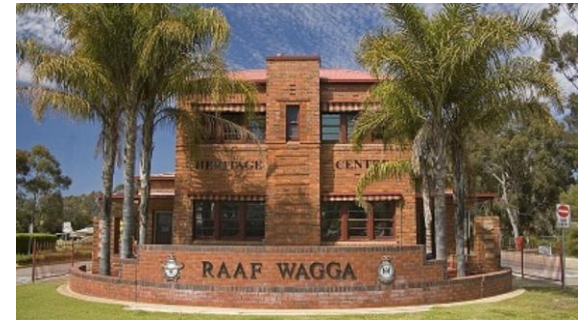




Australian Government  
Department of Defence  
Estate and Infrastructure Group

# PFAS Investigation & Management Community Information Session



RAAF Base Wagga, NSW

MARCH 2017

Rear Admiral Clint Thomas

Defending Australia and its National Interests  
[www.defence.gov.au](http://www.defence.gov.au)



## Acknowledgment of Country

We would like to respectfully acknowledge the Wiradjuri People, the traditional custodians of the land on which this meeting takes place. We would also like to pay respect to the Elders both past and present.

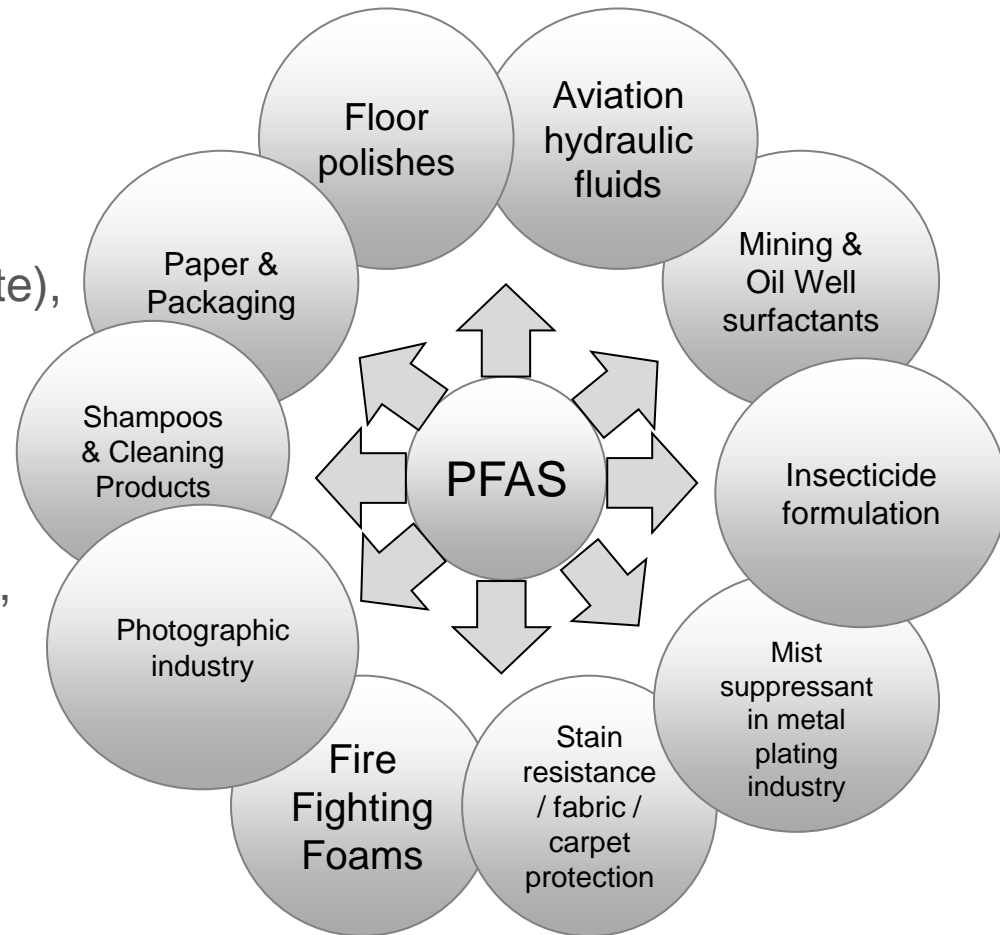
# Welcome

## Session outline:

- Background
- PFAS and AFFF history
- RAAF Base Wagga– PFAS Investigation outline
- Next steps

# What are PFAS

- Per- and poly-fluorinated alkyl substances (PFAS) are a group of man-made compounds
- Include PFOS (perfluorinated sulfonate), PFHxS (perfluorohexane sulfanate) and PFOA (perfluorooctanoic acid)
- PFAS have been widely used around the world since the 1950s to make products that resist heat, stains, grease and water
- Most people in developed countries are likely to have levels of PFOS, PFHxS and PFOA in their blood
- Emerging contaminants



