
The Parliament of the Commonwealth of Australia

Inquiry into PFAS remediation in and around Defence bases

Second progress report

PFAS Sub-committee

House of Representatives

Joint Standing Committee on Foreign Affairs, Defence and Trade

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Foreword

Over the 46th Parliament, the PFAS Sub-committee of the Joint Standing Committee on Foreign Affairs, Defence and Trade (JSCFADT) is monitoring progress under the Department of Defence's National PFAS Investigation and Management Program. This follows the JSCFADT's inquiry last Parliament on Defence's management of PFAS contamination in and around Defence bases.

The Joint Committee's report on the management of PFAS contamination was presented in December 2018 and made nine recommendations. In February 2020 the *Whole of Government Response* to that report was presented to Parliament. In its response, the Government agreed to *Recommendation 3* for review of the health opinion. The Government in agreeing in part, agreeing in principle, or noting all other recommendations, indicated that it considered current arrangements adequately address, or can address, the issues raised by the JSCFADT.

In this report, the second progress review of work conducted under the National Program, the Sub-committee considers the Government's response against evidence taken in the current inquiry to date. Review for this report has confirmed a number of observations the Sub-committee made in its first report tabled in December 2019. At that time, the Sub-committee recognised that many in PFAS affected communities felt anxious about progress in the remediation effort, and left out of the decision-making processes that affected their daily lives.

While this is partly attributable to ongoing uncertainties about PFAS chemicals, the Sub-committee has concluded that apparent gaps in the Government's national response and in Defence's processes continue to contribute to this same outcome. This report makes ten recommendations to reform both high level and in-practice processes under the National PFAS Investigation and Management program. These are grouped in four evaluative chapters which respond to recommendations made in the JSCFADT 2018 review.

The first chapter covers the coordination of the Government's national PFAS remediation program. The 2018 report called for appointment of a PFAS Coordinator-General as contact point and coordinator of the program. In its

response the Government noted this recommendation but highlighted the PFAS Taskforce in this role, and as the manager of the upgraded PFAS website.

The Sub-committee noted that the newly designed PFAS website is much improved on last year. However, if the PFAS Taskforce to be the face of the Government's national PFAS effort, then the Sub-committee considers it must have a dedicated interface on the website, with direct contact details, enhanced site interactivity and profiled consumer support information.

Another need is to ensure functional participation approaches are used to engage, inform and support people living in and nearby PFAS affected communities. Participatory approaches require that people have input into the remediation process as it progresses and that, equivalently, they receive clear information about matters of community importance, such as the implementation of PFAS Area Management Plans (PMAPs) which govern the remediation process.

The Government indicates it has responded to JSCFADT's recommendations by posting PMAPs and summary documents on the Defence website. Defence also hosts community information meetings to provide advice. However, the process is complex and so is the documentation. The Committee has made practical recommendations for provision of maps showing the clearance and remediation status of land and for genuinely consultative approaches to build confidence and awareness in people living in and nearby PFAS affected communities.

This report further recommends for a reviewed information strategy – one which shows government to be accountable to those affected and the general public, as PFAS contamination emerges as topic of concern in the mainstream media.

In its first report, the Sub-committee noted the life stresses imposed on people in PFAS affected communities. This review heard about research being conducted on the cumulative social and mental impacts on whole communities affected by PFAS, and other human made disasters. The Sub-committee has recommended that this important area of work should be funded by government. The Sub-committee also recommends for provision of sustained mental health services and supports for individuals affected by PFAS, and not just those in the three regions around Williamstown, Oakey and Katherine.

Finally, the Sub-committee has noted slow progress towards finalisation of key PFAS related legislation and regulatory agreements in both the domestic and international context which underpin Australia's environmental and human health safety management.

The Committee welcomes the publication this year of Australia's National Environmental Management Plan (NEMP), after some years in review, and the introduction of the *Industrial Chemicals Act 2020* which enables prohibition of

identified chemicals at any time. Work continues on the National Standard for Environmental Risks Management of Industrial Chemicals which aims to close the gap between chemicals laws and state and territory regulatory frameworks. The National Standard is expected to be in operation by 2022.

In this report, the Committee has noted the problems associated with achieving consistency under a federal system. Responsibility for implementation of the NEMP's standards, for example, devolves to the state and territory environmental protection agencies (EPAs). The Committee heard that Defence's PMAPs are not responding to more advanced state laws, making remediation efforts less efficient, and has recommended addressing this deficiency.

Consistency is also an issue under Food Standards Australia and New Zealand's 'trigger points' for regulation of the PFAS, which States and Territories interpret under their own laws. The result is that people living with PFAS in different parts of Australia can be regulated differently and given different advice about such important matters as food safety and water use.

The Committee understands that work is underway to address these issues, but progress is invisible to many of those affected. The same applies to Australia's efforts to consolidate a national stance against PFAS chemicals. The Sub-committee has urged the Government as a priority to move on this matter, and to hasten processes towards providing appropriate compensation for impacts on people affected by PFAS.

Finally, the Sub-committee has noted in this review research being funded to better understand the impacts of PFAS on health and even reduce those impacts. Remediation technologies are also being funded by government and the private sector to remove PFAS from soil and water, and to destroy residue concentrates.

This work provides an encouraging sign of commitment and hope for the effective remediation of PFAS contamination in the future, and will be further investigated by the Sub-committee during its review.

Dr John McVeigh MP

Membership of the Full Committee

Members of the Joint Standing Committee on Foreign Affairs, Defence and Trade

Chair Senator the Hon David Fawcett

Deputy Chair Mr Nick Champion MP

Members

Hon Kevin Andrews MP	Senator the Hon Eric Abetz
Mr Vince Connelly MP	Senator Tim Ayres
Hon Damian Drum MP	Senator Mehreen Faruqi
Mr Patrick Gorman MP	Senator the Hon Concetta Fierravanti-Wells
Mr Andrew Hastie MP	Senator Kimberley Kitching
Mr Chris Hayes MP	Senator Malarndirri McCarthy
Mr Julian Hill MP	Senator Sam McMahon
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**Former members of the Joint Standing Committee on Foreign Affairs, Defence
and Trade**

Senator the Hon Arthur Sinodinos AO (from 22/07/2019 – 11 /11/2019)



Membership of the PFAS Sub-committee

Members of the PFAS Sub-committee

Chair Hon Dr John McVeigh MP

Deputy Chair Ms Meryl Swanson MP

Members Mr Nick Champion MP (*ex officio*)

Senator Mehreen Faruqi

Senator the Hon David Fawcett (*ex officio*)

Senator Kimberley Kitching

Senator Malarndirri McCarthy

Senator Sam McMahon

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Terms of reference

On Wednesday 18 September 2019 the Joint Standing Committee on Foreign Affairs, Defence and Trade initiated under its annual report powers an inquiry into the remediation of PFAS related impacts in and around defence bases.

The focus of the review will be work progressed under the 'National PFAS Investigation and Management Program', as reported in Chapter 9 of the *Department of Defence 2017-18 Annual Report*.

The Department's annual report stated that Defence had conducted environmental investigations of 23 PFAS affected sites, with site work being progressed under PFAS Management Area Plans (MAPs), including by:

- provision of alternative water supplies to residents who live near investigation sites and are reliant on bore water for drinking;
- implementation of management and remediation options for contaminated water and soil, including through clearance of drains, the installation of water treatment plants; and
- review of emerging remediation technologies for future application.

The *Department of Defence 2018-19 Annual Report* subsequently advised of this work on 28 sites. The PFAS Sub-committee's inquiry will monitor the progress of Defence activity under the National Program and review evolving policy on PFAS-related health and environmental impacts over the course of the 46th Parliament.



List of abbreviations

AFFF	Aqueous Film Forming Foams
ACT	Australian Capital Territory
AICIS	Australian Industrial Chemicals Introduction Scheme
ANU	Australian National University
AQoN	Answer/s to Questions on Notice
ARC	Australian Research Council
CAP	Coalition against PFAS
COAG	Council of Australian Governments
COVID-19	Coronavirus
CRC CARE	Cooperative Research Centre for Contamination Assessment and Remediation of the Environment
DAWE	Department of Agriculture, Water and the Environment
EFSA	European Food Safety Authority
enHealth	The Environmental Health Standing Committee of the Australian Health Protection Principal Committee
EPA	Environmental Protection Agency
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
FSANZ	Food Standards Australia New Zealand

HBGVs	Health Based Guidance Values
HEN	Hawkesbury Environment Network
MFB	Metropolitan Fire Brigade
NEMP	National Environmental Management Plan
NMHRC	National Medical and Health Research Council
NICNAS	National Industrial Chemicals Notification and Assessment Scheme
NSW	New South Wales
NT	Northern Territory
PFAS	Per-and poly-fluoroalkyl substances
PFAS IGA	Intergovernmental Agreement on a National Framework for Responding to PFAS Contamination
PFHxS	Perfluorohexane sulfonate
PFOA	Perfluoro-octanoic acid
PFOS	Perfluorooctane sulfonate
PM&C	Department of Prime Minister and Cabinet
PMAP	PFAS Management Area Plan
POP	Persistent Organic Pollutants
PHNs	Primary Health Networks
QAEHS	Queensland Alliance of Environmental Health Sciences
Qld	Queensland
Qld DES	Queensland Department of Environment and Science
RAAF	Royal Australian Air Force
SA	South Australia
TDI	Tolerable daily intake

TWI	Tolerable weekly intake
UFUA	United Fighter Fighters Union of Australia
UoN	University of Newcastle
UQ	University of Queensland
VBTP	Voluntary Blood Testing Program
WA	Western Australia



List of recommendations

2 Coordination of a national PFAS remediation program

Recommendation 1

The Committee recommends that the Government highlight the PFAS Taskforce's role in coordination and review of the national PFAS response in a dedicated link accessible on the PFAS homepage as a contact point for members of the public.

This dedicated webpage should also improve accountability and accessibility by:

- providing information on and links to relevant annual reports, parliamentary reviews, and to the Government response;
- making a feature of the PFAS Taskforce contact form, with 'how can we help' content and links to dedicated PFAS support and consumer protection sites; and
- providing information and contact details for the Director of the PFAS Taskforce.

3 Remediation management and investment

Recommendation 2

The Committee recommends that the Department of Defence includes information on its investment in PFAS remediation programs, research and related activities in its annual reports along with tabular progress reports on remediation work under PMAPs for all sites.

Recommendation 3

The Committee recommends that the Department of Defence should publish on its website up-to-date maps showing the changing boundaries of PFAS investigation and PFAS Management Area Plan (PMAP) sites, with the status of areas officially cleared of PFAS contamination plainly indicated.

The Committee recommends copies of these maps should be made available to residents on request.

The Committee also recommends that the Department ensures public input is sought through community engagement throughout the process.

Recommendation 4

The Committee recommends that PMAPs should be practical documents that direct compliance with a jurisdiction's environmental policies and standards as well national PFAS regulatory frameworks for timely remediation works in and around Defence bases.

4 Health, community and compensation

Recommendation 5

The Committee recommends that the Government review its local information and broader media strategy to ensure information on PFAS related matters is factual, cites trusted sources, and is well targeted to inform specific audiences about priority issues and concerns.

Recommendation 6

The Committee recommends that the Government adopt participatory approaches to improve collaboration and involvement with the community.

Recommendation 7

The Committee recommends that the Government should fund research to better understand the mental health impacts of living with PFAS contamination and related human made disasters to better inform Government services and supports.

Recommendation 8

The Committee recommends that the Government should provide all people affected by PFAS with mental health supports and counselling services, with a dedicated link and a phone contact on the PFAS website

for accessing these services, and regular updates provided in affected communities about what services are available.

Recommendation 9

The Committee recommends that the Government prioritise assisting property owners and businesses in affected areas through compensation for financial losses associated with contamination emanating from Defence bases, including the possibility of buy-backs.

5 National and international standards setting

Recommendation 10

The Committee recommends that the Government expedite the work to ban the use of, contain, and ultimately safely destroy, long chain PFAS-based firefighting foams (including those containing PFOS, PFOA and PFHxS), with the objective of urgently ratifying the listing of PFOS and expediting the process for PFOA and PFHxS in the event they are listed under the Stockholm Convention on Persistent Organic Pollutants.

The Committee recommends that the Government provide a timeline for the processes identified in the previous recommendation.

Introduction

- 1.1 On 18 September 2019 the Joint Standing Committee on Foreign Affairs, Defence and Trade (JSCFADT) initiated an inquiry into the Department of Defence's National PFAS Investigation and Management Program and referred the matter to the PFAS Sub-committee.
- 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.¹
- 1.3 In its current inquiry, the Sub-committee determined to monitor the progress of Defence's PFAS remediation activity while the Government prepared its response to the JSCFADT report. A longer term objective was to monitor developments for affected communities throughout the life of the 46th Parliament.
- 1.4 The Government response to the Joint Committee's report was presented to Parliament out of session on 20 February 2020.²
- 1.5 This report, the second in the current review, evaluates the Government's response to the JSCFADT's recommendations against evidence taken in this inquiry to date.

1 See List of Recommendations, in 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 2018, pp. xix-xxiii.

2 Australian Government, *Whole of Australian Government Response to the report of the JSCFADT: Inquiry into the management of PFAS contamination in and around Defence bases*, Department of Agriculture, Water and Environment (DAWE), 20 February 2020 (hereafter Government response).

Conduct of the inquiry

- 1.6 The Sub-committee's inquiry into PFAS remediation under the Defence's National PFAS Program was initiated in late 2019 to provide ongoing scrutiny of issues identified in the JSCFADT PFAS contamination report in the last Parliament.
- 1.7 The aim of the Sub-committee's program of review is to provide an opportunity for the public, and PFAS affected communities, to hear what is being done by government against the score card of recommendations made in the 2018 report. It is also an opportunity for Members to raise issues affecting constituents and to improve government accountability.
- 1.8 The first report in this review was presented to Parliament on 20 December 2019. It covered evidence taken at public hearings on 25 November 2019 from experts at the Australian National University (ANU) PFAS Health Study and from the Department of Defence on 2 December 2019.³
- 1.9 The need for a review of PFAS-related health advice and improved coordination of and investment in Defence's remediation program were priorities identified in the JSCFADT's report on the management of PFAS contamination.
- 1.10 The ANU's National Centre for Epidemiology and Population Health has been commissioned by the Australian Department of Health to conduct an epidemiological study based on blood samples taken in and around Defence sites in Katherine, Williamstown and Oakey.⁴ The Committee heard that this phased review had also considered mental health impacts, with final results expected to be collated by late 2020.⁵
- 1.11 The Department of Defence updated the Sub-committee on its progress under the National PFAS Investigation and Management Program, describing the nature and effectiveness of technologies being used and the support offered to communities in and around all 28 affected Defence sites.⁶

3 PFAS Sub-committee of the Standing Committee on Foreign Affairs, Defence and Trade (JSCFADT), *Inquiry into PFAS remediation in and around Defence bases – First report*, December 2019 (hereafter *First report*, December 2019).

4 Later phases using an online survey extended analysis to individuals who had moved outside of these areas. See 'Health impacts of PFAS contamination', *First report*, December 2019, p. 11.

5 The PFAS Health Study website later advised that the study results has been delayed until mid-2021 due to the COVID-19 response, see rsph.anu.edu.au/research/projects/pfas-health-study viewed 6 August 2020. For mental health scaling, see *First report*, December 2019, p. 13.

6 See 'PFAS remediation – status report', Chapter 3, *First report*, December 2019.

- 1.12 In review of the evidence taken, the Sub-committee concluded that Australia's program of work is on par with the broader global effort to understand and contain the impacts of PFAS contamination. However, there were also questions about the Department of Defence's accountability both in terms of its monitoring of progress and financial reportage, and its responsiveness to affected communities.⁷
- 1.13 Written questions on notice were subsequently issued to the Department covering these and other subjects. The answers were not provided in time for inclusion in the first report and are considered in the current review.⁸
- 1.14 The Department of Agriculture, Water and the Environment and the Department of Health gave evidence in February 2020 prior to cessation of business due to the COVID-19 pandemic.⁹ Food Standards Australia New Zealand, the body responsible for reviewing the food standards code applying in both countries, completed the Sub-committee's examination of agencies on Monday 15 June 2020.¹⁰
- 1.15 Views expressed in the 20 submissions received to date are also considered in this evaluation of the Government's response. Submissions were invited early in 2020 from federal and state and territory agencies and stakeholders in PFAS affected communities. In late May 2020 invitations were made to Australian Research Council and National Medical Health Research Council PFAS research grant recipients and to Defence's industry remediation partners. This work will be reviewed in more detail in later reports.
- 1.16 Submissions and transcripts of evidence are available on the inquiry website at:
www.aph.gov.au/Parliamentary_Business/Committees/Joint/Foreign_Affairs_Defence_and_Trade/PFASRemediation

Government response—2018 JSCFADT review

- 1.17 The Joint Standing Committee's report was presented in December 2018. It made nine recommendations to Government. These asked for better

7 See Conclusion, Chapters 2 and 3 at pp.20-21; 41-43 in JSCFADT, *First report*, December 2019.

8 The answers were received on 31 January 2020, see Department of Defence, *Submission 1 – Answers to Questions on Notice (AQoN)*.

