

Albion Park – Preliminary Site Investigation Key Findings and Next Steps

Preliminary Investigation Update

The FRNSW Preliminary Investigation into the presence of per- and poly-fluoroalkyl substances (PFAS) on, and in the vicinity of, FRNSW's Albion Park training site was completed in February 2017.

The investigation is part of a review of a number of FRNSW sites across NSW where legacy firefighting foams containing PFAS have been stored, used and disposed of.

PFAS are emerging contaminant, which means that their ecological and/or human health effects are unclear. FRNSW is investigating to better understand the nature and extent of PFAS across its sites and assess potential risks to human health or ecology, including the identification of pathways through which people may be exposed to these chemicals.

Environmental sampling was undertaken in December 2016 which involved collecting surface water and sediment samples; soil samples and groundwater samples.

FRNSW now have results back which confirm PFAS is present in environmental samples collected. In some cases, levels are above the Food Standards Australia and New Zealand (FSANZ) health based guidance values.

The results identify the need to undertake a more detailed assessment of the site and surrounding area and further investigations will now commence including determining whether there are any exposure pathways.

The community is being asked to assist these investigations by completing a water survey which will help to identify how potentially contaminated water is being used.

A copy of the water survey can be found on our website www.fire.nsw.gov.au/pfas.

Communicating the results

FRNSW is hosting a community information session one evening during the week of 15th May, where the project team will be available to answer questions about the investigations and water survey. You are encouraged to register your interest in the session by email at pfasinvestigation@fire.nsw.gov.au by **Friday 12th May**.

You can find a copy of the technical report on our website www.fire.nsw.gov.au/pfas. If you require a hard copy of the report please call 1800 316 663 or email pfasinvestigation@fire.nsw.gov.au.

Background to the investigation

FRNSW has engaged GHD Pty Ltd (GHD) to undertake an environmental investigation into the presence of PFAS on, and in the vicinity of, FRNSW's Albion Park training site.



FRNSW Albion Park Training Site (shaded in yellow), and surrounding community

PFAS and firefighting foam

PFAS is a class of manufactured chemicals generally present in aqueous film forming foam (AFFF) which was used extensively worldwide from the 1970s due to its effectiveness in fighting liquid fuel fires.

The term PFAS relates to a large number of compounds. The primary PFAS compounds of interest to the investigation include perfluorooctane sulfonate (PFOS), perfluorohexane sulfonate (PFHxS), and perfluorooctanoic acid (PFOA). FRNSW's preliminary sampling focused on these compounds as guideline values exist and they have been deemed important to assessing risk.

The firefighting foams now used by FRNSW are more environmentally sensitive and do not contain PFOS or PFOA.

Preliminary investigation

The preliminary investigation commenced in June 2016 and was completed in February 2017. Some of the objectives of this initial investigation included:

- reviewing site history for AFFF use and identifying potential sources of PFAS
- investigating and modelling how PFAS moves through the environment
- sampling and laboratory analysis of groundwater, surface water, soils and sediments.

Sampling results

Primary migration pathways of PFAS are surface water and groundwater.

FRNSW are currently working to understand the ways in which both groundwater and surface water are used in the area to assist us in assessing the pathways for potential exposure.

Guidance values of PFAS in surface water and groundwater, are used to help us understand when further works are required.

Guidance Values

The Commonwealth Department of Health has calculated drinking water quality and recreational water quality values for use in site investigations in Australia.

These values are based on the FSANZ health based guidance values for PFOS and PFOA, which are in the form of a tolerable daily intake. A tolerable daily intake is a level of daily oral exposure over a lifetime that is considered to be without significant health risk for humans.

Further information on health based guidance values for PFAS can be found on the Department of Health's website.

PFAS in soils and sediments

The concentrations of PFAS in soils and sediments were low and below the guidance values. Whilst concentrations are low, the leachability data indicates that soils and sediments in some areas may continue to act as a source of PFAS and FRNSW are looking at ways to address this through short-term management actions.

PFAS in groundwater

Three groundwater samples collected from on-site monitoring wells, and two off-site locations reported concentrations of PFHxS and PFOS which are above the guidance values for drinking water. In all cases, the concentrations of PFAS in groundwater were above the drinking water guidance values and further assessment is needed to fully interpret this data.

PFAS in surface water

Concentrations of PFAS in surface waters on-site were reported above the drinking water guidance values.

Four surface water samples were collected from off-site locations. Whilst PFAS concentrations were lower than those reported on-site, the data indicates that PFAS compounds are still present at concentrations above the drinking water guidance values.

How might people be exposed to PFAS?

The main potential exposure pathway to people is through ingestion of contaminated water and produce that uses this water. To help us to identify how potentially contaminated water is being used within the surrounding community, FRNSW has commenced a water use survey for landowners who live in the nearby area.

A copy of the water survey can be found on our website www.fire.nsw.gov.au/pfas.

Next steps

Detailed site investigation

A detailed site investigation will now commence, and will include additional off-site sampling to further understand the pathways for potential migration of PFAS from the site.

Management actions

Over the course of this year FRNSW will implement a number of management actions to address the PFAS present on site and minimise further migration including:

- Implementing measures to stop the retention basin on the FRNSW site overflowing, and restricting access/use of the water currently in the dam.
- Establishment of a sediment trap on site to prevent further off-site movement of sediments.
- Removal of impacted soils around the fire training ground on the FRNSW site.

Health

Most people living in developed nations are likely to have some levels of PFAS in their body because these compounds have been used in domestic products like non-stick cookware, fire retardant fabrics including carpet, and furniture for example.

FRNSW is following the guidance of the Department of Health on PFAS, which states that currently there is no consistent evidence that exposure to these PFAS causes adverse human health effects.

Current guidance values are a precautionary measure while further research is conducted into potential health effects of PFAS.

Further Information

Further information about the FRNSW PFAS Investigation can be found on our website at www.fire.nsw.gov.au/pfas.

Information on PFAS and the PFAS investigation program being undertaken by the NSW Environment Protection Authority (EPA) can be found on the EPA website at www.epa.nsw.gov.au/Mediainformation/pfasinvestigation.htm.

Information on PFAS health effects and exposure pathways can be found on the Department of Health's website at <http://www.health.gov.au/internet/main/publishing.nsf/Content/ohp-pfas-hbgv.htm>

Contact the Project Team

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Media enquiries should be directed to FRNSW Media Unit on (02) 9265 2907 or email at media@fire.nsw.gov.au