Perfluorinated Compounds (PFC) Environmental Management Program

Community Information Session
RAAF Base East Sale
Environmental Investigation

16th May 2016
Session #1
Correct as at: 11 May 2016
Agenda

• Welcome
• About the Defence PFC Environmental Management Program
  – Background
  – About PFCs
  – Health information
• About this Environmental Investigation Project
• Question and Answer Forum
• Informal Q&A and Information Session
About the Defence PFC Environmental Program
Program Background

- RAAF Base East Sale Environmental Investigation Project has been established

- Other key Departments and Agencies involved
Site Background

- RAAF Base East Sale has been a permanent flying training base since opening on 22 April 1943

- The base has a history of using Aqueous Film Forming Foam (AFFF) in emergencies and fire fighter training.
What are PFCs?

• Legacy AFFF foams contained perfluorinated compounds (PFCs) including perfluorooctane sulphonate (PFOS) and perfluorooctanoic acid (PFOA).

• PFOS and PFOA have been used to make coatings and products that resist:
  - heat
  - oil
  - stains
  - grease
  - water
About PFOS and PFOA

- Used for many years in a wide variety of common household and industrial products nationally and internationally.

- Present at trace concentrations throughout the environment and in most homes.

- Because of widespread use most people living in developed countries like Australia will have some PFOS and PFOA in their body.
About PFOS and PFOA

• Legacy AFFF containing PFOS and PFOA were:
  – used due to their effectiveness in extinguishing liquid fuel fires
  – widely used at large industrial sites where liquid fuel fires might occur, aviation facilities and fire fighting facilities
  – used extensively worldwide and within Australia by civilian and military organisations for fighting liquid fuel fires from the 1970s
About PFOS and PFOA

- PFCs, specifically PFOS and PFOA are emerging as compounds of interest around the world because they are persistent in the environment.

- Many countries have phased out, or are in the process of phasing out the use of PFOS and PFOA.
Background in Defence

• In **2003** Defence became aware that PFOS/PFOA was an emerging persistent organic pollutant – Defence released a specification for the supply and testing of AFFF concentrates.

• In **2004** Defence stopped using AFFF that contained PFOS and PFOA for training purposes.

• From **2004** Defence commenced phasing out use of the old foams. The product currently used by Defence is a more environmentally safe product and does not contain PFOS and PFOA as active ingredients.
Health information

• enHealth advises that research has not conclusively demonstrated that PFCs are related to specific human illnesses, even under conditions of occupational exposure.

• PFCs can potentially enter the body in a number of ways:
  – primarily through drinking water
  – inhalation mainly in industrial settings
  – eating food that has taken up the chemicals
  – skin absorption (very low absorption risk)

• PFCs can be naturally eliminated from the body:
  – takes some time to be removed
  – accumulation can occur if intake continues
Health information

• Australia does not currently have health or ecological trigger value guidelines for PFOS and PFOA.

• The development of Australian criteria for acceptable levels of exposure is required to understand any level of risk.

• There is currently no consistent evidence that exposure to PFOS and PFOA causes adverse human health effects.

• Dept. of Environment is developing and will implement nationally consistent guidance and standards for PFOS and PFOA with State and Territory Governments as soon as possible.
Defence engagement

- Defence is working closely with Commonwealth and State Governments, international bodies and industry to ensure we take a best practice approach.

- Defence is proactive in initiating a program of investigation.

- Defence is being open and transparent.
About this Investigation
About this investigation

• RAAF Base East Sale has been identified for detailed investigation.

• Environmental investigation is undertaken in accordance with the National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPM).

• Specialist Environmental Consultants have been engaged.

• Defence has worked with industry to develop a detailed investigation methodology to enable completion within 12 months from commencement.
RAAF Base East Sale
Overview of Comprehensive Assessment Works

- Staged assessment program consistent with the NEPM and EPA Victoria requirements
  - Initial sampling of existing locations (groundwater) on and off-site to assess if PFCs are present
  - Review of site history of AFFF use and sources of PFC contamination
  - Undertake detailed sampling on and off-site
  - Review risk to determine that water is safe for use
Preliminary Site Investigation

- Site history assessment
  - site interviews, stakeholder information, inspecting site
- Start development of Conceptual Site Model to identify contamination:
  - Sources
  - How PFOS and PFOA move in the environment
  - Receptors that may be exposed to the contamination
- Preliminary sampling and screening of risk level
  - on-base water supply and all base bores
  - off-site private and public groundwater bores
  - key surface water drainage lines

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

• Work with stakeholders to confirm further works, likely to comprise:
  – Soil Investigation
    • On-site soil samples
  – Drainage Line Investigation
    • On-site – Sample surface water and sediment/soil within drainage channels
    • Off-site – Sample downstream at drainage channel and dams and Heart Morass. Background further ‘up-stream’ of Base.
  – Groundwater Investigation
    • Install additional shallow and multi level monitoring bores on site
    • Gauge all bores, sample and assess all new locations
  – Reporting on the works
    • Interpretative Report, consistent with the NEPM
Human Health and Environmental Risk Assessment (HHERA)

• During the conduct of the works, comparison of results to International screening criteria will be used to assess the need for the HHERA
  – Consultation and input from agencies, experts and community
• Prepare HHERA methodology using NEPM and enHealth guidance
• Complete the HHERA, which will evaluate risks to the population and ecology, and inform future action to mitigate risks.
What will the works look like?
Assessment Works Timing

Preliminary Investigation Works
  • Field Works - Commenced May 2016 - June 2016
  • Reporting of Results – June - July 2016

Detailed Investigation Works
  • Work Scoping and Planning – July - August 2016
  • Field Works – September - October 2016
  • Reporting of Results – November 2016 - January 2017

Human Health and Environment Risk Assessment
  • Ongoing assessment and requirement to commence HHERA throughout program
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 and relevant information will be published on project website
  – Individual correspondence on private property results
  – Community Engagement Sessions at key milestones
  – Will be done with appropriate privacy considerations

• Water use survey to be conducted, to understand groundwater and rainwater tank use in the area
Need more information?

- Defence wants to keep you informed.
  - Phone: 1800 793 201
  - Email: eastsale.defence@senversa.com.au
  - Local Site Website: www.defence.gov.au/id/eastsale/

- Additional information sessions will be held during the course of the project.

- General information about the national Defence program can be found at: www.defence.gov.au/ID/PFOSPFOA/
In Summary

• Preliminary site investigation has commenced and is in accordance with the NEPM.

• enHealth advises that research has not conclusively demonstrated that PFCs are related to specific human illnesses, even under conditions of occupational exposure.

• Defence wants to keep you informed and will continue to consult with all relevant Federal and State and local government agencies.
Questions?
Thank you for your attendance