to identify excess stock of the banned substance on FRNSW worksites; often stored at volatile temperatures or at odds with the manufacturers material safety data sheets (**MSDS**). Issues of legacy stock identification and ethical destruction of PFAS chemicals were raised by the FBEU with the FRNSW Health and Safety Branch throughout 2023. The FBEU was informed that:

*“FRNSW has undertaken an extensive range of actions to remove and safely dispose all PFAS containing foams from our Fire Stations. These actions were initiated in 2014 and have been ongoing since that time. Further, it has not been possible to order fluorinated foams since these inspections and extensive communications regarding potential risks and required actions have been promulgated”.*

After FRNSW was notified of a formal dispute, a further worksite review was undertaken by the agency, overseen by Safe Work NSW. An inventory audit identified 25 FRNSW fire stations still

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<sup>8</sup>CSIRO Forestry and Forest Products. (2000). [Fire Management: Assessment of the Effectiveness and Environmental Risk of the Use of Retardants to Assist in Wildfire Control in Victoria](#). Department of Natural Resources and Environment; Environmental Risk Sciences Pty Ltd. (2020). *Re: Rapid environmental assessment of RFS firefighting products Executive Summary* [Letter to NSW DPIE]. [Attachment 2 – EPA report](#);

CRC CARE Pty Ltd. (2013). *Toxicological evaluation and persistence of Class A firefighting form products, Phos-Chek® WD881 and Fire- Brake™ 3150A; Fire retardants / suppressants, Phos- Chek® MVP-F and Phos-Chek®Insul-8*. Department of Defence. [Attachment 1 – Defence FOI](#).

<sup>9</sup> Lanctot, C; Grogan, LF; Tunstill, K; Melvin, SD. (2024). [Metabolomic response of striped marsh frog \(Limnodynastes peronii\) tadpoles exposed to the fire retardant Phos-Chek LC95W](#), Comparative Biochemistry and Physiology Part C: Toxicology & Pharmacology.

<sup>10</sup> NSW Water Sector. (2023). [Fish deaths in Menindee](#). NSW Government.

stored significant quantities of PFAS-related firefighting foams, decades after their phasing out **[Appendix 5]**.

The FBEU have attempted to raise these issues with the NSW Environmental Protection Authority (**EPA**), however recent correspondence was left unanswered.

Given the adverse impact on human and environmental health, the appropriate and ethical destruction of historic PFAS-related foam should be an important consideration. However, EPA complaint records obtained by the FBEU through the *Government Information (Public Access) Act (GIPA)* identify multiple complaints concerning the NSW Rural Fire Service (**NSW RFS**) and the dumping of firefighting foams in water ways **[Appendix 6]**.<sup>11</sup> These examples are indicative of wider regulatory and operational failures relating to the management of hazardous materials like PFAS.

PFAS has been described as a “forever chemical” as it shows no indication of biodegradation. PFAS is also bio-accumulative. For firefighters exposed to these chemicals, this can mean elevated PFAS levels in their bloodstream and potential adverse health effects. The FBEU successfully campaigned in 2023 for voluntary PFAS blood testing and comprehensive cancer screening, provided to FRNSW firefighters at no personal cost. The initiative is designed to provide early identification, monitoring and intervention of PFAS-related health effects. Further, it demonstrates what can be achieved between employers and trade unions via consultation and with the shared goal of protecting workers. However, as it stands, the testing regime is yet to be implemented by the FRNSW Health and Safety Branch and is currently running approx. one year behind schedule.

## **Conclusion**

The experience and perspective of professional firefighters, as end-users of PFAS chemicals, is unique and offers the Committee important context.

As shown, even after the discontinuation of PFAS-related chemicals, PFAS legacy issues continue to take affect and can have serious adverse health effects. As such, it is imperative for decision-makers to employ a precautionary approach to PFAS and ensure exposures are as low as reasonably practical”.

All levels of Government, along with employers, have a moral obligation to ensure greater protections for professional firefighters, both now and into the future. The most urgent and pressing of these endeavours must prioritise the expansion of presumed firefighter diseases covered by NSW Presumptive Legislation.

The FBEU strongly support continued discussions from State and Federal Government concerning PFAS in the Australian context and urge consideration for appropriate funding to progress future efforts in this space

The FBEU submit the following recommendations to the Committee:

**Recommendation 1:**

That the NSW State Government moves to urgently expand Presumptive Cancer Legislation to include the following firefighter diseases:

Oesophageal cancer

Pancreatic cancer

Skin cancer

Thyroid cancer

Cervical cancer

Uterine cancer

Ovarian cancer

Malignant mesothelioma

Penile cancer

**Recommendation 2:**

That the NSW State Government provides appropriate funding for FRNSW to commence a suite of decontamination works, in consultation with FEBU members, dedicated to prioritising firefighter health and minimising occupational carcinogen exposure pathways.

The FBEU is available to provide more information on request.