Submission No 18

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

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Submission to the Inquiry into PFAS contamination in waterways and drinking water supplies throughout New South Wales.

Re: (f) the health, environmental, social, cultural and economic impacts of PFAS

Future Cancer from PFAS.

Although there is limited data on cancer from PFAS, when compared with early data on other chemical carcinogens, the data is compelling; PFAS are likely to cause cancer.

With cancer, we need to consider cost of treatment and human suffering, but more importantly the loss of lives. The failure to act on early scientific data on tobacco smoke causing cancer has resulted in possibly thirty million deaths that could have been prevented. There is a need to err on the side of caution, and take all precautions until we have more data on PFAS causing cancer.

Long chain PFAS are being banned from manufactured goods, and replaced by shorter chain PFAS, the so called GenX chemicals (hexafluoroproplyene oxide and its ammonium salt). The GenX PFAS are shorter lived, and this could prevent them reaching the levels in our air and water, and bodies, that could cause cancer on a large scale in the future. However, GenX are likely to be just as carcinogenic as PFOA, or even more carcinogenic due to their small size allowing better access to cells and tissues.

So, until we have more data, PFAS need to be treated as carcinogens in public health planning.

On the other hand, PAHs (Polycyclic Aromatic Hydrocarbons) have been known to cause cancer from the 1930's. Globally, in 2023, over 6 million cases of cancer can be attributed to PAHs. This is at least 30% of today's cancer.

PAHs are found in smoke (cigarette smoke, bushfire smoke, smoke from fireplaces and barbecues) and in all crude fossil fuels. (They are liberated into the air and water during coal, oil, and gas mining, and in vehicle exhausts). With climate change, megafires are increasing all over the world. They produce huge amounts of PAHs in smoke and ash.When it rains, PAHs in smoke and ash from wildfires are washed into local waterways, and drinking water supplies. So cancer from Pahs in air and drinking water will increase, causing cancer on a large scale in the future. We need to monitor PAHs in our air and drinking water, and take steps to reduce our exposure to PAHs. For more information on PAHs and the scientific papers to back up these facts, visit: *www.pahs-and-cancer.org*

With the recent public outcry about PFAS, NSW Water is now monitoring catchment water for PFAS. PAHs are a greater cause of cancer now than PFAS, and will be more so in years to come.
Monitoring of PAHs in catchment water, and public health warnings about PAHs are long overdue.

see also "PFAS the forever chemicals; PAHs the now chemicals" attached

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Effie has spent over 30 years working as a molecular biologist in Cancer Research at University of Qld and Qld Institute of Medical Research, studying the effects of chemical carcinogens on cultured human cells. Her publications include papers in Nature, the Lancet, New England Journal of Medicine, Mutation Research, Neurology, Oncogene, Biochemical Pharmacology and Plant Science. Invited speaker at the Dibble Cancer Research Centre, UDMS, London, and the International Congress for In Vitro Biology, Portland, OR, USA.