9 See respectively, *Committee Hansard*, Canberra, 10 February 2020, and *Committee Hansard*, Canberra, 24 February 2020.

10 The answers were received on 31 January 2020 and launched on the inquiry website as Department of Defence, *Submission 1 – AQoN*.

coordination of the national PFAS response, improved monitoring of health impacts and investment in containment of PFAS contamination, and more frank advice and support for affected communities. This included a call for review of existing health advice and consideration of measures to compensate affected individuals and businesses.¹¹

- 1.18 As noted, the Government's response to the report was presented out of session on 20 February 2020. In its response, the Government agreed to *Recommendation 3*, relating to the review of health advice. Other recommendations were agreed in part (2, 6), in principle (7, 8) or noted (1, 4, 5, 9). Table 1, opposite, provides a summary of the response to each recommendation.
- 1.19 The Government's response to the JSCFADT's review also addressed recommendations made in the 2016 Senate Foreign Affairs, Defence and Trade References Committee report *Firefighting Contamination – Part B Army Aviation Centre Oakley and other Commonwealth state and territory sites*.¹² An attached appendix addressed responses to other Senate committee recommendations.¹³
- 1.20 The Government response was prepared by the Department of Agriculture, Water and the Environment. The Department administers the PFAS Taskforce, following its transfer from the Department of Prime Minister and Cabinet in April 2019.¹⁴
- 1.21 The response is the subject of review in this report.

11 See List of Recommendations, JSCFADT, *Inquiry into the management of PFAS contamination in and around Defence bases*, December 2018, pp. xix- xxiii.

12 Government response, p. 2.

13 See Senate Foreign Affairs, Defence and Trade References Committee, *Inquiry into contamination of Australian Defence Force Facilities (Part A) and the contamination of sites using firefighting foams (Part B)*, *Firefighting Contamination – Part B Army Aviation Centre Oakley and other Commonwealth state and territory sites*, 4 May 2016 www.aph.gov.au/Parliamentary_Business/Committees/Senate/Foreign_Affairs_Defence_and_Trade/ADF_facilities/Report_part_b.

14 Council of Australian Governments, *Intergovernmental Agreement on a National Framework for Responding to PFAS*, 2018.

Table 1—Government response to the 2018 JSCFADT report

<i>JSCFADT recommendations</i>		<i>Government responses</i>
<i>Recommendation 1</i>	Establish and fund a Coordinator-General for oversight and monitoring of a national PFAS response	Noted—current oversight sufficient, pp. 3–5.
<i>Recommendation 2</i>	Increase investment in best practice PFAS remediation methods, research and supports for national remediation measures	Agreed in Part—provides detail on current investment, pp. 6–10.
<i>Recommendation 3</i>	Review existing health advice and acknowledge potential links to medical conditions	Agreed—refers to ongoing updates and review, p. 11.
<i>Recommendation 4</i>	Improve participation in, simplify and extend voluntary blood testing	Noted—outlines initiatives up to conclusion of testing in 2019 with analysis ongoing, pp. 12–14.
<i>Recommendation 5</i>	Assist affected businesses and property owners by providing of compensation for financial losses on a priority basis	Noted— outlines remediation processes and advises that lodged claims will be resolved by agreement, pp. 15–16.
<i>Recommendation 6</i>	Provide free case management and financial counselling	Agreed in Part—provides detail on current services, p. 17.
<i>Recommendation 7</i>	Implement legislation and policy measures to phase out use of PFAS substances nationally, and encourage use of suitable alternatives	Agreed in Principle—legislation applies in each jurisdiction, agreement on standards under the National Industrial Chemicals Notification and Assessment Scheme (NICNAS)* in progress, pp. 18-20.
<i>Recommendation 8</i>	Ratify Stockholm Convention listings for PFOS, and expedite this for PFOA and PFHxS	Agreed in Principle— pending introduction of the NICNAS's National Standard for Environmental Risk Management of Industrial Chemicals, pp. 21–22.
<i>Recommendation 9</i>	Independent review of environmental regulation of Commonwealth land	Noted—pending finalisation of the National Standard and the Environment Protection and Biodiversity Conservation Act 1999 review (planned October 2020), p. 23.

*From 1 July NICNAS was established as the Australian Industrial Chemicals Introduction Scheme, under the *Industrial Chemicals Act 2019*

Report structure

1.22 The first report of the Committee's inquiry assessed 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.

1.23 Information from this first report will be referred to in assessment of the Government's response and evaluated against evidence from agencies taken at hearings, answers to written questions of notice published as submissions in this review, and other submissions received at invitation of the Sub-committee.

1.24 The report is structured as follows:

- Chapter 1 – Introduction
- Chapter 2 – Coordination of a national PFAS response; response to *Recommendation 1*
- Chapter 3 – Remediation management and investment; response to *Recommendation 2*
- Chapter 4 – Health, community and compensation; responses to *Recommendations 3 to 6*
- Chapter 5 – National and international standard setting; responses to *Recommendations 7, 8 and 9.*

Appendices

- Appendix A – Submissions
- Appendix B – Public hearings

Coordination of a national PFAS remediation program

- 2.1 *Recommendation 1* of the JSCFADT report aimed to provide leadership and oversight of a nationally coordinated and accountable PFAS management and remediation program.
- 2.2 The report had found that a lack of communication between the portfolios and jurisdictions had prevented sharing of information, including on remediation best practice. Further, perceived inconsistencies in advice on health and safety were reported to be feeding confusion and distrust of the Government's efforts in PFAS affected communities.¹
- 2.3 To address these issues, the JSCFADT's first recommendation proposed the appointment of a PFAS Coordinator-General to lead an organised whole of government and national response to PFAS contamination.
- 2.4 This chapter reviews the Government's response to this principal recommendation.

Leading a national response

- 2.5 The JSCFADT inquiry report had proposed the appointment of a PFAS Coordinator-General to provide oversight and review of the Government's national PFAS remediation program. This Executive appointment would:

¹ Committee comment, *Inquiry into management of PFAS contamination in and around Defence bases*, December 2018, pp. 125–26.

- enable ongoing monitoring of PFAS levels in all PFAS management areas, and publishing of sample results;
- provide national leadership and nationwide transparency on progress and identify gaps and priorities for remediation work based on health and environmental indicators;
- work across portfolios and governments at all levels to overcome barriers to cooperation, sharing of information, and communication to the public;
- support information sharing on PFAS remediation measures and developments at all levels of government, and ensure consistency in advice to stakeholders in all affected communities; and
- provide a national point of contact and accountability for production of the Government 's response to the PFAS issue, including in annual reporting to Parliament.²

2.6 As discussed in Chapter 1, eight out of nine recommendations in the JSCFADT report were 'noted' or given qualified approval in the Government response.³ The Government indicated that in most cases work was well underway that either met the recommended requirements, or was progressing towards them.

2.7 The response to *Recommendation 1* was in this latter category. The Government indicated that adequate mechanisms and agreements – such as the Government's PFAS Taskforce and the *Intergovernmental Agreement on a National Framework for Responding to PFAS Contamination* (2018) with other existing mechanisms, are providing or capable of providing the necessary co-ordination and internal oversight of national activity.⁴

2.8 The recommendation was 'noted'; the Government did not see utility in appointing a Coordinator-General with an external oversight role.

2.9 However, the JSCFADT proposal for a Coordinator-General also intended to improve public accountability of the Government's remediation activities. Action point 5 of the recommendation had proposed that the

² *Recommendation 1* in JSCFADT, *Inquiry into management of PFAS contamination in and around Defence bases*, December 2018, pp. 126–27.

³ Australian Government, *Whole of Australian Government response to the report of the JSCFADT: inquiry into the management of PFAS contamination in and around Defence bases*, Department of Agriculture, Water and Environment (DAWE), 20 February 2020 (hereafter Government response).

⁴ Government response, *Recommendation 1*, p. 3.

Coordinator-General would 'provide a national point of contact and accountability for production of the Government's response to the PFAS issue'.

- 2.10 The Sub-committee's current review undertook this scrutiny role, aiming to track progress as the Government prepared its response to this complex issue.
- 2.11 In its review, the Sub-committee took evidence from the Department of Defence in late 2019 and then, in early 2020, heard from the PFAS Taskforce (now in the Department of Agriculture, Water and the Environment – DAWE) and the Department of Health. Later, in June 2020, Food Standards Australia New Zealand (FSANZ) advised of its current review of dietary safety standards for PFAS.
- 2.12 All of these agencies are key stakeholders involved in the design, management and coordination of components of the national response, as discussed in this chapter.

Role of the PFAS Taskforce

- 2.13 In its response, the Government highlights the PFAS Taskforce as the Government's agent and arbitrator in the coordination of the national PFAS remediation effort.
- 2.14 The PFAS Taskforce was first established within the Department of Prime Minister and Cabinet (PM&C) in 2016 'in recognition of the need for strong coordination across the multiple portfolios and different levels of government involved in responding to PFAS contamination.'⁵
- 2.15 In that role the Taskforce:
- oversees implementation and review of the Intergovernmental Agreement on a National Framework for Responding to PFAS Contamination
 - provides advice to the Australian Government on PFAS management approaches
 - reports regularly to the Prime Minister and other relevant Ministers on progress of Australian Government responses to PFAS contamination, and

⁵ Government response, *Recommendation 1*, p. 3.

- coordinates inter-agency communication, action, and information sharing (across all jurisdictions) on PFAS matters, as needed.⁶

- 2.16 In April 2018 the Taskforce was transferred from PM&C to the then Department of Environment and Energy. Following machinery- of- government changes in early 2020 the Taskforce was re-located in the newly configured DAWE, which prepared the *Whole of Australian Government Response*.⁷
- 2.17 On 10 February 2020 representatives of the PFAS Taskforce were asked about their national coordination role in DAWE compared with arrangements in PM&C.⁸
- 2.18 Ms Nicola Powell, Director of the PFAS Taskforce, had transitioned with her staff from PM&C. She advised that the Taskforce a now comprises a small team of environment staff located in DAWE’s Chemicals Management Branch, which functions as a coordination and outreach point for other Commonwealth agencies and PM&C. In the past the Taskforce had also comprised secondees from different departments.⁹
- 2.19 Mr James Tregurtha, DAWE’s First Assistant Secretary, explained that the ongoing nature of PFAS remediation had led to both the consolidation of expertise in the environment portfolio and its decentralisation across government agencies, including Defence:

...Defence, over the last two or three years, have put in place a far greater infrastructure within their own portfolio to manage their own response to PFAS. I think that’s been demonstrated...If you go back to when the task force was established in PM&C, not just Defence but the environment portfolio and the health portfolio all seconded one or two staff into a group, whereas now those functions have almost been normalised within each portfolio. So each portfolio is retaining a capacity to bring their own expertise

⁶ Government response, *Recommendation 1*, p. 3.

⁷ Following the machinery of government restructure in late 2019, which took effect from 1 February 2020, see S Easton, ‘Four departments and five secretaries cut while one returns, as PM reshapes the public service’, *The Mandarin*, 5 December 2019.

⁸ PFAS Taskforce, DAWE, *Committee Hansard*, 10 February 2020.

⁹ Ms Nicola Powell, Director, PFAS Taskforce, DAWE, *Committee Hansard*, Canberra, 10 February 2020, p. 3.

to bear on the PFAS issue within their portfolio responsibilities. That's why we are maintaining a team of Environment staff within the environment portfolio.¹⁰

- 2.20 Mr Tregurtha advised, in summary, of the symmetries afforded by the location of the Taskforce in DAWE:

We have responsibility for whole-of-government communication, coordination and oversight of PFAS management responses through the PFAS Taskforce, and we lead Australian government work to protect Australia's ecosystems and the environment from the harmful effects of chemicals, hazardous substances and pollutants.¹¹

- 2.21 He elaborated on the range of current work addressing the issue of PFAS:

There are several significant bodies of work underway in the environment side of our portfolio to achieve nationally consistent, evidence based PFAS responses. These cover both managing existing PFAS contamination from historical uses and preventing further PFAS contamination from ongoing uses, and include overseeing implementation of and maintaining the Intergovernmental Agreement on a National Framework for Responding to PFAS Contamination; leading development and maintenance, in cooperation with states and territories, of the PFAS National Environmental Management Plan, often referred to as the PFAS NEMP; and, developing, in cooperation with states and territories, the National Standard for Environmental Risk Management of Industrial Chemicals.¹²

Intergovernmental Agreement on a National Framework for Responding to PFAS Contamination

- 2.22 The PFAS Taskforce has oversight of the *Intergovernmental Agreement on a National Framework for Responding to PFAS Contamination* (PFAS IGA) which provides a template for all stakeholders to work towards

¹⁰ Mr James Tregurtha, First Assistant Secretary, DAWE, *Committee Hansard*, Canberra, 10 February 2020, p. 3.

¹¹ Mr Tregurtha, DAWE, *Committee Hansard*, Canberra, 10 February 2020, p. 1.

¹² Mr Tregurtha, DAWE, *Committee Hansard* 10 February 2020, p. 1.

consistency and coherency in the national PFAS response. The Government response states its functions are to:

- Effectively respond to PFAS contamination to protect the environment and, as a precaution, protect human health, including immediate responses to identified contamination, and longer term remediation or management responses.
- Strengthen national consistency, collaboration and cooperation in responding to PFAS contamination.
- Ensure actions are effective, implementable, financially and logistically sustainable, proportionate to risk, and support economic stability.¹³

2.23 The Intergovernmental Agreement was agreed by COAG in 2017, and came into effect in 2018. The Government's response advises that the IGA is subject to regular review based on national outcomes and that the PFAS Taskforce has in the last two years, convened four national workshops with Commonwealth, States and Territories agencies for this purpose.¹⁴

2.24 At hearings in December 2019, the Department of Defence referred to its involvement in the review and finalisation of the revised IGA:

At the national level, we've worked with the PFAS Taskforce since it was established and we've worked with intergovernmental agencies throughout this process. We've contributed to the development of the intergovernmental agreement on PFAS, to facilitate a consistent approach to PFAS contamination across responsible jurisdictions. We've also contributed to the development of the PFAS National Environmental Management Plan, which was initially released in 2018 and is due for revision later this year or, probably, early next year.¹⁵

2.25 The new Intergovernmental Agreement, made in 2019, is now available on the PFAS website, which states:

The [IGA] review found that collaboration and cooperation between Commonwealth, states and territories in responding to PFAS contamination has improved under the Intergovernmental Agreement. The review also identified areas for further collaboration, including: working together to reduce or prevent

¹³ Government response, *Recommendation 1*, p. 4.

¹⁴ Government response, *Recommendation 1*, p. 4.

¹⁵ Mr Steven Grzeskowiak, Deputy Secretary, Estate and Infrastructure, Department of Defence, *Committee Hansard*, 2 December 2020, p. 1.

further PFAS contamination; better communication with PFAS-affected communities to increase awareness of government actions and improve trust; and increased clarity about the roles and responsibilities of polluters and regulators.¹⁶

2.26 The revised IGA appends key policy documents which guide implementation of the national response. These are linked and described on the PFAS website's 'Government coordination' tab, as follows:

- The *PFAS Contamination Response Protocol* – provides information on roles and responsibilities when responding to PFAS contamination;
- The *PFAS National Environmental Management Plan* – outlines consistent environmental management requirements that regulators across Australia have agreed on;
- The *PFAS Information Sharing, Communication and Engagement Guidelines* – contains information on how governments should share information about PFAS.¹⁷

2.27 The PFAS IGA site provides a brief summary of amendments made:

The PFAS Contamination Response Protocol (Appendix A to the Agreement) was revised to be clearer about roles and responsibilities. The PFAS Information Sharing, Communication and Engagement Guidelines (Appendix C to the Agreement) was revised to encourage increased two-way communication with affected communities and other stakeholders. The Agreement itself was revised to include a new objective of working to prevent future PFAS contamination, and a new National PFAS Position Statement was developed and agreed.¹⁸

PFAS management, research and accountability

2.28 Many of the action points in the JSCFADT's *Recommendation 1* anticipated a capacity for well-developed management, research and monitoring of

¹⁶ PFAS website, *Intergovernmental Agreement on a National Framework for Responding to PFAS Contamination* (PFAS IGA) www.pfas.gov.au/news/intergovernmental-agreement-national-framework-responding-pfas-contamination-0 viewed 1 July 2020.

¹⁷ PFAS website, *Government Action – Government coordination* www.pfas.gov.au/government-action/government-coordination viewed 1 July 2020.

¹⁸ PFAS IGA, viewed 1 July 2020.

remediation outcomes, as well as resources to identify and publicise ongoing results. The JSCFADT's *Recommendation 2* built on these expectations by explicitly calling for increased investment in and reportage on remediation outcomes and research. This is discussed in the next chapter.

