

Introduction

- 1.1 On 18 September 2019 the Joint Standing Committee on Foreign Affairs, Defence and Trade (JSCFADT) initiated an inquiry into the ‘National PFAS Investigation and Management Program’, as reported in Department of Defence Annual Report 2017–18 and referred the matter to the PFAS Sub-committee.¹
- 1.2 The Sub-committee’s review follows the JSCFADT inquiry last Parliament into the management of per- and poly-fluoroalkyl substances (PFAS) contamination in and around Defence bases. The inquiry report, presented in December 2018, made nine recommendations to Government to better coordinate the national PFAS response, to improve monitoring of health impacts, and to compensate and better inform affected communities.²
- 1.3 With the Government response to that report is still in preparation,³ the PFAS Sub-committee determined to closely monitor and regularly report on Defence’s progress in PFAS remediation activities, and to continue that review over the duration of the 46th Parliament.

1 *Department of Defence Annual Report 2017–18*, p. 129.

2 The PFAS Sub-committee made nine recommendations in consideration of evidence taken covering coordination of appropriate responses to PFAS contamination, re-evaluation of health advice, ongoing blood monitoring and review, the Department of Defence’s site remediation efforts, its engagement with communities, compensation considerations and approaches to national coordination and regulation. See Joint Standing Committee on Foreign Affairs, Defence and Trade Committee (JSCFADT), *Inquiry into the management of per- and poly-fluoroalkyl substances (PFAS) contamination in and around Defence bases*, December 2019.

3 *President’s Report to the Senate on the Status of Government Responses to Parliamentary Committee Reports*, as at 30 June 2019, p. 8.

PFAS in humans and the environment

- 1.4 PFAS are a group of manufactured chemicals which have been used extensively in a range of consumer products and industrial processes since the 1950s. There are over 4 000 types of PFAS substances which have been used extensively where extremely low surface energy or surface tension and/or durable water and oil-repellence is needed, from non-stick cooking ware and glossy packaging to pesticides and stain repellents.⁴
- 1.5 Over the last decade, concerns have been raised about use of the long chain PFAS chemicals Perfluorooctane sulfonate (PFOS), Perfluorooctanoic acid, (PFOA) and Perfluorohexane sulfonate (PFHxS) in particular. These chemicals accumulate in the bodies of humans and wildlife, are bio-accumulative in food chains, and are very mobile and persistent in the environment.⁵
- 1.6 Exposure to these chemicals in domestic products has meant that most Australians have a low level of PFAS in their blood. Concerns arise when concentrations in the environment, and hence exposure to these chemicals, are high.⁶ While the toxicity of PFAS in humans is poorly understood, research into the impacts of high level exposure indicates that:
- People in communities with high levels of PFOS and/or PFOA in their drinking water have been found to have serum PFOA and PFOS concentrations above those reported for the general population. PFAS may be passed to infants through breastmilk, and prenatal exposure to PFAS can occur through the placenta. PFOA and PFOS bind to serum proteins, especially albumin, with high affinity. PFAS are absorbed into the blood stream via digestive and gas-exchange pathways. Generally, PFAS tend to accumulate in tissues with a large blood supply, including the liver, kidneys and lungs.⁷
- 1.7 Aqueous Film Forming Foams, or AFFFs containing PFOS and PFOA as active ingredients, were once used extensively at Defence bases due to their effectiveness in fighting liquid fuel fires. PFHxS is also commonly
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4 OECD, 'What are PFAS and what are they used for?', Portal on Per and Poly Fluorinated Chemicals www.oecd.org/chemicalsafety/portal-perfluorinated-chemicals/aboutpfas/ viewed 12 December 2019.

5 OECD, 'A risk for the environment, health and safety', Portal on Per and Poly Fluorinated Chemicals, viewed 5 December 2019.

6 Department of Defence, 'What are PFAS?' www.defence.gov.au/Environment/PFAS/PFAS.asp viewed 5 December 2019.

7 Research cited in M Kirk, K Todd, B Armstrong et al, *The PFAS Health Study Cross-sectional Survey and Blood Serum Study Research Protocol*, Australian National University (ANU) Report Prepared for the Department of Health, 20 March 2019, pp. 10–11, quote at p. 10.

found in the legacy firefighting foam as an impurity in the manufacturing process.⁸

- 1.8 While Defence has phased out the use of PFAS, these chemicals are concentrated in and around Defence locations and other places where firefighting foams were used for training to control fuel or chemical fires.⁹ Defence is now conducting extensive remediation work to remove PFAS contaminated soil and water from affected Defence locations and to contain its spread in the surrounding environment.

Conduct of the inquiry

- 1.9 The Defence Annual Report 2017–18 advised that, under the National PFAS Investigation and Management Program, environmental investigations for PFAS contamination were conducted at 23 Defence sites during the reporting period. The 2018–19 Annual Report updated this to 28 sites.¹⁰
- 1.10 In undertaking this review the Sub-committee aims to ensure that the public, and particularly people in affected communities, are fully informed about the progress of Defence remediation work under the National Program – what is being done, when, and how effective it is.
- 1.11 The Committee’s program of review will involve direct questioning of key agencies and experts in a schedule of public hearings during the period of review. The objective will be to gain technical updates and other operational information about the remediation program in the context of evolving regulatory reform and ongoing research into the health and environmental impacts of PFAS contamination. Reports will be made regularly to Parliament on matters under consideration, with community comment invited as the investigation proceeds.
- 1.12 The first public hearings for the inquiry were held in Canberra with representatives from the Australian National University’s National Centre for Epidemiology and Population Health on 25 November 2019 and with the Department of Defence on 2 December 2019.
- 1.13 Transcripts of evidence are available on the inquiry website at www.aph.gov.au/Parliamentary_Business/Committees/Joint/Foreign_Affairs_Defence_and_Trade/PFASRemediation

8 Department of Defence, ‘What are PFAS?’, viewed 5 December 2019.

9 Department of Defence, ‘What are PFAS?’, viewed 5 December 2019.

10 *Department of Defence Annual Report 2018–19*, p. 138.

This report

- 1.14 The first report of the Committee's inquiry assesses the progress of Defence's remediation work against the background of reforms and research into the broader impacts of PFAS substances on humans and the environment. It provides a brief overview of the main issues, with some background and contextual information, before considering verbatim evidence taken at the recent public hearings.
- 1.15 Information from this report will be further examined over the course of the inquiry, when responsible agencies and expert witnesses will be called, with invitations also made for written responses from key community stakeholders.
- 1.16 This report records evidence provided by Professor Martyn Kirk, Principal Investigator of the PFAS Health Study, Dr Miranda Harris, Public Health Registrar, ANU, and from Executive Managers of the Department of Defence's National PFAS Investigation and Management Program.
- 1.17 Written Questions on Notice were also issued to the Department of Defence, with answers requested within a very tight time frame for inclusion in this report. The responses were not furnished in time for inclusion.
- 1.18 The report is structured as follows:
- Chapter 1 – Purpose, conduct and report of the inquiry
 - Chapter 2 – The health impacts of PFAS – an overview and progress report of summary findings and issues identified to date by experts at the ANU's PFAS Health Study
 - Chapter 3 – PFAS remediation – status report – an overview and update from the Department of Defence on its PFAS investigation and management work, and related issues and developments.

Appendices

- Appendix A – Public hearings
- Appendix B – PFAS Health Study – Focus Group Study Poster and Cross-sectional Survey research questions