Submission to The Select Committee on PFAS

Introduction

My name is Norvan Vogt, and I bring over 29 years of experience in Information Technology and Digital Transformation, with a particular focus on the healthcare, human services, and government sectors. As Director of Open Rationale Ltd., I lead digital strategy and data governance initiatives for healthcare and human services organisations, driving digitisation, interoperability, and data security in client systems and records. My career includes executive roles as Chief Information Officer for significant health institutions in Queensland, where I spearheaded multi-year digital transformation programs, optimised operational efficiencies, and enhanced system integration.

With a deep commitment to secure and sustainable technology, I am familiar with the challenges posed by PFAS use in ICT equipment and its broader impact on public health and the environment. This submission draws upon my professional experience and highlights the pressing issues related to PFAS, offering practical recommendations to strengthen regulatory frameworks and ensure safer outcomes for communities and industries.

Key Issues and Recommendations

Inadequate Scope of Current Regulatory Frameworks

Issue: PFAS encompass a large class of chemicals with varying properties, yet Australia's current regulatory framework addresses only a small subset (e.g., PFOA and PFOS). This limited scope fails to cover emerging PFAS compounds, which may have similar environmental and health impacts, leaving gaps in protection. (Naidu et al., 2020).

Recommendation: Broaden the regulatory framework to include all PFAS compounds. This could be achieved by setting exposure limits for the entire class, guided by ongoing scientific research. Additionally, a nationwide regulatory approach would create consistency across states and territories, strengthening compliance and enforcement. Such as:

Establish Comprehensive Bans and Use Restrictions: The EU has taken decisive action under the REACH regulation to restrict PFAS usage, aiming for a phase-out of all non-essential uses. Australia could similarly expand the PFAS National Environmental Management Plan (NEMP) to prohibit or limit non-critical PFAS applications, moving towards a more preventative approach.

Implement Binding Limits and Monitoring: The EU sets stringent environmental and health limits for PFAS in soil, water, and air, along with mandatory reporting and monitoring of PFAS emissions. Australia could expand its monitoring and management of PFAS by setting binding limits for various media, not just drinking water, and mandating annual reporting of PFAS emissions to monitor and limit environmental spread.

Adopt a Grouping Approach: The EU regulates PFAS individually and in classes, anticipating future risks of PFAS variants. Australia could adopt a similar strategy, treating PFAS as a broad class rather than controlling individual substances like PFOS and PFOA. This would simplify oversight and address potential risks from lesser-known PFAS variants.

Strengthen Waste and Resource Management: In the EU, PFAS are managed through regulations on waste treatment, disposal, and resource recovery to prevent contamination of new materials.

Aligning with this approach, Australia could enhance guidance within NEMP on PFAS waste management to prevent the reintegration of PFAS into products and the broader ecosystem.

Integrate PFAS into Chemical Safety Evaluations: The EU requires safety evaluations for all new chemicals, especially for PFAS, under the EU's CLP and REACH regulations. Australia's AICIS could enforce a similar mandatory PFAS evaluation and categorisation process for newly introduced chemicals and substitutes, aligning regulatory protocols and proactively managing safety evaluations.

Lack of Transparency in Consumer Products

Issue: PFAS are found in a wide range of consumer goods (e.g., ICT equipment, textiles, packaging, personal care products), but labelling requirements are minimal, resulting in uninformed exposure to these substances. This lack of transparency prevents individuals from making informed choices about PFAS exposure in everyday products. (Richter et al., 2020)

Recommendation: Introduce mandatory labelling for products containing PFAS, enabling consumers to make more informed purchasing decisions. Additionally, public awareness initiatives on the presence and risks of PFAS in household and ICT goods would empower individuals to reduce exposure. Such as:

- Develop Clear PFAS Labelling Standards: The EU has mandated labelling products with hazardous substances, including PFAS, to increase consumer awareness. Australia could adopt similar labelling requirements under the Industrial Chemicals Act or PFAS National Environmental Management Plan (NEMP), requiring clear labelling on products containing any form of PFAS. This labelling would identify the presence of PFAS and potential environmental or health risks associated with these substances.
- Create a PFAS Awareness Campaign: The EU has invested in public awareness about hazardous substances, including PFAS, by collaborating with consumer and environmental organisations. Australia could similarly launch campaigns on the risks of PFAS in household products and ICT goods, coordinated by the Department of Climate Change, Energy, the Environment, and Water (DCCEEW) and supported by relevant state agencies. This would provide information on how PFAS affects health and the environment and ways consumers can limit exposure.
- Integrate PFAS Information into Digital Platforms: Similar to the EU's online databases, Australia could build an accessible digital platform, possibly through AICIS or DCCEEW, where consumers could check PFAS-related details about specific products. This initiative could collaborate with manufacturers and importers to ensure comprehensive data on PFAS content and help consumers make informed choices.
- Require PFAS Declarations for Imports: Australia could require declarations of PFAS content for all imported products. This would align with EU import regulations under the REACH framework, necessitating PFAS disclosure for imported goods. Establishing such a requirement would encourage transparency within Australia's supply chain and allow consumers and businesses to identify PFAS-free alternatives where possible.

Environmental Persistence and Bioaccumulation

Issue: PFAS are known to bioaccumulate in food chains, posing a sustained threat to ecosystems and, by extension, human health. Conventional water treatment plants do not effectively remove them, allowing PFAS to persist and circulate through water systems and accumulate in wildlife and crops. (Gallen et al., 2022)

Recommendation: Investment in advanced water treatment technologies is essential, particularly for areas with high levels of PFAS contamination. Techniques such as carbon filtration and reverse osmosis could be prioritised in treatment facilities. Enhanced waste management and disposal guidelines for PFAS-containing materials would also help prevent further contamination. By the following:

- **Investment in Advanced Water Treatment Facilities**: Prioritise funding for advanced filtration technologies, such as activated carbon, reverse osmosis, and ion exchange, in water treatment plants across high-risk areas. This would help ensure communities with elevated PFAS contamination access safe drinking water. Financial support, such as grants or subsidies, could encourage water utilities to adopt these methods, particularly in impacted rural and remote areas.
- **Establish National Standards for PFAS Waste Management**: Develop a national framework under the PFAS National Environmental Management Plan (NEMP) that outlines best practices for the safe disposal and containment of PFAS-contaminated waste. This could standardise how contaminated soils, biosolids, and industrial waste are treated, transported, and disposed of to prevent leaching into the environment.
- **Mandatory PFAS Remediation in Polluted Areas**: Introduce obligations for PFAS remediation in contaminated sites, offering support to local governments to clean up PFAS-polluted areas. Government funding or incentives for municipalities would allow for the reclamation of affected lands and safer disposal methods, minimising health risks and environmental exposure.
- **Enhance Collaboration on PFAS Mitigation Technologies**: Strengthen coordination between state and federal agencies and industry bodies to research and implement effective PFAS mitigation solutions. Through partnerships and shared best practices, Australia could accelerate the adoption of the most effective treatment technologies and disposal solutions across regions.

Presence of PFAS in ICT Equipment

Issue: PFAS compounds are extensively used in ICT equipment for their fire-resistant, durable, and thermal management properties. (Panieri et al., 2022) This widespread usage includes:

- **Cables and Insulation**: PFAS compounds are commonly found in cable insulation and coatings due to their high resistance to fire and chemicals, enhancing durability, especially in high-voltage and data transmission cables.
- **Printed Circuit Boards (PCBs)**: PFAS compounds such as PTFE (polytetrafluoroethylene) are used in circuit board coatings for low friction, heat resistance, and electrical insulation.