- 2.29 In its response to the first recommendation, the Government indicated its substantial investment in 'activities to address PFAS contamination, including PFAS investigations, containment, remediation and research', and its work in 'establishing legislation and processes that will better protect the environment from further high-risk industrial chemical contamination' as key components of its national response.¹⁹
- 2.30 While this range of vital work is being progressed under the oversight of the PFAS Taskforce, some respondents to this inquiry considered transparency and accountability under the national PFAS response does not appear to be a government priority.²⁰ The Coalition against PFAS (CAP), for example, considered the Government's dismissal of most of the JSCFADT's 'broadly sensible recommendations' to reveal its lack of interest in accountability to community needs.²¹
- 2.31 The Government response, for its part, acknowledged that much of the PFAS Taskforce's activity is 'behind the scenes, with community engagement on PFAS contamination being undertaken by individual agencies as relevant'. The response went on to note that:
- The Committee's investigations and recommendations have highlighted a need to make the functions and activities of the PFAS Taskforce more publicly transparent and accessible. One of the ways in which the Australian Government is achieving this is through the PFAS.gov.au website.²²
- 2.32 One of the issues raised in the Sub-committee's first report in December 2019 was the limited and outdated nature of much of the information

¹⁹ Government response, *Recommendation 1*, pp. 4–5.

²⁰ The Coalition against PFAS (CAP), *Submission 8*, p. [5].

²¹ CAP, *Submission 8*, p. [4].

²² Referring to the Sub-committee's report, *Inquiry into PFAS remediation in and around defence bases – First report* December 2019, p. 42 (hereafter *First report*, December 2019) and see Government response, *Recommendation 1*, p. 4.

provided on the PFAS website.²³ The Government's response cited recent improvements to the PFAS website including:

- the addition of more general information on PFAS;
- specific information about the PFAS Taskforce and whole-of-government activities; and
- a contact form for enquiries to the PFAS Taskforce.²⁴

2.33 Research for this review revealed that the PFAS website is now well designed with information logically organised, accessible and up to date. The site now contains a dedicated Government Action directory which provides tabs to key areas of interest from 'Government coordination' and 'Community support' to updates on progress in research and on key regulation agreements such as the PFAS IGA and NEMP (National Environmental Management Plan). The FAQ links will also be of assistance to general readers.²⁵

2.34 However, despite attribution on the URL itself, the information within the site on the PFAS Taskforce's role in orchestrating the national response is very basic and not easy to find. Neither the site's home page nor the Government coordination tab mentions the Taskforce and its oversight role. The 'About PFAS' tab, which describes PFAS substances and the potential impacts of PFAS contaminants, provides the only brief statement on the Taskforce's role in coordination of the Government's PFAS effort.²⁶

Committee comment

2.35 In this chapter the Committee has reviewed the Government's arrangements for delivery of a national PFAS remediation response, the key components of which are:

- Leadership and coordination of the national effort by the PFAS Taskforce, now integrated with DAWE's Chemical Management Branch

²³ This was in contrast to the Defence site, which had up-to-date information on its remediation work. See JSCFADT, *First report*, December 2019, pp. 36–37, and Chapter 3 in this review.

²⁴ Government response, *Recommendation 1*, p. 4.

²⁵ The URL title is 'Australian Government PFAS Taskforce: PFAS'. See www.pfas.gov.au/ viewed 20 July 2020.

²⁶ About PFAS, www.pfas.gov.au/about-pfas viewed 30 June 2020.

experts, with outreach to key Commonwealth departments and advisory agencies and equivalents at state and territory jurisdictions.

- Decentralisation of PFAS environment and health expertise within the key partner agencies of the Departments of Defence and Health to ensure the PFAS effort meets portfolio responsibilities.
- A framework for national coordination of effort under the *Intergovernmental Agreement on a National Framework for Responding to PFAS Contamination* (PFAS IGA), recently updated in 2019 to, among things, clarify roles for governments and regulators.
- An ongoing commitment to research and transparency about remediation work and emerging issues, and about the role of the PFAS Taskforce to lead a holistic and informed environmental response in partnership with the Commonwealth and State and Territories.

2.36 These developments are assessed in more detail in review of the Government's response to recommendations in the body of this report. One remaining consideration in regard to *Recommendation 1*, in the Committee's view, was the proposal for 'a national point of contact and accountability for production of the Government's response to the PFAS issue' and oversight of an annual review.

2.37 As noted in this chapter the Committee's review, independent to government, plays a part in meeting this recommendation. With the Government response not presented at the initiation of this inquiry (one year after the JSCFADT report's tabling) the Sub-committee determined to monitor Defence's progress under the National Program.

2.38 The Government's response meanwhile has indicated that the PFAS Taskforce, with its historical role in managing the coordination response at the highest level, presents a logical contact point for the public. Accordingly it has profiled this on its PFAS website. While this information on the role of the PFAS Taskforce is welcome the detail is minimal – and a web search of the site provides no other advice about the Taskforce's role.²⁷

2.39 Given ongoing concerns about the sincerity of Government commitments to some PFAS affected communities, the Taskforce's high level function and low public profile may further disillusion stakeholders. The contact tab is a welcome development but there may be merit in reviewing the

²⁷ Search, PFAS Taskforce www.pfas.gov.au/search?query=PFAS+Taskforce viewed 30 June 2020.

proposal for establishing an official contact point to explain jurisdictional obligations and frameworks and respond to specific concerns.

- 2.40 In the meantime, the Sub-committee believes the Government should consider launching a more detailed and dedicated page on the PFAS site which highlights the role and work of the PFAS Taskforce as contact and coordinator of the Government's work. The site should contain current accountability information and more 'how can we help' content accompanying the contact form.

Recommendation 1

The Committee recommends that the Government highlight the PFAS Taskforce's role in coordination and review of the national PFAS response in a dedicated link accessible on the PFAS homepage as a contact point for members of the public.

This dedicated webpage should also improve accountability and accessibility by:

- **providing information on and links to relevant annual reports, parliamentary reviews, and to the Government response;**
- **making a feature of the PFAS Taskforce contact form, with 'how can we help' content and links to dedicated PFAS support and consumer protection sites; and**
- **providing information and contact details for the Director of the PFAS Taskforce.**

- 2.41 The Government should supplement this with a dedicated PFAS call line, accessed via the PFAS website. This is discussed in Chapter 4.

Remediation management and investment

- 3.1 The first Defence sites to undergo investigation for PFAS contamination were the RAAF Base Williamtown in NSW, the Oakey Army Aviation Centre in Queensland, and RAAF Base Tindal in Katherine in the Northern Territory.
- 3.2 In its inquiry last Parliament the JSCFADT convened public hearings in these locations to hear firsthand about the progress of this work. At the time, while Defence reported that investigations were reaching completion at the Williamtown and Oakey sites, some residents in these communities considered that the work being progressed was not evident or too slow. There were also concerns that the risks of PFAS contamination were not being communicated to local governments, with continued use of PFAS contaminated bore water in Katherine town parks a case in point.¹
- 3.3 In *Recommendation 2* the JSCFADT report called on Government to 'upscale' investment in its remediation of PFAS contamination on Defence bases, to report publicly on results, and to ensure consistency of this approach on non-Commonwealth-owned sites, in collaboration with the States and Territories.
- 3.4 This chapter of the report considers the Government's response to the Committee's second recommendation which aimed to give practical effect to a nationally consistent and accountable remediation response.

¹'Committee comment,' JSCFADT, *Inquiry into management of PFAS contamination in and around Defence bases*, December 2018, pp. 51-52.

Recommendations for best practice remediation

- 3.5 The JSCFADT had envisioned that *Recommendations 1* and *2* of the report together would provide a cohesive framework and action plan for a best practice nationally consistent remediation program, under the strategic direction of a PFAS Coordinator-General.
- 3.6 *Recommendation 2* proposed that the Government should increase investment in the containment of PFAS contamination plumes and its remediation of land and water sources, and that the Coordinator-General should:
- publish draft remediation and management plans and seek public input before implementing them;
 - continue to invest in research and deployment of international expertise in remediation technology;
 - with the states and territories, review regulation and advice on use of contaminated bore water in irrigation; and
 - ensure consistency in approach outside Commonwealth sites, in consultation with state, territory and local governments.²
- 3.7 The Government ‘agreed in part’ with the practical intent of *Recommendation 2* but, as discussed in Chapter 2, believed the Coordinator-General’s supervision to be redundant.
- 3.8 The Government’s response to the second recommendation, in summary, indicated confidence in the current structures and policy trajectory for PFAS remediation. It also cited significant progress being made under PFAS Management Area Plans (PMAPs) on Defence bases and adjoining airfields,³ noting:

The Australian Government continues to invest in the development and implementation of evidence-based solutions to contain PFAS contamination plumes, and the remediation of contaminated land and water sources. Responsible

² *Recommendation 2*, JSCFADT, *Inquiry into management of PFAS contamination in and around Defence bases*, December 2018, pp. 52–53.

³ Australian Government, *Whole of Australian Government response to the report of the JSCFADT: inquiry into the management of PFAS contamination in and around Defence bases*, Department of Agriculture, Water and Environment (DAWE), 20 February 2020 (hereafter Government response), *Recommendation 2*, pp. 6–10.

Commonwealth agencies are leading site management and remediation, reporting publicly on these activities, cooperating with state and territory regulators and each other, and engaging with international regulators and other stakeholders to ensure the best outcomes for affected communities and the environment. Communication, cooperation, and information sharing are further facilitated by the activities of the PFAS Taskforce.⁴

Progress under the National Program

- 3.9 The Sub-committee's focus in this review is to evaluate the Government's response based on evidence taken to date on the National PFAS Investment and Management Program.
- 3.10 The Department of Defence's progress in PFAS containment and remediation on affected sites under its National Program was discussed at a public hearing on 2 December 2019.
- 3.11 The Sub-committee's first report, reviewing this evidence, welcomed the Department's progress at 28 sites noting technological advances enabling PFAS contaminated water and soils to be effectively cleaned.⁵ Defence also referred to partnerships with state and regional authorities to deliver alternative water sources to affected communities, such as in the reticulated water supply system in the Oakey management area.⁶
- 3.12 In regards to the specific requirements in the first and second recommendations for sharing of information with stakeholders more broadly, the Department of Defence had reported:

We have productive working relations with various jurisdictional authorities and share all of our investigation findings with them, and we also brief them to the communities involved. That includes sampling results in reports to facilitate those authorities to formulate and release any community based advisories that they consider necessary.⁷

⁴ Government response, *Recommendation 2*, p. 6.

⁵ JSCFADT PFAS Sub-committee, *Inquiry into PFAS remediation in and around Defence Bases – First report*, December 2019, Chapter 3, [hereafter *First report*, December 2019], pp. 25–26; 31–32.

⁶ JSCFADT, *First report*, December 2019, Chapter 3 (in summary), pp. 34–35.

⁷ Mr Steven Grzeskowiak, Deputy Secretary, Estate and Infrastructure, Department of Defence,

- 3.13 The Sub-committee, in its report, had also noted and commended the Department for its comprehensive PFAS Investigation and Management website. The site provided up-to-date and detailed advice about contracted works and consultations at management sites, and also included information on the monitoring of PFAS levels in treated water and soils over time.⁸
- 3.14 As discussed in the previous chapter, these measures are complemented by the recent redesign of the PFAS website which now functions as the central repository of up-to-date information it was intended to be.

Prioritising investment

- 3.15 *Recommendation 2* of the JSCFADT 2018 report had called on Government to continue and 'upscale' investment in its PFAS containment and remediation efforts, including on research and deployment of international expertise.⁹
- 3.16 The Committee in its first report for the current review had identified a need for more information about Defence's investment in PFAS remediation work, research, on contract arrangements and progress.¹⁰
- 3.17 In in answer to questions on notice (AQoN) in March 2020, the Department of Defence indicated that:
- Over 2017–18 \$104.7 million and in 2018–19 \$133.7 million was expended on the PFAS Investigation and Management program from within the existing Defence budget. This covered the conduct of site investigations, planning and delivery of remediation activities, provision of alternative drinking water support and the management and administration of the national program.
 - In 2017–18 \$35 million and \$3.8 million in 2018–19 was provided by Defence to other Commonwealth agencies for PFAS-related programs. This included \$13.7 million to the Department of Health for the

Committee Hansard, 2 December 2020, p. 1.

⁸ JSCFADT, *First report*, December 2019, p. 42.

⁹ Government response, *Recommendation 2*, p. 6.

¹⁰ JSCFADT, *First report*, December 2019, Chair's Forward, p. *vi*, and see discussion p. 42.

voluntary blood testing program, mental health counselling and support for the ANU's epidemiological PFAS Health study.¹¹

- 3.18 The Government response states that Defence has spent around \$400 million in total on investigations, providing support to affected communities, funding research and implementing remediation initiatives, including alternative water supplies, soil excavation from on-base drains, and implementation of groundwater and surface water treatment technologies.¹²
- 3.19 The response also highlights coordination of this work on federally leased airports by Airservices Australia¹³ and the Federal Department of Infrastructure, Transport, Cities and Regional Development (Infrastructure). It reports that Airservices Australia has committed \$30 million to PFAS-related work since 2006. This has included funds for research with university and industry partners, and identification of 22 PFAS affected airfield sites for possible remediation. Two of the sites are joint user facilities with Defence.¹⁴
- 3.20 Further, the Department of Infrastructure will use information from this work with that acquired from state and territory environmental protection agencies (EPAs) to develop 'a whole-of-precinct approach to site assessment and management at airports' around Australia.¹⁵

Progress and reportage on PMAPs

- 3.21 The first action point in the JSCFADT's second recommendation specifically calls on Government to publish its draft remediation and

¹¹ Department of Defence, *Submission 1 – AQoN*, Question 3, pp. [6-7].

¹² Government response, *Recommendation 2*, p. 7.

¹³ Airservices Australia is responsible for Australia's airspace management, aeronautical information, aviation communications, radio navigation aids, and aviation rescue firefighting services. See 'About Us', Airservices Australia www.airservicesaustralia.com/about/ viewed 6 July 2020.

¹⁴ Government response, *Recommendation 2*, p. 7.

¹⁴ Government response, *Recommendation 2*, pp. 7-8.

¹⁵ Government response, *Recommendation 2*, p. 8.

management plans for each investigation area, and to consult the public on these plans prior to their finalisation.

- 3.22 PFAS investigations are a three-phased process involving a Preliminary Site Investigation, a Detailed Site Investigation and, if found to be necessary, a Human Health and Ecological Risk Assessment. Once the investigation is completed a PFAS Management Area Plan (PMAP) is tailored to address the specific conditions on the site.¹⁶
- 3.23 The Government advised in its response that the recommended process of publication and community review of PMAPs had been partially adopted, subject to expert consideration in approval of the final plan:

When developing PMAPs, Defence takes into consideration community feedback received throughout the investigation. Due to the complexity and evolving scientific understanding of PFAS characteristics, the PMAP recommendations are primarily determined by expert advice from Defence's environmental consultants. When implementing PMAP recommendations Defence consults with all affected stakeholders including any affected members of the community, and state and territory regulators. Defence has committed to reviewing PMAPs annually, or more frequently if required to respond to any new information or technology that has the potential to impact the PMAP objectives.¹⁷

- 3.24 The response also advised that both Defence and Airservices Australia have committed to publishing PMAPs on their websites. At 31 October 2019, Defence had published PMAPs for 17 sites and made commitments to publish site investigation results and an Ongoing Monitoring Report for all sites on the website.¹⁸ This, it was expected:

...will help Defence and the community to understand whether the controls in place are effective, need to be adapted, or if further action might be required.¹⁹

¹⁶ *Department of Defence Annual Report 2018–19*, p. 138, and see JSCFADT, *First report*, December 2019, p. 24.

¹⁷ Government response, *Recommendation 2*, pp. 8–9.

¹⁸ Government response, *Recommendation 2*, pp. 8–9.

¹⁹ Government response, *Recommendation 2*, p. 9.

- 3.25 Subsequent to the Sub-committee's hearings in December 2019, Defence was asked for specific information about the timeframes of work under PMAPs, in particular to gauge this against community perceptions. In an answer to a written question on notice Defence advised that the Investigation phase averages between 18 months and two years, with the PMAP delivered at the end of the investigation process.²⁰
- 3.26 Asked about the prioritisation of work on sites and monitoring and reportage on the results under a PMAP, the Department noted that remedial actions vary by base but generally there are two to five actions in each PMAP: 'These actions are defined by location for surface water, groundwater, soil and Sewage Treatment Plants, and therefore will be able to be monitored individually'.²¹
- 3.27 The Sub-committee also asked about progress at Williamstown where a PMAP review was expected in late 2019, following a recent revision in May 2019. Defence in its response indicated a PMAP could be subject to regular revision and review depending on the specific geography of a site and other factors including:
- Progress in risk management and the effectiveness of specific response actions;
 - Data from the Ongoing Monitoring Plan;
 - Changes of land use;
 - Changes in legislation, strategy, policy and guidelines/standards;
 - Outcomes of new research or development of management/remediation technologies; and
 - Any other new information that has the potential to impact the outcomes of the PMAP.²²
- 3.28 Defence advised that at Williamstown, for instance, there were two characteristics that made remediation more difficult than at other sites:
- The Base is built on sand dunes, which facilitates the fast transport of PFAS from a source area to beyond the Base via the groundwater; and
 - The groundwater is very shallow, intermixing with surface water features. Surface water and groundwater are capable of contaminating each other rather than being discrete layers.²³

²⁰ Department of Defence, *Submission 2-AQoN*, p. [1].

²¹ Department of Defence, *Submission 2-AQoN*, p. [1].

²² Department of Defence, *Submission 2-AQoN*, no.4, p. [8].