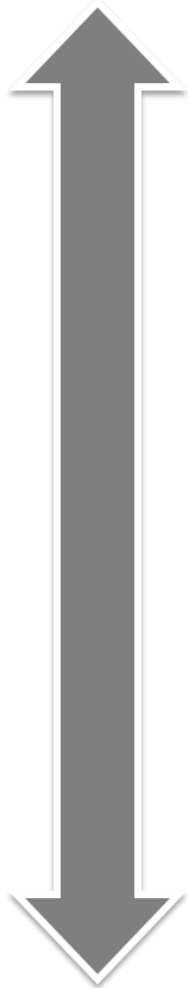
# PFAS and AFFF

Aqueous Film Forming Foam (AFFF) is a fire fighting foam used to extinguish liquid fuel fires.

AFFF has been used extensively worldwide, including Australia, since the 1970's by both civilian and military authorities. Legacy formulations contained some PFAS of concern as active ingredients, including:

- PFOS (perfluorooctane sulfonate)
- PFOA (perfluorooctanoic acid)
- PFHxS (perfluorohexane sulfonate)

# History of AFFF use in Defence



- From 1970s**      Defence commenced use of AFFF containing PFOS/PFOA.
- In 2003**      Defence and other users became aware that PFOS/PFOA was an emerging persistent organic pollutant.
- From 2004**      Defence introduced a new foam and commenced phasing out use of the old foams for both training, and emergencies.
- Currently**      For emergencies, Defence uses a foam that does not contain PFOS and PFOA as active ingredients.  
 Defence uses a training foam which does not contain PFOS and PFOA.  
 Foam is captured and disposed of in accordance with current regulations.

## About the Base

The base has a history of using legacy Aqueous Film Forming Foam (AFFF) for use in emergency fire fighting situations and for fire fighter training.



# About the Defence Program

Defence National PFAS Investigation and Management Program was established in late 2015.

Defence is currently conducting detailed environmental investigations at:

- Army Aviation Centre Oakey, QLD
- HMAS Albatross, NSW
- RAAF Base East Sale, VIC
- RAAF Base Edinburgh, SA
- RAAF Base Pearce, WA
- RAAF Base Williamtown, NSW

Defence is commencing detailed environmental investigations at a number of additional sites during the first half of 2017.

- RAAF Base Townsville, QLD
- RAAF Base Darwin, NT
- RAAF Base Tindal, NT
- RAAF Base Richmond, NSW
- Holsworthy Barracks, NSW
- RAAF Base Wagga, NSW
- RAAF Base Amberley, QLD
- Albury Wodonga Military Area, VIC
- Jervis Bay Range Facility, JBT
- Robertson Barracks, NT
- HMAS Stirling, WA
- HMAS Cerberus, VIC

Defence is working closely with Commonwealth agencies and State and local Governments, and other relevant agencies.



# Health

The Environmental Health Standing Committee (enHealth) has issued Guidance Statements on PFAS. Defence relies on the enHealth Guidance Statements.

EnHealth guidance statement on per- and poly-fluoroalkyl substances (PFAS) reiterated that:

“there is currently no consistent evidence that exposure to PFOS and PFOA causes adverse human health effects. Because these chemicals persist in humans and the environment, enHealth recommends that human exposure to these chemicals is minimised as a precaution”.

The enHealth interim guideline values for tolerable daily intake, drinking water and recreational water are available online at the Department of Health website.

These values will be in place until Food Standards Australia New Zealand (FSANZ) develops advice on final health values for Australia.

Defence will apply any new health values in the conduct of its investigations.

# Drinking Water

Defence has adopted a precautionary approach and is providing alternative sources of drinking water to eligible residents who:

- are located in close proximity to the base; and
- do not have a town water connection; and
- rely on the use of a bore for drinking water; and/or
- source drinking water from a rainwater tank that contains, or has in the past contained, bore water.

Defence may also provide drinking water to residents in other exceptional circumstances.

Residents wishing to request an alternative drinking water supply can contact the national hotline by phone or email. Provision of water will be assessed on a case-by-case basis and reviewed as required.

## What has already been done?

- Defence has been proactive in initiating an environmental program to investigate the nature and extent of PFAS, on and in the vicinity of selected Defence properties around Australia.
- A Preliminary Sampling Program was conducted at RAAF Base Wagga on 15 June 2016.
- A total of 5 samples were collected at off-base locations at RAAF Base Wagga – 3 groundwater and 2 surface water samples.
- The Preliminary Sampling Program report was released in November 2016.



# Preliminary Sampling Program (PSP) - Key Findings for RAAF Base Wagga

- A total of 5 samples were collected from RAAF Base Wagga
  - On-base locations – 0 samples
  - Off-base locations – 3 groundwater and 2 surface water samples
- PFAS was detected in 1 of the ground water samples and was detected in both of the surface water samples. Specific results are contained in the Preliminary Sampling Program report.

