

PFAS National Programme overview

Background

PFAS is an acronym for a group of several thousand chemical compounds known as per- and poly-fluoroalkyl substances. They are a ubiquitous group of water repellent, stain resistant, and non-stick chemicals we have been using in our daily lives since the 1950s.

In New Zealand, two of the PFAS compounds, PFOS and PFOA, were used in firefighting foams for over 50 years until these foams were banned in 2006. They have been used for flammable liquid fires at airports and fire training sites across New Zealand. In these situations they were often used in open spaces, on bare ground and at high volumes. PFAS is highly mobile in the environment and these sites are an obvious first candidate for potential contamination of soils, surface water and groundwater.

The initial focus has been on fire training sites. In time, sites where non-foam uses of PFAS took place will be identified and investigated. Landfill sites and waste water treatment outfalls could well prove to be significant sources.

Early research papers on PFAS suggested links to diseases such as cancer, thyroid, cholesterol and reproduction issues and low birth weights. The latest health advice from Australia concluded there was little evidence to link PFAS exposure to human disease. Currently there is no consistent evidence that exposures to the low levels found in the New Zealand environment will cause harmful health effects. The All of Government programme has, however, adopted a precautionary approach for drinking water and recommended alternative water sources where the interim health guidance levels are exceeded.

The relevant legislation for the programme is the Resource Management Act 1991 (RMA) and the Hazardous Substances and New Organisms Act 1996 (HSNO). The day-to-day environmental management on contaminated land issues is largely the responsibility of regional councils and territorial authorities. HSNO creates a regime of controls for how hazardous substances are contained, labelled, stored, used, transported or disposed of. The RMA allows local authorities to manage the effects of the use of hazardous substances.

The All of Government PFAS Programme

The All of Government (AoG) PFAS Programme was established in response to the presence of PFAS chemicals in and around the New Zealand Defence Force's Airbases at Ohakea and Woodbourne. The Programme's role is to coordinate the government response to this emerging contaminant, including guidance, oversight and engaging with local government. The overall goal of the Programme is to provide information and guidance on how this emerging contaminant can be managed by councils and industry using the existing approaches to hazardous substances and contaminated land.

The main elements of the Programme are:

- Investigations on Crown sites
- EPA site investigations
- Working with local government
- Research and system improvements

Investigations on Crown sites

The New Zealand Defence Force has been investigating PFOS/PFOA around Defence sites across NZ, with an initial focus on the groundwater and soil in and around Base Ohakea and Base Woodbourne. Four rounds of testing are planned, with the final round due in September. Testing is also being undertaken in both Devonport and Whenuapai in Auckland. Once testing is complete, and the extent and seasonal variation of contamination is understood, response options will be considered.

EPA site investigations

The EPA has particular responsibility for enforcing the prohibitions in the HSNO Act on the use of PFAS chemicals that are internationally recognised as persistent organic pollutants under the Stockholm Convention. Currently this only applies in relation to PFOS, but PFOA and another PFAS chemical, PFHxS, have also been proposed for listing as Stockholm chemicals.

Since taking on a new HSNO enforcement role in December 2017 the EPA has found issues at several airports and other locations with non-compliant firefighting foams. A list of sites where the EPA has found non-compliant PFOS/PFOA containing firefighting foams is attached (Table 1)¹. The EPA has issued a number of compliance orders to ensure the appropriate disposal of non-compliant foams.

Working with local government

The AoG Programme is working with local government to assist in carrying out their functions through providing information and coordination to ensure the response is consistent between councils. The Ministry is working with other central government agencies and local government to develop a toolbox of guidance and information. The Programme's governance and working group arrangements include local government representation.

The AoG Programme is also working with relevant industry groups around understanding the size and scale of the issue, and how we can work with them and councils. This includes the Airports Association, Water NZ and waste water treatment plant operators.

The AoG Programme has been conducting a prioritisation exercise to identify the sites, based on currently known information, that are likely to require further action.

Contamination has recently been identified in Taranaki as a result of activities carried out on a fire training site, as well as bulk petrochemical storage sites (Shell). While there has been some media coverage in this area, the programme has been in regular contact with the Taranaki Regional Council, which is leading this work as the responsible regulator. The Taranaki Regional Council has been proactive in addressing this matter.

Landowners have responsibilities under regulations for potentially contaminated land. The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES-CS) includes requirements for contaminated land, including potential contamination caused by past land use. Resource consents may be required under the regulations.

The Hazardous Activities Industry List (HAIL) provides guidance on the industries and activities which typically use or have used or stored hazardous substances that, through improper management, could potentially cause contamination. If a council records or a

¹ A number of sites are undergoing investigation and therefore information relating to sites where the EPA has found non-compliant PFOS/PFOA containing firefighting foams is withheld under Section 6(c) of the Official Information Act 1982.

preliminary site investigation indicates that a HAIL activity may have occurred, the NES-CS applies.

As a new contaminant, PFAS was not previously recognised as a hazardous substance and as such not all activities that used PFAS will be identified on council HAIL registers. The HAIL registers are, however, likely to capture the majority of sites where activities involving PFAS were used. In time, the HAIL list and individual council registers could require review.

Research and system improvements

The AoG Programme part-funded, with several regional councils, research into potential sources of PFOS/PFOA from non-foam sources. The Tonkin and Taylor report is available in full [on the Ministry's website](#). The research indicated a number of potentially significant sources of PFAS in the environment, including:

- Waste water treatment plants
- Landfills
- Biosolids application
- Textiles, upholstery and leather manufacturing
- Metal plating and etching
- Paper products.

Cleaning out a fire truck of firefighting chemicals requires a significant volume of water and all this wash water needs to be properly treated and diluted in order to be accepted into the local trade waste and water treatment systems. As a new contaminant there are no criteria for the PFAS compounds. Some operators have temporarily adopted a zero standard for PFAS compounds (despite likely trace ambient levels already in the system) and this is creating uncertainty for fire truck cleaning activities and making it difficult to quickly reach compliance. The AoG Programme has been working hard with local government and trade waste operators to patch what is currently a gap in our waste water management system.

The AoG Programme is also closely engaged with officials in Australia as they work on an updated version of their National Environmental Management Plan for PFAS contamination.