- 3.29 Questions were also asked about the 'interim' status of the water treatment plant at Lake Cochrane, near Williamstown, and its PMAP.²⁴
- 3.30 Defence reported that further investigation had revealed that PFAS affected runoff into the lake was not the problem originally considered. In fact, the lake acts as a buffer to surface flows except in an extreme storm event. The focus is now on the treatment of ground water flows at the plant near the former firefighting training area, and on buffers and other measures to reduce surface flows during rain events. Hence the interim water treatment plant may now be redundant.²⁵
- 3.31 Asked about the assurances that might be provided about the safety and consistency of PMAP work given Defence does not have an environmental health regulatory role, the Director of the PFAS Taskforce Ms Nicola Powell advised that:

It's probably important to go back to the premise of remediation first, to say that at the moment there isn't any kind of known effective way of remediating PFAS on sites. So, it does have to be assessed on a site-by-site basis. There is a lot of research underway, which is funded through the Commonwealth and out of the Defence portfolio, with a number of academic institutions working on different ways of remediating PFAS effectively. It's important to characterise that as a work in progress. But when it comes to the assessment of contamination at sites, then people are following the guidance provided in the PFAS NEMP and also in the National Environment Protection (Assessment of Site Contamination) Measure.²⁶

²³ Department of Defence, *Submission 2-AQoN*, no. 4, p. [9].

²⁴ Department of Defence, *Submission 2-AQoN*, no. 4, p. [9].

²⁵ Department of Defence, *Submission 2-AQoN*, no. 4, p. [9].

²⁶ Ms Nicola Powell, Director, PFAS Taskforce, Chemicals Management Branch, Department of Agriculture, Water and the Environment (DAWE), *Committee Hansard*, Canberra, 10 February 2020, pp. 4-5.

Concerns about PMAPs and adjoining land

- 3.32 *Recommendation 2*, at the last action point, called for consistency in management of PFAS contamination on non-Commonwealth sites, in consultation with state, territory and local governments.
- 3.33 Discussion about the containment of PFAS plumes last Parliament had raised issues about the assessment and identification of PFAS affected land in proximity to management sites, about the changing boundaries and status of these sites,²⁷ and the ongoing ramifications for adjoining local communities and state and local regulatory authorities.
- 3.34 In December 2019 Mr Steve Grzeskowiak, Defence's Deputy Secretary of Estate and Infrastructure, referred to the process of ongoing review and assessment at Williamstown to indicate how the parameters of a PFAS managed site may grow or shrink:
- Some of the sites are more complex, and that's about the environmental interaction, the hydrogeology et cetera, and the use that people living in the area might have been making of groundwater or surface water that had PFAS contamination...the initial investigation area is just our best estimate of where we need to look, and if we need to go further, we go further. Also, as we go to investigations, there are trigger points in that whole process about whether or not a human health risk assessment needs to be done or not. In some of our sites, we haven't had to do that, because there are no obvious exposure pathways that would require it. So the investigations are of different scale in different places.²⁸
- 3.35 The Sub-committee's investigation of this matter elicited an acknowledgement that more needs to be done to clarify the clearance status of investigated land in the process of PMAP review.²⁹
- 3.36 Evidence later received by the Sub-committee suggests that there are questions still to be answered about the responsibilities for PFAS affected communities contiguous with but outside the parameters of a PMAP, and off the Defence base on non-Commonwealth-owned sites.

²⁷ JSCFADT, *Inquiry into management of PFAS contamination in and around Defence bases*, December 2018, pp. 50–51.

²⁸ Mr Grzeskowiak, Department of Defence, *Committee Hansard*, 2 December 2020, p. 6.

²⁹ *First report*, December 2019, Chapter 3, see discussion, pp. 40–42.

3.37 Two submissions to the inquiry contended that the Department of Defence is reluctant to review evidence of contamination off-base, leaving affected communities without supports or hope of remediation under a PMAP. The Hawkesbury Environment Network (HEN), in *Submission 3*, refers to the Government response's failure to acknowledge this problem as follows:

We believe the area surrounding Richmond RAAF Base has not been fully considered in the response. There are farms on the Lowlands known to be high in PFAS and we know that Defence have no plans to remediate this land. Western Sydney University testing demonstrated that areas of the Lowlands around Bakers Lagoon have PFAS readings of 300 parts per million, with other nearby areas also being contaminated. This area is still growing beef, sheep, chickens, vegetables and turf. These are all probably being sold locally and through other markets...If Defence has done any testing of beef or other produce from the Lowlands, we are unaware of it.³⁰

3.38 Having noted the Government's contention in its response that it has in place nationally coordinated structures to address PFAS issues and mitigate PFAS contamination, HEN concluded:

What is evident to us is that their response is fractured and not nationwide, in fact it appears that Defence is using data from only three sites and then disseminating that information at other locations assuming it is relevant across Australia.³¹

3.39 The Fullerton Cove Residents Action Group, *Submission 4*, similarly reports from the coast near Williamstown, that:

There is a great deal of frustration within our community due to the major restrictions placed on us as a result of the declared contamination zones...

This frustration is highlighted by no off Base clean-up activity what soever. The Red Line on a map that surrounds us has not changed and does not look like changing in the foreseeable future. This inaction is the major cause of the deteriorating mental health in our community.³²

³⁰ Hawkesbury Environment Network (HEN), *Submission 3*, p. [1].

³¹ HEN, *Submission 3*, p. [1].

³² Fullerton Cove Residents Action Group, *Submission 4*, p. [1].

- 3.40 Fullerton Cove residents proposed a practical solution to the jurisdictional issue which halts work at the perimeter of a PMAP:

Develop a Management Plan for off Base PFAS Contamination Clean Up and Remediation. This Plan (PMP) to include all Governments, Government Agencies and Local Government and cover Drains, Soil, Water Bodies, Airborne Transmission, Dust, Disposal, Communication, with the aim to removing the RED ZONE.³³

- 3.41 Asked about its obligations to protect environments off-site, Defence advised in an AQoN notice that:

Where PFAS has migrated off-site, beyond the boundaries of Commonwealth land, Defence has a responsibility to ensure environmental regulators and any persons or organisations likely to be impacted are promptly advised of any contamination. Defence is committed to responsible environmental management and has established relationships with state and territory regulators in each jurisdiction where a Defence property is subject to a PFAS investigation. Defence complies with its legislative and regulatory obligations, regardless of where it operates, and seeks to conform to state and territory environmental management legislation, where it does not conflict with Commonwealth legislation.³⁴

Coordination with the states and territories

- 3.42 In its report, the JSCFADT had identified discrepancies between bore water management in Katherine town, and the advice provided at RAAF Tindal on water safety by Defence. Action point four of *Recommendation 2* referred to the need for consistency in regulation, in particular for use of water for irrigation, on a national basis.
- 3.43 The Government's response provides a brief section on the requirements for 'collaboration and consistency across jurisdictions on environmental standards'. It refers in particular to the development of the PFAS *National Environmental Management Plan* (NEMP) and the revised NEMP2.0, which

³³ Fullerton Cove Residents Action Group, *Submission 4*, p. [2].

³⁴ Department of Defence, *Submission 1 – Answers to Questions on Notice (AQoN)*, p. [13].

has specific guidance on re-use of water and the implications for animals and plants onsite.³⁵

- 3.44 The National Health and Medical Research Council (NHMRC) advised that in 2017 it was commissioned by the Department of Health to develop specific health-based guideline values for PFAS (including PFOS, PFOA and PFHxS) for drinking water and recreational water. Current guidance comprises:
- A chemical factsheet and health-based guideline values for PFAS for the ADWG [*Australian Drinking Water Guidelines 2008*] published on 24 August 2018.
 - Guidance and health-based guideline values for PFAS in recreational water (including PFOS, PFOA and PFHxS), as an addendum to the *Guidelines for Managing Risks in Recreational Water*, published on 12 August 2019.³⁶
- 3.45 These documents, the NHMRC advises, provide 'nationally consistent standards to maintain public health that underpin state and territory regulations on drinking water and recreational water quality.'³⁷
- 3.46 As part of its review, the Sub-committee advised state and territory governments of the inquiry and called for an update on coordinated activities in PFAS-related work between their environmental protection and other agencies and those of the Commonwealth. In response, the Chief Minister of the Northern Territory (NT), Queensland's Minister for the Environment and the Great Barrier Reef, and the NSW Minister for Energy and Environment provided status reports on their policies and work with the Commonwealth.³⁸
- 3.47 The Sub-committee subsequently invited submissions from the NT PFAS Taskforce and the Queensland Government to provide more detail on this work.³⁹
- 3.48 In March 2020, the NT PFAS Taskforce advised that it would delay making a submission due to urgent diversion of staff to the NT's

³⁵ Government response, *Recommendation 2*, p. 10.

³⁶ National Health and Medical Research Council (NHMRC), *Submission 6*, p. [1].

³⁷ NHMRC, *Submission 6*, p. [1].

³⁸ Correspondence dated respectively dated 10 December 2019, 23 January 2020; and 28 January 2020 respectively.

³⁹ The NSW Government advised its policy was unchanged since its submission to 2018 PFAS inquiry. Correspondence dated 28 January 2020.

COVID-19 response.⁴⁰ The Chief Minister's letter, however, provided some detail on co-ordination of EPA activities within the Territory:

The Northern Territory Environment Protection Authority (NT EPA) continue[s] to work closely with the Department of Defence throughout the transition to remediation of Defence sites in the Northern Territory, to ensure the PFAS Management Area Plans (PMAPs) response principles are appropriate to comply with Northern Territory environmental laws. It must be noted the Department of Defence has shown a willingness to treat the NT EPA as an active member providing technical input into its remediation program for the three Northern Territory Defence sites.⁴¹

3.49 Queensland's Department of Environment and Science (Qld DES) provided a detailed submission which highlighted the state's status as the first Australian jurisdiction to introduce a policy banning the use of PFAS chemicals in firefighting (in 2016). The submission went on to describe its collaboration with Defence to ensure PMAPs in Queensland are compliant with the State's environmental laws, including its controls on PFAS use and remediation.⁴²

3.50 While Qld DES reports positive engagement with Defence in developing documents for PMAPs and Ongoing Monitoring Plans at the seven Defence investigation sites in the state,⁴³ it had criticisms about the process:

DES is of the understanding from Defence that PMAPs are high level documents that are not intended to define the specific remedial measures to be undertaken, noting that information gathered as part of the Detailed Site Investigations was not collected for this purpose and that further investigations are required at some sites in order to inform specific remedial actions. This approach presents a risk of delaying remedial actions.⁴⁴

⁴⁰ Advice to the Secretariat from the Chief Minister's Office, 27 March 2020.

⁴¹ Letter from the Chief Minister, the Hon Michael Gunner MP, 10 December 2020, p. 1.

⁴² Queensland Department of Environment and Science (DES), *Submission 7*, p. 1.

⁴³ Army Aviation Centre Oakey, RAAF Base Amberley, RAAF Base Townsville, Lavarack Barracks, Townsville, HMAS Cairns, and former WW2 Fuel Installation, Hill, Wide Bay Training Area, RAAF Base Scherger, p. 4, Qld DES, *Submission 7*, p. 4.

⁴⁴ Qld DES, *Submission 7*, p. 5.

- 3.51 The Qld DES calls for improved timeliness of remedial actions and for more direction in PMAPs to meet Queensland's environmental obligations. It also highlights Section 13 in the NEMP, which requires on-site or off-site treatment (including destruction), containment and removal of PFAS contaminants.⁴⁵
- 3.52 Further, it specifically requests Defence to cease using fluorinated firefighting foams at the Army Aviation Centre at Oakley, expressing concerns about recontamination of remediated areas or release of additional contaminants.⁴⁶
- 3.53 The implications of these concerns are considered further in discussion of national and international standard setting for PFAS in Chapter 5.

Focus on research and innovation

- 3.54 *Recommendation 2* of the JSCFADT's report includes directions for government to 'continue to invest in research and deployment of international expertise in remediation technology'. This is a companion directive to point three in *Recommendation 1*, for work to better identify gaps and priorities for investigation and remediation based on contamination levels and human health risk.
- 3.55 The Government response advised that Defence's commitment to PFAS remediation across its estates totals \$400 million in investigations, providing support to affected communities, funding research activities and implementing remediation initiatives. The response goes on to highlight Defence's commitment to support research in 'effective and efficient remediation' in partnership with industry:

Defence works with industry providers to identify and bring to maturity remedial technologies that may address PFAS migration via groundwater and surface water, and mitigation of risks from contaminated soils, wastewater treatment plants, and construction materials. At October 2019 Defence has funded 10 research activities valued at \$3.5 million.⁴⁷

⁴⁵ Qld DES, *Submission 7*, p. 5.

⁴⁶ Qld DES, *Submission 7*, p. 3.

⁴⁷ Government response, *Recommendation 2*, p. 7.

- 3.56 Defence in evidence to the Sub-committee described its efforts to inform and attract industry innovators to participate in these PFAS research and remediation activities. Defence advised:

On 30 May 2019, Defence held a PFAS Industry Information day in Sydney to provide industry with advice on the scope and scale of Defence's PFAS remediation challenge, and how Defence will approach the market to seek solutions for these challenges. One hundred and seventy nine industry members, representing 119 companies attended the event. Defence advised industry participants of its PFAS Research and Technology Demonstration Priorities during this day.⁴⁸

- 3.57 The Government's response reported in summary:

Defence works with industry providers to identify and bring to maturity remedial technologies that may address PFAS migration via groundwater and surface water, and mitigation of risks from contaminated soils, wastewater treatment plants, and construction materials.⁴⁹

Industry partnerships

- 3.58 Defence's website, as noted previously, provides information on PFAS technology experts currently involved in remediation work at Defence sites nationally. In its first report, the Sub-committee surveyed this work, asking Defence about the methods being used to extract contaminants from soil and water as well as experimentation to destroy or reduce these contaminant concentrations.

- 3.59 The Sub-committee subsequently invited Defence remediation partners to provide an overview and progress report on their work.⁵⁰ In its submission, Synergy Resource Management Pty Ltd, an Australian owned and operated company delivering water treatment solutions for Defence at Williamtown, among other sites, advised:

Our collaborative relationship with Defence, demonstrated through successful execution of multiple PFAS water treatment projects, continues to support the ongoing PFAS management program through the removal of PFAS contaminants from over 1.8

⁴⁸ Government response, *Recommendation 2*, p. 7.

⁴⁹ Government response, *Recommendation 2*, p. 7.

⁵⁰ Submissions received to date are listed in Appendix A.

billion litres of PFAS contaminated water at RAAF Williamtown alone. This volume of PFAS contaminated water is comprised of 1.2 billion litres treated by the Lake Cochran WTP and Megalitres treated by the Construction WTP to date.⁵¹

3.60 In regards to its research and innovation model, Synergy stated:

At Synergy we aim to continually improve our WTP [water treatment plant] technology and treatment processes through research, development, experience and innovation. Synergy have a dedicated team of environmental scientists, chemists and engineers that work in collaboration with the Queensland University of Technology to test and design new remediation techniques and strategies. Learning also happens during works and over the past twelve years our operational team have improved the way that we utilise our systems resulting in smarter more efficient treatment with lower resource use and waste output.⁵²

3.61 The Sub-committee last year provided written questions to Defence about procurement processes for remediation contractors and whether project outcomes were subject to peer review by Government or external experts.⁵³ Defence later advised that its procurement of technological solutions, management and monitoring processes respond to screening criteria in the NEMP, stating:

In most procurement activities undertaken by Defence's PFAS Investigation and Management Branch (PFASIM), evaluation criteria for PFAS remediation technologies will be specific to the proposal and the conditions at the particular site in question. Defence may obtain additional expert advice and oversight from an environmental consultant appointed by Defence for remediation and management of the Defence property. Where appropriate, Defence also has the ability to seek additional validation from other external experts, such as the Commonwealth Scientific and Industrial Research Organisation (CSIRO), or counterparts in the United States Department of Defence.⁵⁴

⁵¹ Synergy Resource Management Pty Ltd *Submission 16*, p. 21.

⁵² Synergy Resource Management Pty Ltd *Submission 16*, p. 4.

⁵³ Department of Defence, *Submission 1 – AQoN*, Question 2 (a), p. [3].

⁵⁴ Department of Defence, *Submission 1 – AQoN*, Question 2 (a), p. [3].

3.62 The Government's response further elaborates on the close engagement between Australian and United States Defence and Environment agencies, as part of the OECD's effort to build 'cooperative approaches to resolving the global issue of PFAS'.⁵⁵ Discussion of the refinement of our national laws and of international agreements governing regulation of PFAS is in consideration of the Government's responses to *Recommendations 7 to 9* in Chapter 5.

Funding national research

3.63 The Sub-committee also determined in this review to expand its investigation of innovative approaches to PFAS remediation by inviting recipients of Australian government PFAS research grants to outline their projects in submissions.

3.64 The response advised of the Government's \$13 million investment in funding for national remediation research grants administered by the Australian Research Council (ARC), and a further \$12.5 million for PFAS health impact research (through the National Medical and Health Research Council – NHMRC) and the Australian National University's epidemiological project, the PFAS Health Study.⁵⁶

3.65 Invitations were extended to ARC and NHMRC recipients and to the Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC CARE) at the University of Queensland, which has ongoing support from Defence.⁵⁷

3.66 At the time of writing the Sub-committee had received reports on exciting research projects, some involving university and industry partners, which work towards environmentally sustainable solutions to remediate soil and water, and even to destroy PFAS.⁵⁸

3.67 Professor Cheng Fang at the University of Newcastle will lead research into electrochemical-sonication destruction mechanisms with university experts in environmental remediation and ecotoxicology to destroy and

⁵⁵ Government response, *Recommendation 2*, p. 10.

