

The results are in, which begs the question:

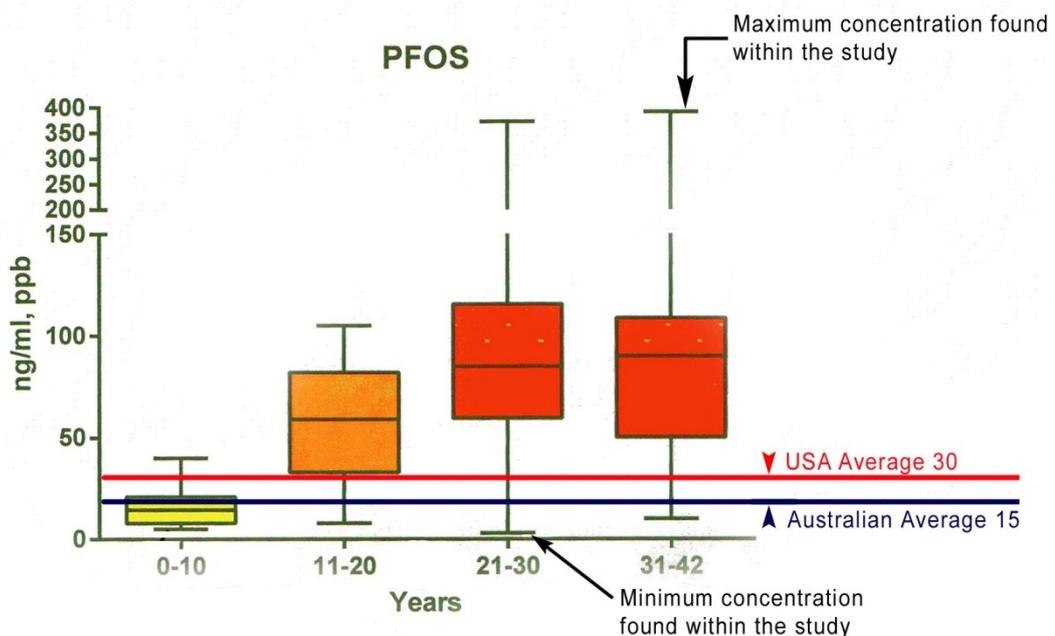
Do PFOS and PFOA pose a risk to my health and wellbeing?

As members should be aware, last year Airservices engaged the University of Queensland to conduct a study to evaluate workplace exposure to perfluoroalkyl acids (PFOS, PFHxS & PFOA). If you chose to participate in the study you most likely would have received your results over the last week or so. A brief summary of the results are listed below:

- “Higher levels of PFOS and PFHxS were found in the serum of ARFF staff compared to the general Australian and US population.
- Higher levels of PFOS and PFHxS were found in those who had been employed in jobs with foam contact for a longer period of time”.

(The University of Queensland, 2014)

The diagram below which was provided by the University, highlights the level of PFOS bioaccumulation within staff based on years of service. Note the y-axis changes scale @ 150ng/ml, ppb.



(The University of Queensland, 2014)

Now that the study has been completed it is clear that, on average, members who have served ARFF for 10 or more years have, over that time, accumulated fluorosurfactants within their bodies which are well above the normal range. If you are a member who falls into this category, it is important that you follow the advice given in the letter you received which is; **“If these levels are outside of the normal range then it is recommended that you take your letter to your personal health professional to discuss this further”**. It has come to the attention of your union that a member has already followed this advice and was referred on by his GP “who thought they warranted further investigation and directed him to a specialist to investigate these results immediately”.

Below I have provided some information taken directly from the World Health Organisation’s (WHO) web page relating to PFOS and human health.

“After the announcement of 3M in May 2000 that it would phase-out the use of PFOS voluntarily from 2001 onwards, several OECD countries agreed to informally work together to collect information on the physico-chemical and toxic properties of PFOS for the purpose of conducting a hazard assessment. The UK and the US agreed to take the lead. This hazard assessment concluded that the presence and persistence of PFOS in the environment, combined with its toxicity and bioaccumulation potential indicated a cause for concern to the environment and human health”. (OECD, 2007)

As noted above the Organisation for Economic Co-operation and Development (OECD) drafted a hazard assessment report focused on fluorosurfactants. One of the chapters in this document centres on the hazards posed to human health based on occupational exposure to PFOS and PFOA. The report contains the results of a mortality study undertaken on employees of the 3M plant in Decatur, Alabama where PFOS has been manufactured since 1991, and PFOA since 1998. One of the aims of the study was to determine whether plant employees had significantly different causes of death than that of the general population. As is the case with all human health studies conducted on this subject to date, the cohort was relatively small, consisting of just 2083 employees of whom 147 had passed away. The following observation was made:

“Workers who were employed in high exposure jobs were 13 times more likely to die of bladder cancer than the general population of Alabama (SMR = 12.77, 95% CI = 2.63 - 37.35). This effect remained when the data were analysed using county death rates. Three male employees in the cohort died of bladder cancer (0.12 expected). All of these workers had been employed at the Decatur plant for more than 20 years, and all of them had worked in high exposure jobs for at least 5 years (SMR = 24.49)... The high ratio of observed bladder cancer deaths in long-time employees to those expected in the general population is troublesome”. (OECD, 2002)

With that said and owing to the small size of the study it is important to note that the report also states; *“The results of this study should only be used for hypothesis generation”.* (OECD, 2002)

To date, the majority of meaningful studies into the toxic effects of fluorosurfactants have been limited to animals, and it is true to say that the adverse effects experienced by the lab animals (monkeys, rats and mice) may not directly translate through to humans. What we do know, is that health experts in OECD countries have found PFOS and PFOA to be persistent, bioaccumulative and toxic to the environment and humans. What we also know, is that due to the recent amendment to the Safety, Rehabilitation and Compensation Act (Presumptive Legislation), employees with 15 years of service who contract primary site bladder cancer will be entitled to a rebuttable presumption that the disease was caused through occupational exposure. **All members**, regardless of years of service, are asked to retain the results of this study should there be grounds for their use at some time in the future.

The Aviation Branch has requested from ARFF a copy of the full report into the study from the University of Queensland and we expect to receive that at some time in the near future. We will provide members with any developments as they come to hand.

AND REMEMBER as important as the rebuttable presumption provided by the Act is, actions to prevent these diseases manifesting in the first place, through selection and use of correct PPE, decontamination and hygiene protocols which are compliant with the highest standards, is an objective that demands significant effort from all.

In Unity,
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