## About this Investigation

This environmental investigation is undertaken consistent with the National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPM)

- Preliminary Site Investigation (PSI)
- Detailed Site Investigation (DSI)
- Human Health and Ecological Risk Assessment (HHERA) – if required

Defence will engage a lead environmental consultant to undertake the investigation at RAAF Base Wagga within the first half of 2017.

A separate consultant, will also be been engaged to conduct a peer-review/auditing function on the environmental investigation in the first half of 2017.

# Preliminary Site Investigation

- Site history assessment
  - site interviews, stakeholder information and inspecting site
- Start development of Conceptual Site Model to identify contamination
  - Sources (where and when AFFF was used)
  - Pathways (how PFAS move in the environment)
  - Receptors that may be exposed to the contamination
- Preliminary sampling and screening of risk level
  - off-site private and public groundwater bores
  - key surface water drainage lines

*AIM = Understand **Source-Pathway-Receptor** linkages and priority of works for Detailed Site Investigation.*

# Detailed Site Investigation

Work with stakeholders to confirm further works, likely to comprise:

- Soil Investigation
  - On-site soil samples
- Surface Water Investigation
  - On-site - Sample surface water and sediment/soil within drainage channels
  - Off-site – Sample downstream at drainage channel and dams. Background further ‘up-stream’ of Base.
- Groundwater Investigation
  - Install additional shallow and multi level monitoring bores
  - Gauge all bores, sample and assess all new locations
- Reporting on the works
  - Report consistent with the NEPM

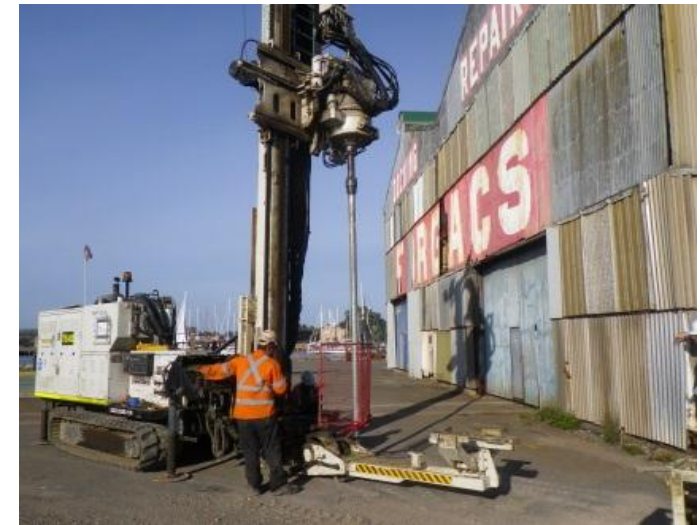
# Human Health and Ecological Risk Assessment (HHERA) - if required

Throughout the investigation, results will be compared to relevant screening criteria to assess the need for the HHERA

- Consultation and input from agencies, experts and community,
- Prepare HHERA methodology using NEPM and enHealth guidance, and
- Complete the HHERA, to evaluate risks to the human health and ecology, and inform future action to mitigate risks.



# What will the works look like?



## Next Steps

- Detailed environmental investigation will be undertaken in accordance with National Environmental Protection (Assessment of Site Contamination) Measure or NEPM (ASC),
- Investigation will commence with site works in April 2017, and
- Investigation expected to take approximately 12 months.



# Stakeholder and Community Engagement

Regular stakeholder interactions to provide timely and accurate advice to guide decision-making:

- Public enquiry lines operate throughout project,
- Fact sheets, relevant information and results of sampling will be published on the project website,
- Individual correspondence on private property results,
- Community information sessions at key milestones, and
- Will be done with appropriate privacy consideration.

Water use survey to be conducted, to understand groundwater and rainwater tank use in the area.



# Need more information?



Defence will keep you informed

- National Hotline Number: 1800 365 414
- Email: [PFASDefenceCoordination@golder.com.au](mailto:PFASDefenceCoordination@golder.com.au)

General information about the national Defence PFAS program, fact sheets relevant to the base can be found at:

[www.defence.gov.au/ID/PFOSPFOA/](http://www.defence.gov.au/ID/PFOSPFOA/)

## In Summary

Defence will commence a NEPM compliant detailed environmental investigation at RAAF Base Wagga during the first half 2017. It will take approximately 12 months to complete.

The Environmental Health Standing Committee (enHealth) advises that there is currently no consistent evidence that exposure to PFOS and PFOA causes adverse human health effects.

As a precautionary measure Defence will provide alternative drinking water supplies to eligible residents.

Defence will keep you informed and will continue to consult with all relevant Federal, State and local government agencies.

# Questions?



Thank you for your attendance