⁵⁶ Government response, *Recommendation 2*, p. 9, and see Department of Defence, *Submission 1 – AQoN*, Question 2, p. 4.

⁵⁷ Government response, *Recommendation 2*, p. 7.

⁵⁸ Professor Cheng Fang, University of Newcastle, *Submission 10*, p. 1.

detoxify PFAS and its end products. He advises that the method is cleaner as it uses electricity rather than chemicals in the process:

Most of the present remediation technology can only remove PFAS, such as from water streams, by adsorption. However, the adsorbed PFAS is not destroyed but merely transferred from one matrix to another. Our proposal is to promote active destruction of PFAS to complete the full mitigation process and thus clean up the substances from our environment.⁵⁹

- 3.68 Professor Behdad Moghtaderi, Director, Priority Research Centre for Frontier Energy Technology and Utilisation at University of Newcastle is partnering with the University of Queensland and Evocra Pty Ltd to demonstrate a pilot-scale version of the 'PFAS Harvester' for commercialisation.⁶⁰ The submission advises of the broader benefits of this partnership:

The collaboration between some of the leading Australian researchers and engineers at UON, UQ and Evocra will significantly enhance Australia's research and innovation capacity in the emerging field of PFAS remediation, resource recovery and waste minimisation. Development and deployment of the PFAS Harvester process will also directly contribute to the Australian Government Research Priority "Soil and Water" by tackling the Practical Research Challenge of "Minimising damage to, and developing solutions for restoration and remediation of, soil, fresh and potable water, urban catchments and marine systems". The project will also train two PRA researchers capable of tackling problems of importance in PFAS remediation and waste utilisation... More importantly, the interactions among the partner organisations will provide a great opportunity to inspire the next generation of Australian innovators and technology development companies.⁶¹

- 3.69 The submission reports that the PFAS Harvester is not only cost effective, and highly efficient in destroying PFAS contaminants but its poly-generation platform also 'produces valuable by-products eg.

⁵⁹ Professor Cheng Fang, University of Newcastle, *Submission 10*, pp. 1, 2.

⁶⁰ Professor Behdad Moghtaderi, University of Newcastle, *Submission 13*, p. 1.

⁶¹ Professor Behdad Moghtaderi, University of Newcastle., *Submission 13*, p. 14.

hydrogen enriched syngas, calcium carbonate rich ash/slag, calcium fluoride'.⁶²

- 3.70 The Sub-committee was also advised about the CRC CARE's ongoing partnership with Defence to develop innovative solutions to remediate challenging environmental contaminants, such as aqueous film-forming foam (AFFF).⁶³ The CRC CARE reports an award winning solution it has developed using modified clay as an immobilisation technology for the treatment of PFAS contaminated soil, surface water and groundwater:

matCARE™ is a patented technology that has been used in containerised mobile wastewater treatment plants to remediate wastewater contaminated with PFAS as a result of firefighting training at various Royal Australian Air Force (RAAF) sites throughout Australia, including Edinburgh (SA), Pearce (WA) and Townsville (QLD). It was also used to remediate PFAS-contaminated wastewater at Adelaide Airport. matCARE is effective in treating perfluorooctanesulfonic acid (PFOS), perfluorooctanoic acid (PFOA), perfluorohexane sulfonate (PFHxS) and another 25 PFAS substances. matCARE also [ab]sorbs a wide range of other pollutants, including PH and chlorinated hydrocarbons (CH), which are likely to be associated with PFAS.⁶⁴

- 3.71 The CRC reports that the technology has removed more than 99 per cent of PFAS (99.7 per cent of PFOS and 98.8 per cent of PFOA) from contaminated ground water at RAAF Pearce and Edinburgh.⁶⁵ A new matCARE trial using an innovative horizontal-reactor permeable reactive barrier is also being scaled up at RAAF Richmond, which will enable use of the technology at a wider range of airfields.⁶⁶
- 3.72 Submissions received on other research projects received to date are in Appendix A. NMHRC grant projects are discussed in Chapter 4, in reference to *Recommendations 3 and 4*, for review of the health opinion and extension of blood testing.

⁶² Professor Behdad Moghtaderi, University of Newcastle., *Submission 13*, p. 8.

⁶³The Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC CARE), *Submission 19*, p. 1.

⁶⁴ CRC CARE, *Submission 19*, p. 1.

⁶⁵ CRC CARE, *Submission 19*, p. 1.

⁶⁶ CRC CARE, *Submission 19*, p. 2.

Committee comment

- 3.73 The Government's response to the JSCFADT's second recommendation indicated confidence in the current structures and policy trajectory for PFAS remediation.
- 3.74 This chapter of the report has evaluated the detail of Defence's PFAS National Investigation and Management program with a focus on the effectiveness, timeliness and responsiveness of its management of sites under PFAS Management Area Plans (PMAPs) in particular.
- 3.75 The Department of Defence has indicated that a site investigation may take two years before a PMAP is developed. This is a long lag time for people in affected areas and may support community views that little is being done and progress is slow. For people residing near Defence bases the protracted process of investigation and site assessment and the disjuncture between Commonwealth and state or territory responsibilities, leaves some residents, like those near Richmond RAAF and Williamtown, living in a PFAS half-life of restrictions but without the benefits of a co-ordinated remediation plan or support services within the PMAP.
- 3.76 The Government response states that Defence has spent around \$400 million in total on investigations, site management and research, and supports to PFAS affected communities on Commonwealth sites. This includes some \$29 million for funding for industry and national research priority activities.
- 3.77 The Committee in its first report identified a need for more detail in the Department of Defence's actual investment in PFAS remediation work, research, on contract arrangements and progress reports.⁶⁷ While the Government response and its answers to questions on notice provide this information for the last reporting period, the Sub-committee anticipates that this detail will be routinely included in future Department of Defence annual reports.

⁶⁷JSCFADT, *First report*, December 2019, Chair's Forward, p. vi, and see discussion p. 42.

Recommendation 2

The Committee recommends that the Department of Defence includes information on its investment in PFAS remediation programs, research and related activities in its annual reports along with tabular progress reports on remediation work under PMAPs for all sites.

- 3.78 The first action point in the JSCFADT's second recommendation specifically calls on government to publish its draft remediation and management plans (PMAPs) for each investigation area and to consult the public on these plans prior to their finalisation.
- 3.79 The Government response reports that Defence has to date published PMAPs for 17 sites and has plans to publish investigation results and ongoing monitoring reports for all sites. Defence also anticipates that sharing this information will assist residents better understand the remediation process.
- 3.80 In this chapter, the Sub-committee has discussed concerns about the changing boundaries and status of PFAS investigation sites, and the ongoing review of land under PMAPs. In December last year this subject was investigated with the Department of Defence who acknowledged that more needs to be done to ensure that the official status of land cleared of PFAS contamination is more easily discernible to residents and the public.⁶⁸
- 3.81 The Sub-committee notes that site investigation and management is a complex process and that the information published is equivalently complex. The Committee welcomes the Department's publication of more simplified Factsheets on PMAP sites, which have a map showing management phases,⁶⁹ and its intention to publish the results of site investigations and monitoring. However, the Sub-committee considers that changes in the contamination status of sites and their boundaries should be more clearly identified on up-to-date site maps on the website, and made available to residents.

⁶⁸ Mr Grzeskowiak, Department of Defence, *Committee Hansard*, 2 December 2020, p. 7, and see *First report*, December 2019, pp.40–41.

⁶⁹ For example, see Department of Defence, Army Aviation Centre Oakey PMAP fact sheet www.defence.gov.au/environment/pfas/oakey/ and RAAF Base Williamtown PMAP factsheet www.defence.gov.au/environment/pfas/Williamtown/

Recommendation 3

The Committee recommends that the Department of Defence should publish on its website up-to-date maps showing the changing boundaries of PFAS investigation and PFAS Management Area Plan (PMAP) sites, with the status of areas officially cleared of PFAS contamination plainly indicated.

The Committee recommends copies of these maps should be made available to residents on request.

The Committee also recommends that the Department ensures public input is sought through community engagement throughout the process.

- 3.82 Action point four of *Recommendation 2* called on the Government to ensure consistency in approach outside Commonwealth sites, in consultation with state, territory and local governments. The Queensland Department of Environment and Science's submission highlights concerns which are reflected in submissions people living near – but not included in – the framework of PFAS supports under the PMAP.
- 3.83 Information from DES provides a caution in observing that PMAPs are high level documents that 'are not intended to define the specific remedial measures to be undertaken'. Qld DES considers that, by not specifying the work needed to comply with state-based environmental laws or working towards NEMP requirements for on-site or off-site treatment (including destruction), containment and removal of PFAS contaminants, this work is unnecessarily delayed.
- 3.84 The Sub-committee noted by contrast the proactive approach being adopted by Airservices Australia which has committed \$30 million to PFAS-related work since 2006. This has included funding for research with university and industry partners and identification of 22 PFAS affected airfield sites for possible remediation and delivery of PMAPs. The response notes the Department of Infrastructure will use information from this work, with that acquired from state and territory environmental protection agencies, to develop 'a whole-of-precinct approach to site assessment and management at airports' around Australia.⁷⁰
- 3.85 As referenced in this chapter, Fullerton Cove Residents Action Group proposed a practical solution to the problem of off-base contamination. This was to 'Develop a Management Plan for off Base PFAS

⁷⁰ Government response, *Recommendation 2*, p. 8.

Contamination Clean Up and Remediation'. This off-base management plan would 'include all Governments, Government Agencies and Local Government' and cover all management of all contamination sources and communication.⁷¹

- 3.86 The Sub-committee notes the Government's advice that PMAPs aim to be responsive to the specific features of a remediate site and to priorities which change over time and must be monitored and re-assessed.
- 3.87 The Sub-committee therefore considers that, to expedite a timely and effective remediation process, PMAPs must be practical documents that direct compliance with a jurisdiction's environmental policies and standards as well national PFAS regulatory frameworks.

Recommendation 4

The Committee recommends that PMAPs should be practical documents that direct compliance with a jurisdiction's environmental policies and standards as well national PFAS regulatory frameworks for timely remediation works in and around Defence bases.

- 3.88 The Sub-committee discusses the potential and the risks for cross-jurisdictional collaboration in PFAS remediation works in consideration of National PFAS regulatory frameworks and standards in Chapter 5.
- 3.89 Finally the Sub-committee notes and commends the substantial investment the Government has made for research into innovative technologies which have potential to reduce the extent of contamination and in some cases completely destroy residue PFAS contaminants.
- 3.90 The Sub-committee intends to further investigate Defence's monitoring and reportage of remediation outcomes and to investigate the range of technological solutions currently being investigated by experts in the future. Research into PFAS-related health impacts is discussed in more detail in Chapter 4.
- 3.91 Discussion of the refinement of our national laws and of international agreements governing regulation of PFAS is discussed further in

⁷¹ Fullerton Cove Residents Action Group, *Submission 4*, p. [2].

consideration of the Government's responses to *Recommendations 7, 8 and 9* in Chapter 5.

Health, community and compensation

- 4.1 This chapter considers the Government's response to *Recommendations 3 to 6* of the JSCFADT report which called on the Government to:
- review its health advice on the human health effects of PFAS exposure, including its possible links to medical conditions (*Recommendation 3*);
 - improve participation in blood testing programs and extend this program of testing to additional areas and over time to support longitudinal analysis (*Recommendation 4*);
 - consider compensation on a priority basis to property owners and businesses most seriously affected by PFAS contamination in and near Defence bases (*Recommendation 5*); and
 - make available free individualised case management and financial counselling services to affected individuals (*Recommendation 6*).
- 4.2 These recommendations collectively aimed to provide a package of supports to address the physical, mental and financial impacts on people living in PFAS affected communities, whether on or near Defence bases.
- 4.3 The Sub-committee in this chapter evaluates the Government's response to these recommendations in the light of recent health advice, ongoing research and evidence on the impacts of PFAS on affected communities since the JSCFADT reported in December 2018.

Review of the health opinion

- 4.4 In its response, the Government formally noted *Recommendations 4 and 5*, and agreed in part to *Recommendation 6* for ongoing counselling and financial advice for PFAS affected communities.¹ These judgements also applied, the response advised, to like recommendations in the Senate report on PFAS contamination in Oakey Army Aviation Centre and other affected sites, made over four years ago.²
- 4.5 The Government agreed with the Committee's *Recommendation 3*. This recommendation called for the review of existing advice on PFAS health impacts and to clarify links between PFAS exposure and certain medical conditions.³
- 4.6 In its inquiry on management of PFAS contamination the JSCFADT had heard variously from medical and communication experts that the Australian Government's health advice was, as Dr Geralyn McCarron suggested, 'out of step with both the precautionary principle and the body of evidence linking PFAS to impairment of human health', including that acknowledged by the United States, Germany, Britain, and the International Agency on Research on Cancer.⁴
- 4.7 The then Chief Medical Officer Professor Brendan Murphy explained at hearings in September 2018 that Australia's approach was based on the view that the evidence base on the health effects of PFAS was 'weak and inconsistent', and that existing data at the time was 'certainly insufficient' to make a conclusive connection.⁵ This supported the Government's 'precautionary approach' to management of PFAS contamination in the

¹ Australian Government, *Whole of Australian Government response to the report of the JSCFADT: inquiry into the management of PFAS contamination in and around Defence bases*, Department of Agriculture, Water and Environment (DAWE), 20 February 2020 (hereafter Government response), pp. 12-17.

² Senate Foreign Affairs Defence and Trade References Committee, *Firefighting foam Contamination—Part B Army Aviation Centre Oakey and other Commonwealth, state and territory sites*, May 2016.

³ Government response, *Recommendation 3*, p. 3.

⁴ JSCFADT, *Inquiry into management of PFAS contamination in and around Defence bases*, December 2018, p. 67.

⁵ Dr Murphy is now Secretary of the Department of Health. Quote cited in JSCFADT, *Inquiry into management of PFAS contamination in and around Defence bases*, December 2018, p. 67.

shorter term, and also the need long term and larger studies to obtain conclusive evidence of any negative health effects associated with PFAS.⁶

Establishing the health opinion

4.8 Australia's PFAS health advice is based on the findings of the Expert Health Panel which had been established by government to review the scientific evidence on the potential health impacts from PFAS exposure and to identify areas for research.

4.9 In its review of 20 recent Australian and international studies the Panel had recognised 'consistent associations' with PFAS exposure and the following health effects:

- increased levels of cholesterol in the blood;
- increased levels of uric acid in the blood;
- reduced kidney function;
- alterations in some indicators of immune response;
- altered levels of thyroid hormones and sex hormones;
- later age for starting menstruation (periods) in girls, and earlier menopause; and
- lower birth weight in babies.⁷

4.10 The Panel had concluded however, that there were 'many issues and limitations' in this evidence base – such as the risk of bias, the diversity of PFAS chemicals and their possible interactions with other chemicals. It therefore recommended that:

Decisions and advice by public health officials about regulating or avoiding specific PFAS chemicals should be mainly based on scientific evidence about the persistence and build-up of these chemicals.⁸

4.11 The Government's response referred to this history noting that enHealth's⁹ updated statement (issued July 2019) in effect reflected the Expert Panel's original findings on the potential health impacts of PFAS in

⁶ JSCFADT, *Inquiry into management of PFAS contamination in and around Defence bases*, December 2018, pp. 63–66.

⁷ *Expert Health Panel for PFAS: Summary*, April 2018, p. [1].

⁸ *Expert Health Panel for PFAS: Summary*, April 2018, p. [2].

⁹ The Environmental Health Standing Committee of the Australian Health Protection Principal Committee is referred to by the short title 'enHealth'.

2018.¹⁰ At hearings in February the Health Department's Principal Medical Officer Dr Gary Lum explained the intent of the updated advice:

What we've tried to do is explain, through the Environmental Health Standing Committee of AHPPC's [enHealth], revised statement, that we do acknowledge that there are studies and there are reports that suggest that there are observations of biological effects in humans associated with exposure to high levels of PFAS chemicals. We still maintain though that, when it comes to exposure to PFAS chemicals, there's yet to be any conclusive proof that exposure to PFAS chemicals causes a discrete or distinct human disease as such.¹¹

4.12 The Government response indicated that the Department of Health does however reflect new information in its advice and will 'continue to review scientific evidence both nationally and internationally in relation to the human health effects of PFAS through its established monitoring'.¹²

Review of the Health Based Guidance Values (HBGVs)

4.13 The Health Based Guidance Values (HBGVs) are developed by Food Standards Australia New Zealand. FSANZ advises the Department of Health and PFAS taskforce about food safety, which includes tolerable daily intake (TDI) advice on contaminated foods such as PFAS affected produce.¹³

4.14 The HBGVs are based on FSANZ recommendations in its 2017 report *Perfluorinated Chemicals in Food* which recommended TDIs of 20 ng/kg bw/day for PFOS and 160 ng/kg bw/day for PFOA.¹⁴

¹⁰ Government response, *Recommendation 3*, p. 11.