- **Cooling Systems and Thermal Management**: PFAS compounds are also used in thermal management materials to prevent overheating sensitive ICT components, making them valuable in heat sinks and cooling pads.
- **Display Screens**: Coatings on screens and monitors often contain PFAS for properties such as anti-fingerprint, anti-glare, and waterproofing.
- **Dust and Moisture Resistance**: PFAS coatings are applied to maintain device longevity and performance in various conditions, particularly in components requiring dust- and moisture-proofing, such as smartphone cases and internal ICT components.

Recommendation:

Establish Regulatory Labelling Requirements for PFAS

- **Amend Consumer Information Regulations**: Similar to the EU's REACH (Registration, Evaluation, Authorisation, and Restriction of Chemicals) framework, Australia could require ICT manufacturers to disclose PFAS content in their products through labelling. This could be enforced by amending consumer information laws under the Australian Competition and Consumer Act or the Industrial Chemicals Act to ensure compliance across the ICT supply chain.
- **Create a PFAS Reporting Database**: Australia could adopt a centralised, publicly accessible database where manufacturers register products containing PFAS, akin to the EU's SCIP (Substances of Concern in Products) database. This would allow consumers and regulators to track PFAS use in ICT products, promoting transparency and assisting in targeted regulatory enforcement.

2. Enforce Standards and Set Reduction Targets for PFAS in ICT Equipment

- **Define Non-Essential Uses and Set Phase-Out Schedules**: The EU is advancing towards banning non-essential PFAS uses, aiming to eliminate them by 2030 for consumer goods. Australia could similarly define "essential" and "non-essential" PFAS uses in ICT equipment and establish phased reduction targets over time. For instance, high-risk or unnecessary applications of PFAS (such as coatings for water resistance in non-critical items) could be set for phase-out within five years, with stricter review criteria on essential uses.
- **Establish a PFAS-Free Certification for ICT Products**: Encouraging ICT manufacturers to seek certification for PFAS-free products would promote alternative materials and reward those moving towards sustainable options. Like the EU's eco-labelling schemes, this certification could be a recognised standard for PFAS-free products, motivating companies to transition sooner.

3. Incentivise Industry Innovation and PFAS Alternatives

- **Research Grants and Innovation Incentives**: Australia could encourage R&D through grants or tax incentives for companies exploring PFAS alternatives in ICT components, similar to EU funding for sustainable chemical substitutes. This support would enable Australian ICT manufacturers to develop and adopt PFAS-free technologies more efficiently, aligning with international standards and fostering competitive, environmentally responsible products.

Financial and Social Inequities in Remediation Efforts

Issue: Financial responsibility for PFAS remediation often falls on local communities and government agencies rather than the industries responsible for contamination. This creates inequity, especially for rural and lower-income communities that are disproportionately affected by PFAS pollution.

Recommendation: Implement enforceable "polluter pays" legislation requiring industries responsible for PFAS contamination to fund clean-up efforts. Such policies would help shift the financial burden away from impacted communities and incentivise industries to find safer alternatives to PFAS.

Limited Knowledge of Safe Exposure Levels and Long-Term Health Impacts

Issue: Research into the long-term health effects of PFAS exposure, especially for newer compounds, is limited. This lack of comprehensive data makes it challenging to set safe exposure levels and raises questions about whether current guidelines provide sufficient protection.

Recommendation: Support and fund further research into the health impacts of established and emerging PFAS compounds. Based on this research, updated guidelines for safe exposure should be developed to protect public health more effectively.

Conclusion

The persistence, bioaccumulation, and hidden nature of PFAS pose serious challenges that require urgent, coordinated action. Addressing PFAS comprehensively through expanded regulations, increased transparency, and equitable financial responsibility would improve Australia's ability to manage and mitigate PFAS impacts. The above recommendations represent practical steps towards a more sustainable approach to PFAS management, protecting communities and the environment from these persistent pollutants.

Thank you for considering this submission. I am open to providing further input or clarification on the recommendations outlined above.

Norvan Vogt

Sources:

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