



THE UNITED PROFESSIONAL FIREFIGHTERS UNION OF WESTERN AUSTRALIA CIRCULAR

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Firefighter Health Research And PPC Transport ECU FIREFIGHTER HEALTH RESEARCH – AND A REMINDER AS WE ENTER THE HIGH THREAT BUSHFIRE PERIOD

Attention All Members:

The UPFU continues to support important firefighter-health research being undertaken through Edith Cowan University (ECU).

This work includes research into nutritional interventions that may assist firefighters following exposure to toxic smoke, together with research examining contamination and off-gassing from firefighting protective clothing after exposure to bushfire and prescribed-burning environments.

Encouragingly, this work is also attracting significant support. The WA Department of Health, through the Future Health Research and Innovation Fund, has recommended the ECU project "Nutritional PPE for Firefighters: Scaling Plant-Based Protection Against Toxic Smoke" for almost \$1 million in in-principle funding support. The Health Department's assessment recognised the project's significance for Western Australia, its novel focus on firefighter health and its potential for high impact. DFES is yet to provide support for this research.

As we move into the High Threat Bushfire Period, the Union believes it is timely to remind members about what the emerging research is telling us about PPC. Importantly, these precautions are not limited to bushfire season and should be considered whenever PPC has been used operationally or transported.

WHAT THE PEER-REVIEWED RESEARCH IS TELLING US

This Circular is not a response to DFES Circular 63/2026. The timing of its release, without consultation, means there has not been sufficient opportunity to properly consider and respond to the matters raised by DFES in Circular 63/2026. **A separate response will be provided as soon as practicable.**

As per UPFU Circular 70/2025 The linked peer-reviewed ECU study, *Preliminary Assessment of Tunic Off-Gassing after Wildland Firefighting Exposure*, examined PPC used at Western Australian bushfires and prescribed burns. <https://ro.ecu.edu.au/ecuworks2022-2026/4834/>

The study found that firefighting tunics can absorb contaminants including acrolein, benzene, formaldehyde and sulphur dioxide, which can then be released - or "off-gas" - after the firefighting activity has finished. Measurements were undertaken over a 12-hour period and the highest concentrations from contaminated tunics were generally recorded during the first 15 minutes of measurement.

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The researchers recommend that clothing worn during bushfire events be treated as contaminated and potentially hazardous, and that firefighters have the means to change out of and safely isolate their PPC for transport back for cleaning.

However, there is an important additional issue.

“Clean” or laundered PPC should not automatically be taken to mean contaminant-free PPC.

Separate Australian peer-reviewed research by Banks et al. also referenced in **Circular 70/2025**, examined structural firefighting uniforms after they had been laundered by a fire-service industrial laundering contractor following their last use. Residual PAHs, organophosphate flame retardants and PBDEs remained in the garments and the laundered uniforms continued to off-gas contaminants. The researchers concluded that laundering practices do not completely remove these contaminants and that firefighting uniforms stored in private vehicles could become an ongoing source of exposure.

This is consistent with more recent NIOSH advice that not all contaminants are removed through typical cleaning processes, and that contamination and cross-contamination need to be considered beyond the fireground - including within appliances, stations, private vehicles and homes.

This does not mean that every laundered item of PPC is contaminated to the same level. It does mean that appearance or laundering alone should not be treated as proof that operational PPC is free from residual contamination or incapable of off gassing.

WHAT MEMBERS SHOULD DO

The precautionary approach remains straightforward:

- **Minimise unnecessary wearing or handling of PPC following fire exposure** and remove it as soon as reasonably practicable.
- **Isolate PPC following use** and appropriately contain it for transport rather than leaving PPC loose within a passenger compartment. Members should also recognise that the **PPC carrier or carry bag itself is contaminated** as it moves through operational environments, including appliances, Light Tankers, engine rooms, lockers and storage areas. Under current arrangements, these bags are not readily capable of being adequately cleaned or decontaminated in the same way as PPC and should therefore also be treated with appropriate caution.
- **Do not routinely transport or store operational PPC in private vehicles**, including PPC simply because it has been laundered or appears clean.
- Avoid leaving PPC in vehicles **overnight, across days off or for extended periods**. Australian research indicates that elevated vehicle temperatures can increase the movement of contaminants from firefighting uniforms into the vehicle environment.
- **Prioritise timely cleaning and appropriate station-based storage** and avoid unnecessarily taking PPC into homes or other personal environments.

