

Evolution of PFAS in Australia: Investigation, Risk Perception, Communication and Management

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Background/Objectives. Since 2002 certain per- and poly fluorinated alkyl substances (PFAS) compounds have been phased out or restricted. Ongoing use in industrial processes and products include use in aqueous film forming foams (AFFF) for fire fighting, chromium plating, medical imaging and in various fabric and cooking applications (either manufactured in Australia or imported).

The use of PFAS-containing AFFF on facilities that store or use flammable and combustible liquids has led to contamination across airports and other industrial facilities. In-turn, investigation of the impacts caused by use of PFAS on these facilities has been undertaken on an individual or portfolio-scale.

The evolution in the understanding of these compounds and their potential behavior on release into the environment and resulting potential impacts to human health and the environment have been evolving for a number of decades. More recently a national response to the management of PFAS has been release, which aims to set out a national framework to the management of PFAS.

This objectives of this paper are to present the impact of regulatory and scientific change/advances on the approach to investigation and management of PFAS impacts in Australia.

Approach/Activities. Based on experience across a number of PFAS impacted sites in Australia over the last 10 years, the study draws upon the various Australian sites that have been investigated for PFAS contamination. In doing so it draws out common findings and lessons learned in the approach to investigation, assessment, stakeholder risk communication, management and remedial strategies for PFAS contamination.

Results/Lessons Learned. Based on the analysis undertaken the paper aims to present key findings as they relate to:

Investigation

- Impact of regulatory and scientific change on investigation process and priorities
- Implications of background PFAS impacts in assessing risk – fingerprinting site sources and off-site activities
- PFAS fate and transport and impacts on investigation scope, focus and prioritization
- Precursors – which compounds should we really investigate.

Risk Management and Remediation

- Approach to community consultation – dealing with uncertainty associated with PFAS as an emerging contaminant and impacts to peoples' livelihood and property values
- Divested legacy sites
- Assessment and identification of management or remedial options in an uncertain/changing regulatory environment
- Evaluation of current solutions as long-term solution