¹¹ Dr Gary Lum, Principal Medical Officer, Department of Health, *Committee Hansard*, Canberra, 24 February 2020, p. 2.

¹² Government response, *Recommendation 3*, p. 11.

¹³ See Department of Health, Food Standards Australia New Zealand (FSANZ) Health Based Guidance Values for Per- and Poly-Fluoroalkyl Substances (PFAS) www1.health.gov.au/internet/main/publishing.nsf/Content/ohp-pfas-hbgv.htm viewed 19 February 2020.

¹⁴ Department of Health, FSANZ report on *Perfluorinated Chemicals in Food* www1.health.gov.au/internet/main/publishing.nsf/Content/ohp-pfas-hbgv.htm#final viewed 20 July 2020.

4.15 The Sub-committee investigated the differences between standards being proposed by the European Food Safety Authority (EFSA) in its current review¹⁵ and the less stringent safety levels set by FSANZ. Dr Lum explained:

... we understand from our colleagues in FSANZ that one of the [EFSA] recommendations is to look at grouping some of the PFAS chemicals into a proposed tolerable weekly intake. FSANZ does make it clear, though, in terms of comparisons between what FSANZ did and what the Europeans did, that the FSANZ approach was to examine all of the available evidence. It felt that, based on the quality of the evidence, the human epidemiological information was not of a sufficient quality, so it based its work on animal experiments, factoring in various conversion factors to equate to the human side of things. It also looked at specific pharmacokinetic modelling, whereas what the Europeans did was spent a lot of their effort on human epidemiological factors, and it used an end point of the serum cholesterol. So that would go to explaining why there are some differences in the levels, and it is a little bit confusing when one group goes from a tolerable weekly intake to a tolerable daily intake and you've got to look at it over the lifetime exposure.¹⁶

4.16 FSANZ has advised that it is currently undertaking monitoring of PFAS in the general food supply as part of the 27th Australian Total Diet Study. With food sampling completed in April 2020, the report is expected for publication in mid-2021.¹⁷ This may have implications for review of the HBGVs which, in turn, underpin safety guidance for exposure to PFAS in the environment.¹⁸

¹⁵ In early February 2020, EFSA opened public consultation on draft opinion which proposed a single group TWI of 8 ng/kg body weight per week for PFOA, PFNA, PFHxS and PFOS, based on effects observed in humans. The consultation closed April 2020. See EFSA, PFAS public consultation: draft opinion explained www.efsa.europa.eu/en/news/pfas-public-consultation-draft-opinion-explained viewed 10 June 2020.

¹⁶ Dr Gary Lum, Principal Medical Officer, Department of Health, *Committee Hansard*, Canberra, 24 February 2020, p. 8.

¹⁷ Department of Health, FSANZ work on perfluorinated compounds, December 2018, viewed 20 July 2020.

¹⁸ National Health and Medical Research Council (NHMRC), *Submission 6*, p. [1].

- 4.17 Asked about the potential to review the HBGVs for PFAS in the light of the EFSA opinions Dr Scott Crerar, General Manager, Science and Risk Assessment, advised that FSANZ would continue to review the science and monitor EFSA's opinions, however: 'It's not really our decision. It would be a health/environmental health decision'.¹⁹

Recommendations for human health research

- 4.18 As discussed in this report, the JSCFADT had called for ongoing investment in research to improve PFAS remediation technologies 'based on the extent of contamination and risk to human and environmental health in each area' (*Recommendation 1*, point 3). This focus intersects with the need for ongoing research to better understand the health impacts of PFAS substances, which is supported by Government.
- 4.19 In its first report, the Sub-committee reviewed evidence on the PFAS Health Study, which is being conducted at the Australian National University's National Centre for Epidemiology and Population Health.²⁰
- 4.20 The Government response advises that this epidemiological study was commissioned by the Department of Health to provide data for a longitudinal assessment of the localised impact of PFAS exposure on people who have lived and worked at or near in or near Williamtown, Oakey and RAAF Tindal near Katherine. The analysis was to be based on blood samples gathered under the free Government funded Voluntary Blood testing program (VBTP).
- 4.21 Initially offered to residents within the three investigation areas from November 2016, the program was later extended to Australian Defence Force members from December 2016. Access to the program was closed in April 2019,²¹ but extended by two months to June 2019, to allow the PFAS Health Study to progress to its next phase of assessment.²²

¹⁹ Dr Scott Crerar, General Manager, Science and Risk Assessment, FSANZ, *Proof Committee Hansard*, Canberra, 15 June 2020, p. 4.

²⁰ JSCFADT, Chapter 2, *Inquiry into PFAS remediation in and around defence bases – First report* December 2020 (hereafter *First report*, December 2019).

²¹ Australian Government, *Submission 64*, p. 16, see JSCFADT, *Inquiry into management of PFAS contamination in and around Defence bases*, December 2018, p. 68.

²² Government response, *Recommendation 4*, p. 13.

Extensions to blood testing

- 4.22 The JSCFADT report had discussed the poor uptake of the VBTP service, despite its delivery to affected communities free of cost. *Recommendation 4* called for the program to be extended in scope and availability to provide more data for a longitudinal assessment. Accordingly, it also proposed to improve community awareness of the program, simplify the testing process, extend the program to additional areas and to ensure comparability with international approaches.²³
- 4.23 In its first report, Sub-committee recognised that extended blood testing could also provide a measure of security for people in PFAS affected communities anxious to see evidence of progress in remediation efforts.²⁴
- 4.24 In discussion with Professor Martyn Kirk, Principal Investigator of the PFAS Health Study, the Sub-committee asked about the value of extending the blood testing program to support longitudinal assessment.²⁵
- 4.25 Professor Kirk advised that the VBTP had been expensive, up to \$500 a test. Dr Miranda Harris, Public Health Registrar with the study, advised that to date there were around two and a half thousand samples being assessed, the anticipated amount for the PFAS Health Study's evaluation. Given cost, the specificity of the chemicals and their extended half-life (from two to nine years depending on the chemical) they considered that, while there were some good overseas precedents, an extension of the program on research value would be a decision for government.²⁶
- 4.26 In its response to *Recommendation 4*, the Government reported on the cost of the program. It advised of commitments of \$55 million in the VBTP in 2016, of which \$14 million went to the Department of Health to provide community support packages to PFAS affected communities in Williamtown and Oakey. In December 2017, a further \$5.7 million was

²³ *Recommendation 4, JSCFADT, Inquiry into management of PFAS contamination in and around Defence bases*, December 2018, p. 74

²⁴ *First report*, December 2019, pp. 20–21.

²⁵ Professor Martyn Kirk, Principal investigator, PFAS Health Study, Australian National University (ANU) and Dr Miranda Harris, Public Health Medicine Registrar, ANU, *Committee Hansard*, Canberra, 25 November 2019, p. 8, and see *First report*, December 2019, Chapter 3, pp. 16–17.

²⁶ Professor Kirk, ANU PFAS Health Study, and Dr Miranda Harris, ANU, *Committee Hansard*, Canberra, p. 8, and see *First report*, December 2019, Chapter 3, pp. 16–17.

allocated for a community support package to those impacted by PFAS emanating from RAAF Tindall near Katherine.²⁷ These packages comprise:

- an Epidemiological Study to help us better understand the human health implications of exposure to PFAS
- a Voluntary Blood Testing Program for residents living in the investigation areas around the Williamtown, Oakey and Katherine bases
- a communications strategy focusing on the human health related aspects of PFAS, and
- dedicated mental health and counselling services to assist communities affected by PFAS contamination, including face to face, online and telephone counselling services.²⁸

4.27 In addition, the response emphasised that the support packages were offered on the basis of confirmed evidence of significant contamination:

Community Support Packages were offered to these communities because the extent of contamination and significant exposure pathways, such as contaminated drinking water, to a large proportion of the population were established and well understood.²⁹

4.28 As discussed in Chapter 3, submissions have highlighted the situation of residents living on properties contiguous to, but excluded from, formal support programs available to those on PFAS managed sites. This includes access to free blood testing which may also validate their claims for these supports.³⁰

4.29 The submission from the Hawkesbury Environment Network (HEN) refers to research indicating high levels of contamination in the Lowlands area near RAAF Richmond, which is prone to flooding. HEN reports that Defence has rejected requests to re-test soil and water after a recent flood and refused requests for community blood testing despite evidence of very high PFAS readings being found in local residents' blood.³¹ It maintains:

²⁷ Government response, *Recommendation 4*, p. 12

²⁸ Government response, *Recommendation 4*, p. 12

²⁹ Government response, *Recommendation 4*, p. 12.

³⁰ Hawkesbury Environment Network (HEN), *Submission 3*.

³¹ HEN, *Submission 3*, pp. [2, 3].

We believe free blood testing should be made available to our local residents who wish to have their blood tested. We need to document where we are at now and then have access to ongoing testing. As the Health industry discovers more and more about the effects of PFAS on the human body we do not want our local area to be ignored. The cost of undertaking the blood testing ourselves is cost prohibitive and having spoken to a phlebotomist in the area the cost should not be as high as it is based on the simplicity of the test compared to other blood tests. We believe we should be able to access the tests on Medicare in the same way as testing for lead in the blood can be undertaken through Medicare.³²

Targeted research grants

- 4.30 As discussed in Chapter 3, the Government has dedicated funds to support research into remediation technologies and over \$12.5 million in research to better understand the health impacts of PFAS exposure.³³
- 4.31 In response to *Recommendation 4* the Government advised that it had allocated \$11.7 million to fund a Targeted Call for Research on PFAS Substances which was being administered by the National Health and Medical Research Council (NHMRC).³⁴
- 4.32 In its submission, the NHMRC reported that it had formed a reference group of scientific experts and community members to set research objectives and provide local context for the research call which opened in late December 2019 and closed on May 2019. Applications were peer reviewed by an expert panel, with different membership from the Reference Group and with input from community representatives.³⁵
- 4.33 On December 2019, nine successful research proposals were announced. The NHMRC advised of the broad topics under investigation:
- Biological effects of PFAS exposure, molecular mechanisms, and biotransformation
 - Health outcomes of firefighters and the effect of PFAS on other health conditions

³² HEN, *Submission 3*, p. [3].

³³ Government response, *Recommendation 2*, p. 9.

³⁴ Government response, *Recommendation 4*, p. 13.

³⁵ National Health and Medical Research Council (NHMRC) *Submission 6*, p. [2].

- Exposure pathways, monitoring of exposure (including the use of biomarkers) and assessment of exposure controls.³⁶
- 4.34 Projects were awarded approximately \$11 million in total over five years.³⁷ The details of the recipients were posted on the NHMRC website.³⁸
- 4.35 At hearings Health's Dr Lum provided an overview of the selected projects, as follows:
- University of Sydney: systematic multidisciplinary approach to define the impacts, molecular mechanisms and ways to treat PFAS exposure.
 - Monash University: per- and poly-fluoroalkyl substance exposure and health outcomes in firefighters.
 - The University of Queensland: assessing effectiveness of PFAS exposure control in individuals from exposed communities and occupationally exposed cohorts such as firefighters.
 - University of Queensland project: comprehensive characterisation of the PFAS exposome.
 - University of Newcastle: utilising male fertility as a biomarker of health to understand the biological effects of PFAS.
 - University of South Australia: impact of exposure pathway and source on PFAS absorption and bioavailability.
 - University of Queensland: human exposure to PFAS and their precursors in the environment and their biotransformation processes.
 - Queensland University of Technology: human bio-monitoring of PFAS: assessing reliability and validity.
 - University of Newcastle: using advanced technologies to investigate the impact of PFAS exposure on the human mucosal barrier and interactions with pre-existing medical conditions.³⁹
- 4.36 The Sub-committee invited submissions on these and a number of other research projects. A focus in submissions received to date has been on the health impacts of high PFAS exposure on fire fighters.
- 4.37 Associate Professor Deborah Glass at Monash University advised of her team's NHMRC funded project to identify among firefighters whether:

³⁶ NHMRC, *Submission 6*, p. [2].

³⁷ NHMRC, *Submission 6*, p. [2].

³⁸ NHMRC, Outcomes of funding rounds www.nhmrc.gov.au/funding/data-research/outcomes-funding-rounds viewed 22 July 2020.

³⁹ As listed in evidence from Dr Lum, Department of Health, *Committee Hansard*, Canberra, 24 February 2020, p. 2.

- the risk of developing cancers, in particular bladder, renal and testicular cancer is associated with PFAS exposure from firefighter foams;
- the risk of death from major disease subgroups, such as liver, kidney and cardiovascular conditions is associated with PFAS exposure from firefighter foams; and
- whether there are exposure-response relationships for any identified increased risks.⁴⁰

4.38 The Sub-committee invited information on the Metropolitan Fire Brigade (MFB) and Macquarie University's PFAS Blood Trial. In its submission the Macquarie University advised:

This is a randomised, controlled trial of current and former Australian Firefighters in the Metropolitan Fire Brigade (MFB) and contractors, with previous occupational exposure to PFAS and elevated PFOS levels. The study investigates whether a simple intervention over 12 months (whole blood donation every 12 weeks or plasma donation every 6 weeks) might alter levels of PFAS in MFB staff's blood. The trial also includes an observation group.⁴¹

4.39 The United Firefighters Union of Australia (UFUA) provided background to this project in a detailed submission on the impacts of firefighting foams and other contaminants on firefighters. It notes that the MFB's PFAS Blood Study was a world first. The study assesses results on 275 MFB professional firefighters with 10 or more years' exposure to PFAS.⁴²

4.40 Further consideration will be given to submissions on research projects as part of the Committee's ongoing review of the effectiveness of remediation processes and on PFAS-related human and environmental health impacts. Other submissions discussing the need for mental health support and consideration of communication risk strategies to reduce community stresses are discussed below.

⁴⁰ Dr Lum, Department of Health, *Committee Hansard*, Canberra, 24 February 2020, p. 2.

⁴¹ Metropolitan Fire Brigade (MFB) and Macquarie University, PFAS clinical trial, *Submission 11*, p. 2.

⁴² United Firefighters Union of Australia (UFUA), *Submission 17*, p. 19.

Supports to PFAS affected communities

- 4.41 As previously noted, the Government in its response to *Recommendation 4*, for an extended blood testing program, advised that its VBTP packages not only involved commitments to support the epidemiological study and provide free blood testing in targeted communities, but also:
- a communications strategy focusing on the human health related aspects of PFAS, and
 - dedicated mental health and counselling services to assist communities affected by PFAS contamination, including face to face, online and telephone counselling services.⁴³
- 4.42 In response to JSCFADT's *Recommendation 6*, for free individual case and financial counselling for all those affected by PFAS contamination, the Government indicated that specialised services are not now offered, but may be accessed as part of supports provided to the Australian community generally. This includes mental health and financial counselling support services provided by Australian agencies and state and territories services.
- 4.43 The response also indicated that specific supports in two communities, Williamstown and Oakey, are being provided by Community Liaison Officers from the Department of Human Services. These officers support community engagement, link residents to services and facilitate coordination of government activities.⁴⁴

Communication management

- 4.44 In its first report, the Sub-committee recorded ANU PFAS Health Study findings that people in PFAS affected communities wanted certainty, in uncertain circumstances, which the Study found requires 'greater transparency and consistency in the information they received', and a focus on solutions and pathways forward.⁴⁵

⁴³ Government response, *Recommendation 4*, p. 12.

⁴⁴ Government response, *Recommendation 6*, p. 17.

⁴⁵ *First report*, December 2020, p. 42, ref: C Banwell, T Housen, K Smurthwaite, S Trevenar, L Walker, K Todd, M Rosas [Ngaigu-Mulu, Aboriginal Corporation, Katherine, NT, Australia], M Kirk, *The PFAS Health Study, Component One: Oakey, Williamstown and Katherine Focus Groups Study*, ANU, Report prepared for the Department of Health, February 2019, p. 6.

4.45 The Sub-committee noted in that review problems with communication over ostensibly practical matters, such as the official clearance status of investigated land. Also problematic to communities was the volume and complexity of much of the key guidance material on progress under PMAPs, and on health and food safety – things that affect people daily in their lives.⁴⁶

Communicating about health risks

4.46 As noted above, the Government has referred to its revised enHealth statement to indicate that it has met the requirements of *Recommendation 3*. Dr Lum acknowledged at hearings that the first statement had generated distress and confusion in PFAS affected communities:

We acknowledged, in listening to the community reference group, the concerns that they had, that, on the one hand, we had as an opening statement on much of our documentation that there was no evidence of any health effects, yet, on the other hand, further into some of our documentation we would describe some of the reported research and the potential for biological effects that might occur as a result of exposure to PFAS and associations rather than causations. That seemed to be a bit of a mismatch.⁴⁷

4.47 The Sub-committee received a submission focussing on the specific challenges and risks of communication about PFAS issues to the general public from Dr K Morphett, Associate Professors K Fielding, University of Queensland and A Roiko, Griffith University. Their submission reported findings of their multidisciplinary research project which evaluated the public's risk perceptions about PFAS.⁴⁸

4.48 The project, which was funded by the Queensland Alliance of Environmental Health Sciences (QAEHS) at the University of Queensland in 2017, had three objectives, to:

- examine the ways that health risks associated with PFAS exposure have been communicated to the public in Australia,

⁴⁶ *First report*, December 2020, p. 42.

