

Cairns Airport and fire fighting foam

Airservices' role at Cairns Airport

Airservices Australia is a government-owned organisation that was established in 1995 to provide air navigation and aviation rescue fire fighting services (ARFFS). Airservices has provided these life-saving rescue and fire fighting services at Cairns Airport since 1995. Prior to that, they were provided by former Commonwealth agencies.

Use of firefighting foam at Cairns Airport

Airservices does not use fire fighting foam containing per- and poly-fluoroalkyl substances (PFAS) at Cairns Airport nor at any other civil airport in Australia.

Airservices began transitioning away from these foams in the early 2000s when concerns first started to emerge about the possible environmental impacts of these chemicals. Airservices has been using PFAS-free fire fighting foam since 2010.

From the early 1980s until the early 2000s, a fire fighting foam called 3M Lightwater was used by various industries around the world. This Aqueous Film Forming Foam (AFFF) was particularly effective for fighting liquid fuel fires and was widely adopted both in Australia and around the world. This product contained perfluorooctane sulfonate (PFOS) as an active ingredient and other PFAS, such as perfluorooctanoic acid (PFOA). In the early 2000s, following concerns that started to emerge about the possible environmental effects of PFAS, Airservices made the decision to change its fire fighting foam to a product called Ansulite which was thought to not contain PFOS. It was later found to contain trace amounts of these chemicals. Since 2010, Airservices has a PFAS-free foam, Solberg RF6 at all civilian airports where it operates, including at Cairns Airport.

What action has Airservices taken at Cairns Airport?

Airservices is taking a proactive and evidenced-based approach to managing PFAS contamination arising from the historical, or legacy-use, of firefighting foam containing PFAS, at its leasehold sites.

▪ Foam transition and testing

The first action was to stop using foams containing these chemicals which commenced in the early 2000s with a transition to Ansulite, and then a comprehensive roll-out of Solberg, a PFAS-free foam, completed in 2010.

Airservices then began testing and monitoring for these chemicals in 2008 with testing at the Fire Training Ground (FTG) confirming these chemicals in soil and groundwater at the FTG.

▪ Investigation and characterisation

Airservices engaged independent consultants GHD Pty Ltd to undertake a Preliminary Site Investigation (PSI) and limited sampling program at Cairns Airport, to better understand potential impacts from Airservices' prior use of these foams. The Cairns Airport PSI focused on areas historically used in Airservices provision of ARFF services. Individual airport PSIs are part of Airservices' National PFAS Management Program.

PSI results

The PSI detected historical PFAS contamination on airport, in close proximity to the leased sites where Airservices carried out its fire service activities prior to 2010, when it transitioned to a PFAS-free foam.

The PSI report indicated PFAS was detected in soil, surface water and sediment on airport. The PSI indicated PFAS detected in groundwater on airport above human health guidelines indicating further investigations were required. However, the report noted it was unlikely that groundwater onsite or in the vicinity is extracted for potable purposes.

The PSI is available [here](#).

Airservices completed further, targeted investigations to expand on and supplement the PSI. These investigations included targeted water quality and ecological sampling on and off-airport to determine any potential off-airport migration and to inform future appropriate management strategies.

The on-airport results of the targeted sampling indicated any PFAS soil and groundwater impacts are likely to be localised on airport. Surface water sampling indicated a low risk of PFAS affecting the Barron River from run off.

The PFAS concentrations detected off-airport including in fish in the Barron River, in surface water and in sediment were below human health guideline levels indicating there is no adverse risk to human health from the consumption of fish from the river or from recreational use adjacent to the airport. However, further investigations are still required to continue to assess potential ecological impact.

Airservices has shared the PSI and the results of the targeted investigations with Cairns Airport, NQA and the Department of Environment and Science (DES).

Next steps

Following on from the PSI and targeted investigations, Airservices is commissioning a detailed investigation of PFAS contamination arising from its activities. The results of these investigations will help to inform future appropriate management strategies to manage Airservices PFAS impacts on airport.

More information

Airservices Australia – Airport-specific information:

<http://www.airservicesaustralia.com/environmental/national-pfas-management-program/>

Commonwealth Department of Health – Per and Poly-fluoroalkyl substances (PFAS):

<http://www.health.gov.au/internet/main/publishing.nsf/content/ohp-pfas.htm>

Commonwealth PFAS website: <http://www.pfas.gov.au/>

DES Queensland – PFAS Contamination: <https://www.des.qld.gov.au/>