NIOSH now similarly recommends that contaminated gear be bagged, transported in a non-passenger compartment and **not placed in personal vehicles or taken home**. It also recommends dedicated gear-storage areas because PPC itself can be exposed to other contamination sources, including diesel exhaust within appliance bays.

That last point is important. Neither PPC nor the equipment used to transport it exists in a sterile environment once returned to operational service. It is routinely stored and handled at incidents, around fire appliances, Light Tankers, lockers, engine rooms and other operational environments. For that reason, the UPFU does not consider the simple description of PPC as “clean” to be an adequate answer to the issue of members routinely transporting DFES-owned PPC in their own vehicles.

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THE CURRENT DFES TAXI ARRANGEMENT

Until a more appropriate agreed solution is established, members should continue to utilise the DFES-provided taxi arrangement for transporting PPC where required, with the PPC properly contained within an appropriate over bag.

The Union acknowledges members have raised legitimate concerns about the appropriateness of using a public transport service to move firefighting PPC. We share the view that this is **not an ideal permanent solution**.

There is, however, an important difference between PPC being appropriately contained and transported for a short, sporadic journey in a taxi and a firefighter **repeatedly carrying and storing the same PPC in their private vehicle for hours, overnight or across days off**.

The significant concern is the **regularity and duration of that exposure**, particularly when PPC remains in the same enclosed private vehicle over extended periods and during warmer conditions.

Where members experience unreasonable delays or problems obtaining the DFES taxi service, those problems should be reported to DFES and/or the taxi provider. Problems with the current system need to be recorded and fixed - they should not result in members feeling that they have no option other than to place PPC into their private vehicles.

WHY HASN'T A BETTER SOLUTION BEEN PROGRESSED?

Members have reasonably been asking the Union what has occurred with the proposed PPC over bag solution.

This matter has been under discussion with DFES through the IR Operations process since **25 March 2026**. The UPFU has subsequently been advised by DFES that the PPC Over Bag action item has been placed "On Hold", on the basis that the matter is present within the draft Enterprise Order (provision of an airtight transport bag and commitment to ongoing monitoring and testing of off gassing risks) and that no further information will be provided.

The Union does not consider that an adequate reason for a health and safety issue to stop progressing. Why is the UPFU the only party seeking safer PPC transport solutions?

These concerns pre-date the current Enterprise Order proceedings by a considerable period. In **November 2025**, the UPFU issued **Circular 70/2025 – Transport of PPC in Personal Vehicles**, advising members that PPC - even where it appeared clean - could continue to release harmful chemicals and specifically recommending that **dirty or clean PPC not be stored in private vehicles**. That Circular also called for appropriate transport bags, clean-gear exchange systems and improved storage arrangements.

Circular 70/2025 will be reattached and should be read in conjunction with this update.

The scientific evidence available to the Union since then has not provided a reason to relax that precautionary approach. If anything, the evidence concerning residual contamination following laundering, and the standard practices of other states, reinforces the need for a properly considered solution.

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RELIEF, PPC AND THE BURDEN ON MEMBERS

There is also a practical problem that DFES needs to address.

The expectation that DFES-owned PPC is returned to a member's home station following scheduled or unscheduled relief can place a considerable time burden on the employee.

The alternative cannot simply become that employees transport PPC in their private vehicle for hours after work, retain it overnight or carry it throughout their days off until it is convenient to return.

That is precisely why a properly designed transport and storage system is required.

The UPFU would prefer DFES to actively examine practical solutions - including **independent testing of PPC and its transport/storage arrangements, appropriately designed and cleanable personally issued PPC carrier systems, improved clean-gear exchange arrangements and consultation with independent scientific experts** - rather than allowing the issue to remain unresolved.

The Union has also become concerned by reports that members in some Regions are being made to feel that legitimate health and safety concerns should be put aside because of budget pressures associated with routine workplace and facility requirements.

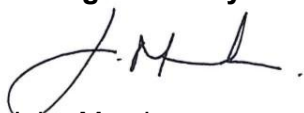
That is disappointing.

Health and safety controls should be determined by the evidence and the safest reasonably practicable solution - not by which budget has to fund it.

The UPFU will continue seeking a proper solution with DFES and will continue engaging with independent researchers as further evidence becomes available.

In the meantime, members should continue to take the precautionary approach: **minimise unnecessary exposure, isolate PPC appropriately and avoid routinely transporting or storing operational PPC in private vehicles.**

Strength in Unity



John Marsh
Secretary

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