⁴⁷ Dr Lum, Department of Health, *Committee Hansard*, Canberra, 24 February 2020, pp. 1–2.

⁴⁸ Dr Kylie Morphett, School of Public Health, Faculty of Medicine and Associate Professor Kelly Fielding, School of Communications and Arts, University of Queensland (UQ), with Associate Professor Anne Roiko, School of Medicine–Environmental Health, Griffith University. See Dr K Morphett, Assoc Profs K Fielding and A Roiko, *Submission 18*, p. 1.

- determine public awareness and knowledge about PFAS, and
- identify factors that may influence concerns about PFAS in the general public.⁴⁹

4.49 By way of context the submission observed that:

One of the key difficulties in communicating with the public and affected stakeholders about PFAS is scientific uncertainty about the health effects of exposure. Research on other controversial scientific topics has shown the public want to be informed about scientific uncertainty and that acknowledging uncertainty can increase the credibility of experts. In Australia, state and commonwealth government communication materials aimed at the public and affected communities have emphasised scientific uncertainty about the health effects of PFAS, but it is unknown how these communications might affect public concerns.⁵⁰

4.50 Their research yielded the following conclusions and recommendations, in summary:

- There has been substantial coverage of PFAS in the traditional news media which is where participants find information about the issue. It is important to continue to monitor the media in this area in order to understand how government health advice is being translated by the media, and what messages the public is receiving about PFAS.
- The media is an important way for members of affected communities to have their voice heard. With a reduction in the number of regional news sources in Australia... It is important that communities that have higher levels of exposure than the general population have avenues for communicating their concerns and wishes.
- Queenslanders indicated that the most trusted sources of information about PFAS were the Australian Medical Association, the Queensland and Commonwealth Departments of Health, and the Queensland Department of Environment and Heritage. Including the most trusted organisations and communicators in communications strategies is recommended.
- Scientists working in the area of PFAS were the least likely sources to be quoted in the media. It is unknown if...they are not being approached by journalists, or...decide not to contribute. The development of closer relationships between

⁴⁹ Dr K Morphett, Assoc. Profs K Fielding and A Roiko, *Submission 18*, p. 1.

⁵⁰ Dr K Morphett, Assoc. Profs K Fielding and A Roiko, *Submission 18*, p. 1.

government officials, journalists and scientists that work in this area would be worthwhile.

- More research on how best to communicate about the risks of PFAS to those most at risk of exposure would be beneficial... It is important that once these findings about PFAS and health become more conclusive, they can be communicated in ways that are acceptable and understandable. Pilot testing is a key step in the development of effective health communications, and should be conducted where possible, prior to releasing messages about PFAS and health.
- It is important to monitor what health officials in other countries are telling their populations. The media often report on conflicting health advice between countries... It is important that Australian health advice acknowledges and explains any differences in health advice or actions, as conflicting health advice can lead to the development of distrust and anxiety.⁵¹

Community information and awareness

- 4.51 The Department of Defence has emphasised its commitment to keeping affected communities informed about the progress of remediation work under PMAPs and related issues. At hearings in December 2019, representatives advised of 137 separate community engagements held, 'with more to come'.⁵²
- 4.52 At hearings at that time, the Committee had also investigated with Defence concerns about the quality and nature of these community consultations at RAAF Richmond. Defence referred to its presentation on the final investigation and PMAP for the site to the community and its commitment to ongoing monitoring, which involved a high level responsiveness and accountability to community concerns.⁵³
- 4.53 In its submission the HEN, which also represents the Hawkesbury PFAS Community Network for Richmond RAAF, referred to information sessions held in October and August 2019. HEN reported on the volume of information provided by Defence, indicating that the observations made on this in the Sub-committee's first report are still relevant. HEN stated:

⁵¹ Dr K Morphet, Assoc. Profs K Fielding and A Roiko, *Submission 18*, pp. 7–8.

⁵² Mr Steven Grzeskowiak, Deputy Secretary, Estate and Infrastructure, Department of Defence, *Committee Hansard*, 2 December 2020, p. 2.

⁵³ Mr Christopher Birrer, First Assistant Secretary, Department of Defence, *Committee Hansard*, Canberra, 2 December 2019, p. 9.

'we believe better (not more) information is needed. Defence have inundated us with information to the point that there is no clear advice'.⁵⁴

- 4.54 The communication style in PFAS information sessions was also a problem with no real consultation on the plan's management:

There was no community consultation prior to the plan being released. Defence held an 'Information session' for the community. It was not well advertised and the way we were expected to get information on the management plan was through a continual automated power point display. People could not ask questions on the management plan with no ability to read it at the session. Since the session we have ploughed our way through the plan and two stark points were the result. Defence only plans to remediate the Base property. And individual landowners are expected to approach defence to have their land remediated. There is no information how to do this and no one is paying costs except landowners themselves.⁵⁵

- 4.55 HEN advised that the lack of support extends to provision of adequate signage and local advice to affected residents, including many residents of non-English speaking backgrounds, about the risks of high level exposure in land near the Defence base. HEN states:

If it were not for our local community group forming to inform the community, many more people would be unaware of PFAS being a serious issue in this area. It has been left to our community volunteers to undertake informing the community without any budget.⁵⁶

Mental health supports

- 4.56 As noted above, residents in Williamstown, Oakey and Katherine had access to special mental health counselling and telephone support services under the Government's Voluntary Blood Testing Program packages. The Committee was told these services ended in June 2019 (with the VBTP).
- 4.57 The Government's response states that Community Liaison Officers from the Department of Human Services now link community members to

⁵⁴ HEN, *Submission 3*, pp. [3-4].

⁵⁵ HEN, *Submission 3*, p. [3].

⁵⁶ HEN, *Submission 3*, p. [2].

available supports. The response also notes that information about the support services offered will also be delivered by relevant agencies – Department of Defence, the Department of Infrastructure, Transport, Cities and Regional Development, and the PFAS Taskforce, which will ‘use established communication channels and consider any additional opportunities to provide advice on these matters’.⁵⁷

- 4.58 At hearings in February 2020, the Sub-committee had asked the Department of Health about access and ongoing availability of dedicated mental health support services.⁵⁸ The Department subsequently confirmed (in April 2020) that Williamstown, Oakey and Katherine continue to have access to ‘funded dedicated mental health and counselling services’. These support services can be accessed by contacting the local Primary Health Networks (PHNs), or visiting a General Practitioner (GP) for a referral to a mental health support service.⁵⁹
- 4.59 The Department further advised that, under current funding agreements, the three relevant PHNs are funded to provide mental health and counselling services for Williamstown, Oakey and Katherine until 30 June 2021. As shown on the table opposite, data provided on the take up of services through the PHNs (at 31 December 2019) indicates that there is a need for these supports.⁶⁰
- 4.60 In the table, the very low comparative take up at Katherine, in both clients and services offered, is explained in the submission by services there starting one year later than the other communities (under the VBTP support package).⁶¹

⁵⁷ Government response, *Recommendation 6*, p. 17.

⁵⁸ Dr Gary Lum, Principal Medical Officer, Department of Health, *Committee Hansard*, Canberra, 24 February 2020, p. 2.

⁵⁹ Department of Health, *Submission 5 – Answers to Questions on Notice (AQoN) Question 1 (a)*, p. 1.

⁶⁰ Department of Health, *Submission 5 – AQoN, Question 1 (a), Table*, p. 1.

⁶¹ Department of Health, *Submission 5 – AQoN, Question 1 (a)*, p. 1.

Table 2 Mental health services take up—December 2019

	Williamstown	Oakey	Katherine	Total
<i>Number of Clients</i>	387	127	3	517
<i>Number of Sessions *</i>	1554	377	4	1935

*Sessions charged to PHN

- 4.61 In its first report the Sub-committee cited information provided by the ANU's PFAS Health Study on the results of its Community focus group surveys. These, members were advised, provided a mental health 'snapshot' of different communities at a point in time and how their feelings and experiences changed over time. Longitudinal assessment of these changes was not however planned in the study.⁶²
- 4.62 The Sub-committee received a submission from a multi-institutional team of experts in population, physical and mental health.⁶³ In the submission, the project team highlights the need for a holistic remediation response to the impacts of PFAS on the mental and physical health of affected communities, which can be cumulative over time.⁶⁴ These include anxiety, uncertainty and a feeling of being 'stuck' in an unresolvable and [literally] toxic situation.⁶⁵ Residents can be further destabilised by feelings of powerlessness in their engagement with government agencies involved in remediation work, and the impacts of information programs that are not strategically targeted to meet the particular needs of individual communities.⁶⁶ In addition there is a breakdown of community cohesion,

⁶² Professor Kirk, PFAS Health Study, ANU, *Committee Hansard*, Canberra, p. 8.

⁶³ ANU: Professor Cathy Banwell, Research School of Population Health, College of Health and Medicine and Prof. Philip Batterham, Centre for Mental Health Research; University of Newcastle: Dr Kathryn Taylor MD, Associate Prof. Craig Dalton MD, Prof. Will Rifkin, Hunter Research Foundation Centre, with associates in UQ and the University of Griffith. See PFAS communities, risk communication and mental health—ANU and University of Newcastle, *Submission 12*, p. 1.

⁶⁴ PFAS communities, risk communication and mental health—ANU and University of Newcastle (UoN)*Submission 12*, p. 4.

⁶⁵ PFAS communities, risk communication and mental health—ANU and UoN, *Submission 12*, p. 2.

⁶⁶ PFAS communities, risk communication and mental health—ANU and UoN, *Submission 12*, p. 4.

due to the different interests of local industries and social groups in response to the contamination.⁶⁷

- 4.63 Despite this, and in contrast to ANU's finding on the volume of work on physical health and PFAS, the Project team's literature review revealed nothing on the mental health impacts of PFAS contamination. The submission further notes that none of the nine NHMRC PFAS research grants went to mental health research projects.⁶⁸
- 4.64 The Project team agrees for adoption of a longer term focus on community level impacts of PFAS and use of participatory approaches to better 'inform, consult, involve, collaborate, and empower' family and community resilience. To support this the submission recommends for:
- Long-term studies of mental health impacts of PFAS contamination in high profile communities, such as Oakey, Katherine and Williamtown;
 - Employing partnerships of researchers, public health practitioners and community members to develop understanding of physical health risks and to enable the creation, piloting and implementation of tools to address socio-economic and mental health impacts;
 - Establishment of a program of research and application directed at the nexus of environmental health, community mental health and socio-economic wellbeing to address the legacies of PFAS contamination.⁶⁹

Compensation claims

- 4.65 *Recommendation 5* of the JFSCFADT report called on Government to assist property owners and businesses affected by PFAS by offering compensation 'for quantified financial losses' and prioritised this according to the impact from the loss: of intended land use; by investment in land affected by PFAS prior to public announcements; those in the most highly contaminated areas.⁷⁰

⁶⁷ PFAS communities, risk communication and mental health – ANU and UoN, *Submission 12*, pp. 2–3.

⁶⁸ PFAS communities, risk communication and mental health – ANU and UoN, *Submission 12*, p. 4.

⁶⁹ PFAS communities, risk communication and mental health – ANU and UoN *Submission 12*, p. 5.

⁷⁰ Government response, *Recommendation 5*, p. 15.

- 4.66 The recommendation also indicated that any successful property-based claim should not preclude future claims relating to human health impacts attributable to PFAS exposure as a result of research.⁷¹
- 4.67 The Government response 'noted' this recommendation in a reply which for the most part outlines the framework for management of PFAS site investigation and remediation work.⁷² This, with commitments to review health advice on the basis of expert advice and to monitor international developments, aims to confirm the probity of Defence's policy response and promote confidence in it.⁷³
- 4.68 The specific response to the recommendation for compensation advises:
- It is open to any individual or business who believe they have suffered loss or damage, as a consequence of Government activities, to submit a legal claim directly to the relevant agency or Department.
- The Government supports the just resolution of legal claims by agreement, not litigation, where appropriate. All legal claims are handled in accordance with the Attorney-General's Legal Services Directions 2017 (Cth).⁷⁴
- 4.69 When the JSCFADT reported in December 2018 class actions had been raised against Defence on behalf of affected businesses and individuals in the Oakey, Williamtown, and Katherine investigation areas. At September 2018 there were also 37 non-litigated claims lodged with Defence for compensation. Of these 19 related to Williamtown. Only two and two partial claims had been assessed at that time.⁷⁵

⁷¹ This includes an overview of the its PFAS investigation and management process, and the health advice that PFAS affected communities should minimise exposure to contaminants while health impacts are verified, and a commitment to national and international cooperation on PFAS related matters and to ensure PFAS-related actions are international best practice. See Government response, *Recommendation 5*, pp. 15–16.

⁷² Government response, *Recommendation 5*, p. 15.

⁷³ Government response, *Recommendation 5*, p. 16.

⁷⁴ Government response, *Recommendation 5*, p. 16.

⁷⁵ Department of Defence, *Submission 64.1*, p. 1, Inquiry in Management of PFAS Contamination in and around Defence Bases, and see JSCFADT PFAS contamination inquiry report, December 2018 p. 92.

- 4.70 A landowner in Oakey was the first to reach a compensation agreement with Defence over PFAS contamination of groundwater on his property which adjoins the Army Aviation Centre Oakey. At that time, in March 2019, there were 45 claims for compensation lodged with Defence.⁷⁶
- 4.71 In March 2020, documents released by the Federal Court indicated that that \$92.5 million would be paid under successful class actions litigated by Shine Lawyers to residents of Katherine in the Northern Territory. A further \$86 million would be awarded to residents in Williamstown in NSW and \$34 million to residents of Oakey, Queensland.⁷⁷
- 4.72 In April 2020 Shine Lawyers announced it had launched another class action for 40 000 in residents in Wodonga, Darwin, Townsville, Wagga Wagga, Edinburgh and Bullsbrook, the largest claim in Australian history.⁷⁸
- 4.73 As discussed above, one consequence of this has been that PFAS has become a known chemical which much of the community understands to be harmful. The UFUA referred to increasing media coverage in the print media in recent months which indicates that the presence and profile of PFAS is better understood by the general public, including in relation to:
- Successful PFAS class action settlement for Williamstown residents;
 - Successful PFAS class action settlement for Katherine residents;
 - PFAS-contaminated soil in the West Gate Tunnel project;
 - PFAS contamination in Dubbo water;
 - Emerging PFAS research abroad;
 - PFAS testing at Launceston Airport;
 - Potential class actions arising from PFAS contamination at other defence sites (HMAS Albatross and Jervis Bay Range).⁷⁹

⁷⁶ ABC News, 'PFAS compensation settled for Oakey landowner in Australian first', 27 March 2019 www.abc.net.au/news/2019-03-27/australias-first-pfas-compensation-settled/10944048 viewed 17 July 2020.

⁷⁷ C Fellner, Herald Investigation: 'Millions to flow in toxic foam win', *Sydney Morning Herald* (SMH) 12 March 2020, viewed 17 July 2020.

⁷⁸ C Knaus, New class action launched over toxic firefighting chemicals used by Defence, *The Guardian*, 16 April 2020 theguardian.com/australia-news/2020/apr/16/new-class-action-launched-over-toxic-firefighting-chemicals-used-by-defence viewed 17 July 2020.

⁷⁹ Citing, for example, articles published in the print media over the month of May 2020, see United Fighter Fighters Union of Australia (UFUA), *Submission 17*, p. 24.

- 4.74 Some community organisations writing to the Sub-committee have expressed concerns that despite the Commonwealth's responsibility as 'polluter' on Defence sites, the magnitude of issues arising outside these parameters is supporting a 'hands off' approach by governments at all levels.⁸⁰
- 4.75 In review of the Government's response, the Coalition against PFAS (CAP) remained concerned that 'State and Federal Government have no coherent policy to the management of PFAS contamination'. CAP concluded: 'The current approach to PFAS management nationally is being played out in our courts, not being driven by our Parliament.'⁸¹
- 4.76 HEN's submission highlighted the tensions between state and territory obligations and those of the Commonwealth:

The EPA has a policy that the 'Polluter pays'. The EPA NSW has clearly stated that Defence is the Polluter of the Hawkesbury and that Defence is responsible, but our community has not experienced this policy in action...No claim has been dealt with in fact the claims once submitted seem to sit in a 'too hard' box and residents hear nothing more about their claims after initially being informed that the claim has been received.

At no time have we, as stakeholders in this matter, been included in a discussion for a viable solution and remediation compensation. We have not been told about how Defence will monitor the contamination in this area.⁸²

Committee comment

- 4.77 The Committee notes that communities in PFAS-affected areas remain concerned about the Government's management of health and environmental issues, and the delayed implementation of the JSCFADT's nine report recommendations.
- 4.78 In its response to the JSCFADT's *Recommendation 3* the Government endorsed the need for review of the health opinion. The Sub-committee in this chapter has noted the significant investment in research that has been

⁸⁰ Committee terminology, see Coalition against PFAS (CAP) *Submission 8* and HEN *Submission 3*.

⁸¹ CAP, *Submission 8*, pp. [2, 4].

⁸² HEN, *Submission 3*, p. [3].

made to date to clarify and address the potential health impacts of PFAS. This includes work being done under the ANU's PFAS epidemiological study, which was reviewed in the Sub-committee's first report, and the funds provided to the National Medical Health Research Council for its PFAS special grant scheme.

- 4.79 The ANU PFAS Health Study results are now delayed until mid-2021 due to the COVID-19 response;⁸³ the NMHRC research work will be ongoing for five years. During this time Food Standards Australia New Zealand (FSANZ) will be monitoring and reviewing the food safety standards which underpin PFAS regulatory frameworks. As the PFAS Health Study's Professor Kirk advised, there is an enormous volume of research work being done on the possible health impacts of PFAS internationally.⁸⁴ This includes the ongoing review of tolerable daily intake levels (TDIs) for PFAS by the EFSA and other international bodies.
- 4.80 The Committee has concerns about the disparity between the PFAS TDIs under consideration by EFSA and those less stringent standards set by FSANZ for our region. The Committee will keep a watching brief on domestic and international developments in this area during its progress review.
- 4.81 With this work in train, the Committee considers that the Government's review of enHealth guidance highlighted in the response to *Recommendation 3* is counterproductively modest. As suggested by experts cited in this chapter, lack of clear and accurate health advice hinders understanding of the nature and risks of PFAS and its remediation, and may also incite confusion and stress in the broader community.
- 4.82 The Government's response to *Recommendation 4*, for extended blood monitoring, explains the purpose and context of the testing: to provide samples for research on exposure levels and associated impacts, and to inform the wider national response. The ANU PFAS Health Study also indicated that extended blood testing was not scientifically beneficial, unless long term, carefully designed and backed by Government. Some VBTP community support programs however are ongoing for residents at Williamtown, Oakey and Katherine who may access a dedicated mental health program through a GP or public health network until mid-2021.

83 Due to the COVID-19 response, see PFAS Health Study at rsph.anu.edu.au/research/projects/pfas-health-study viewed 6 August 2020.

⁸⁴ *First report*, December 2019, p. 9.

- 4.83 As discussed in this review, the response to *Recommendation 6*, for counselling and supports, seems inadequate given the level of need on the ground. As shown by research, people in PFAS affected communities experience the same psychosocial impacts as those affected by natural disasters such as bushfires – loss of home, income and community. Accurate information reduces confusion and supports community cohesiveness; access to appropriate mental health supports may reduce depression and the risk of suicide.

Recommendation 5

The Committee recommends that the Government review its local information and broader media strategy to ensure information on PFAS related matters is factual, cites trusted sources, and is well targeted to inform specific audiences about priority issues and concerns.

Recommendation 6

The Committee recommends that the Government adopt participatory approaches to improve collaboration and involvement with the community.

Recommendation 7

The Committee recommends that the Government should fund research to better understand the mental health impacts of living with PFAS contamination and related human made disasters to better inform Government services and supports.

Recommendation 8

The Committee recommends that the Government should provide all people affected by PFAS with mental health supports and counselling services, with a dedicated link and a phone contact on the PFAS website for accessing these services, and regular updates provided in affected communities about what services are available.

- 4.84 Finally, in its response to *Recommendation 5*, for compensation to affected communities, the Government indicates that it has met its responsibilities to people in PFAS affected communities by addressing the impacts of PFAS through remediation work. It notes in addition, that any compensation claims made will be dealt with individually by settlement.
- 4.85 The growing number and size of the class actions being launched may be considered to indicate that current remediation efforts are not adequate compensation to PFAS affected communities for the losses incurred.
- 4.86 Communities remain concerned about a lack of commitment from the Government to providing compensation for property owners for losses resulting from contamination.
- 4.87 Some submitters to this inquiry seem to feel they have fallen through the cracks in the system. One contributor is the disjuncture between federal and state/territory responsibilities which leads to the conclusion, as one submission put it, that government is relinquishing responsibility for some affected communities to the courts.
- 4.88 Given recent discussion in the media, based on the release of Federal Court advice, claimants are paying enormous amounts to fund the costs of class actions out of successful claims won from the Commonwealth. In the case of Williamstown,⁸⁵ these amounted to nearly half the total amount awarded. This seems a poor economy.
- 4.89 In the light of this, the Sub-committee is seeking more information from the Department of Defence about the current number of litigated and non-litigated cases received, their claim status, and the costs to the Commonwealth of their resolution to date. This may inform further scrutiny of this matter in future reviews.

⁸⁵ Federal Court of Australia, Notice As to Proposed Settlement of the Williamstown PFAS Contamination Class Action, NSD 1908 of 2016 Settlement Notice 1, see www.fedcourt.gov.au/law-and-practice/class-actions/class-actions/documents viewed 21 July 2020.

Recommendation 9

The Committee recommends that the Government prioritise assisting property owners and businesses in affected areas through compensation for financial losses associated with contamination emanating from Defence bases, including the possibility of buy-backs.

National and international standards setting

- 5.1 In the 45th Parliament the JSCFADT had identified a ‘lack of coordination, both between portfolios and between jurisdictions’ in delivery of the national response to PFAS.¹ *Recommendation 1* of the inquiry report called for leadership to ensure effective coordination of effort in partnership with the States and Territories.
- 5.2 This effort would be underpinned by a robust national regulatory framework governing environmental and health safety standards. The introduction of laws restricting the use of PFAS chemicals would contain the problem in the future, as would Australia’s ratification of international instruments supporting that goal.²
- 5.3 *Recommendations 7 to 9* of the JSCFADT report accordingly proposed that the Government:
- Ban the use of and destroy PFAS based fighting foams (including PFOS, PFOA and PFHxS), restrict the use of shorter chain PFAS-based foams, and promote PFAS free alternatives (*Recommendation 7*).
 - Urgently ratify the listing of PFOS and expedite the process for PFOA and PFHxS in the event that they are listed under the Stockholm Convention on Persistent Organic Pollutants (*Recommendation 8*).
 - Initiate an independent review of environmental regulation of Commonwealth land to cover contamination emanating from these

¹ JSCFADT, *Inquiry into management of PFAS contamination in and around Defence bases*, December 2018, p. 125.

² JSCFADT, *Inquiry into management of PFAS contamination in and around Defence bases*, December 2018, p. 129.

sites, and evaluate the utility of establishing a Commonwealth Environment Protection Agency (*Recommendation 9*).

- 5.4 This chapter considers the Government's response to these recommendations and assesses progress made to date towards a national standard against these measures.

A national framework for PFAS regulation

- 5.5 This report has outlined the significant commitments made by the Government to progress remediation of PFAS affected Defence sites in accordance with national and state and territory-based requirements. This includes investment in research which may significantly reduce PFAS-related impacts on human and environmental health.

- 5.6 The key regulatory documents pertaining to this work are listed on the PFAS website, as follows:

- The *PFAS National Environmental Management Plan (NEMP)* – provides a consistent, practical, risk-based framework for the environmental regulation of PFAS-contaminated materials and sites.
- *The Intergovernmental Agreement on a National Framework for Responding to PFAS Contamination* – provides specific guidance on actions at PFAS contaminated sites. Any contaminated site investigation in Australia should be conducted in accordance with the *National Environment Protection (Assessment of Site Contamination) Measure*.
- *The National Industrial Chemicals Notification and Assessment Scheme (NICNAS)* – helps protect people and the environment by assessing the risks of industrial chemicals. NICNAS assessments inform decisions made by a wide range of government agencies involved in regulating the control, use, release and disposal of industrial chemicals.³

- 5.7 The JSCFADT's *Recommendation 7* called on the Government to work towards banning PFAS chemicals and, in transition, to restrict their uses including by using PFAS free alternatives. *Recommendation 8* aimed to consolidate this commitment by ratifying and expediting the banning of

³ Regulatory Guidance, *PFAS website* www.pfas.gov.au/government-action/regulatory-guidance viewed 18 July 2020.

PFAS substances, and *Recommendation 9* to embed this in a nationally consistent framework for environmental protection.

- 5.8 The Government's response highlights the interaction of the key mechanisms set out above and the importance of their ongoing review to effect a coordinated transition towards these goals.

National Standard for Environmental Risks Management of Industrial Chemicals

- 5.9 Prior to 1 July 2020, the National Industrial Chemicals Notification and Assessment Scheme (NICNAS) carried responsibility for standard setting in relation to the use and disposal of PFAS.⁴
- 5.10 The Government's response refers to recommendations made by the NICNAS which guide industry, states and territories under current laws pending introduction of the *National Standard for Environmental Risks Management of Industrial Chemicals*.⁵ The response advises:

Work on framework legislation to establish the National Standard is currently underway. It will address a gap in environmental regulation of industrial chemicals and provide assurance that environmental risks are managed. The National Standard will be implemented by each jurisdiction, including the Australian Government in Commonwealth areas. All Australian governments have agreed to implement the National Standard in accordance with a national implementation plan. Implementation arrangements in jurisdictions will give effect to the standards set under the framework legislation.⁶

⁴ The Australian Industrial Chemicals Introduction Scheme (AICIS) replaced NICNAS as the new national regulator of the importation and manufacture of industrial chemicals in Australia from July 1, see discussion below and DAWE, *Transition from NICNAS to AICIS* www.industrialchemicals.gov.au/transition-from-nicnas-to-aicis viewed 19 July 2020.

⁵ Australian Government, *Whole of Australian Government response to the report of the JSCEADT: inquiry into the management of PFAS contamination in and around Defence bases*, Department of Agriculture, Water and Environment (DAWE), 20 February 2020 (hereafter Government response), *Recommendation 2*, pp. 6–10; *Recommendation 7*, pp. 18–19.

⁶ Government response, *Recommendation 7*, p. 19.

- 5.11 In its review, the Sub-committee wanted to establish progress being made in the finalisation of these important mechanisms. Asked about the status of the National Standard in February this year, the Department of Agriculture, Water and the Environment (DAWE) advised that a draft bill was at that time out for public consultation.⁷ Consultation on the draft bill package closed soon after on 21 February 2020.⁸
- 5.12 According to the DAWE website the legislation is expected to be introduced by mid-year, with drafting and enactment of state and territory implementing legislation to be finalised by the end of 2020. From 2022 the Standard is intended to be in full operation in all jurisdictions.⁹

NEMP2.0

- 5.13 The Government response describes the role of the NEMP as follows:

The PFAS NEMP establishes nationally consistent environmental guidance and standards for managing PFAS contamination and waste management of PFAS of concern (including PFOS, PFOA and PFHxS). It provides information on recommended approaches to storage, transport and waste management, including landfill disposal and destruction, of PFAS contaminated materials and wastes (including PFAS-containing products). The PFAS NEMP is implemented by individual jurisdictions through their own regulatory mechanisms.¹⁰

- 5.14 In its first report the Sub-committee followed progress of the revised NEMP 2.0, which was released for comment in March 2019.¹¹ This second

⁷ Mr James Tregurtha, First Assistant Secretary, Department of Agriculture, Water and the Environment (DAWE), *Committee Hansard*, 10 February 2020, pp. 5–6

⁸ DAWE, *Submission 2 – Answers to Questions on Notice (AQoN)* p. 1. The consultation on the Industrial Chemicals Environmental Management (Register) Bill and supporting legislation opened on 20 January 2020 and attracted 11 submissions see ‘Consultation on draft legislation for the National Standard for Environmental Risk Management of Industrial Chemicals’ www.environment.gov.au/protection/chemicals-management/national-standard/draft-legislation viewed 18 July 2020.

⁹ DAWE, National Standard for Environmental Risk Management of Industrial Chemicals www.environment.gov.au/protection/chemicals-management/national-standard#text-alt, viewed 19 July 2020.

¹⁰ Government response, *Recommendation 7*, p. 19.

¹¹ JSCFADT, *Inquiry into PFAS remediation in and around defence bases – First report* December 2019,

version aimed to address ‘urgent priorities’ for standardised environmental values and new guidance on soil reuse, wastewater management and storage and containment.¹² In December 2019 Defence advised that the NEMP2.0 had undergone the final phases of revision and had been agreed by the heads of Environmental Protection Agencies (EPAs) in October 2019.¹³ The Government response confirmed that agreement but gave no timeline for introduction of the revised framework.¹⁴

5.15 In February 2020, the Sub-committee followed up with DAWE about prospects for implementation of the revised NEMP 2.0, which seemed to be delayed. DAWE advised about the breadth of the consultation among the states and territories and the detail to be worked through to gain agreement.¹⁵

5.16 DAWE’s Mr Anthony McGregor reported on the role of the NEMP as standards are revised by the National Chemicals Working Group and the National Health and Medical Research Council (NHMRC):

The NEMP is the mechanism for bringing together a range of those pieces of work. The National Chemicals Working Group is basically the working group across jurisdictions that does a lot of the work to feed into the NEMP and review the new content. The work on revised soil criteria is one of the pieces of work that will feed into the next version of the NEMP. The other thing that the NEMP does is pick up, capture and provide some explanatory information on other pieces of guidance like the NHMRC, which you referred to. As, periodically, guidelines relevant to PFAS are updated or revised, new versions of the NEMP will pick that up

p. 42 (hereafter *First report*, December 2019).

¹² The NEMP2.0 consultation was managed by EPA Victoria – see *First report*, December 2019, p. 33 and Government response, *Recommendation 2*, p. 10; *Recommendation 7*, p. 19.

¹³ Mr Luke McLeod, Assistant Secretary, PFAS Investigation and Management, Department of Defence, *Committee Hansard*, Canberra, 2 December 2019, p. 6.

¹⁴ Government response, *Recommendation 7*, p. 19.

¹⁵ Mr Anthony McGregor, Assistant Secretary, Chemicals Management Branch, and Dr Sarah Broomhall, Chemicals Advice and Policy Section, DAWE, *Committee Hansard*, Canberra, 10 February 2020, pp. 6–7, 8.

and provide guidance and instruction on how to apply that in a site remediation context.¹⁶

- 5.17 The Sub-committee notes that the DAWE website now states that the revised NEMP was published in April 2020, and has superseded the first version.¹⁷

Industrial Chemicals Act 2019

- 5.18 Another important change for the regulatory framework was the introduction of the new *Industrial Chemicals Act 2019* on 1 July 2020.¹⁸ Under this legislation the Australian Industrial Chemicals Introduction Scheme (AICIS) replaced NICNAS as the new national regulator of the importation and manufacture of industrial chemicals in Australia.¹⁹
- 5.19 The Government's response advised that the Executive Director of the ACIS will now have the power to initiate an investigation of an industrial chemical at any time, with powers to prohibit use of a chemical at any time:

As an outcome of an evaluation, the Executive Director of AICIS may vary the terms of, or cancel, the listing of a chemical on the Australian Inventory of Industrial Chemicals, 2 or vary the terms of, or cancel, an assessment certificate.²⁰

Phasing out PFAS

- 5.20 The Government response to *Recommendation 7* and *8* provides updates on the progress of promoting PFAS free alternatives to PFAS based firefighting foams within Australia and moves for ratification of the listing of PFOS under the *Stockholm Convention on Persistent Organic Pollutants*.

¹⁶ Mr McGregor, DAWE, *Committee Hansard*, Canberra, 10 February 2020, p. 7.

¹⁷ DAWE, NEMP www.environment.gov.au/protection/publications/pfas-nemp viewed 22 July 2020.

¹⁸ Government response, *Recommendation 7*, p. 19.

¹⁹ DAWE, Transition from NICNAS to AICIS www.industrialchemicals.gov.au/transition-from-nicnas-to-aicis viewed 19 July 2020.

²⁰ Government response, *Recommendation 7*, p. 19.

- 5.21 In its response to *Recommendation 7*, the Government noted that Defence is phasing out use of PFAS firefighting foams, now deploying a more environmentally safe product called Ansulite in high risk fire situations. Defence has also changed firefighting and trial procedure to ensure release of firefighting foam into the environment is minimised and that any release 'is captured and treated and/or disposed of at licensed waste disposal'.²¹
- 5.22 At hearings in December 2019, the Sub-committee asked about the phasing out of PFAS-based foam by Defence. Deputy Secretary Mr Steve Grzeskowiak explained that Ansulite is not a long-term solution:
- While that product doesn't have PFOS and PFOA put into it when it's made, it still would have other chemicals from the PFAS family unit. So it's not a fluorine free foam... We are now running a quite advanced piece of work looking for the next foam product we can go to. The world has moved on. There are probably foams out there now that are completely fluorine free that will be able to meet the task of doing what we need to do with these products. So we do say we've stopped using the product that had that PFOS and PFOA, but Ansulite does have fluorinated products in it.²²
- 5.23 The response advised that this alternative product may be introduced over 2020, also noting that Airservices Australia has not used PFAS foams in any civilian airport since 2010. The response nevertheless concludes that: 'It is likely that to support Defence capability needs, some PFAS-containing foams will continue to be used within Defence until certified alternatives to existing firefighting foams become available'.²³
- 5.24 *Recommendation 8* of the JSCFADT report called on Government to 'urgently ratify' the Stockholm Convention listing of PFOS, and further to expedite the ratification of PFOA and PFHxS in event of their listing. In its report the Committee had noted that this measure had broad support among submitters to the inquiry and yet, despite this support, it had been 'more than nine years since PFOS was initially listed under the Convention'.²⁴

²¹ Government response, *Recommendation 7*, p. 20.

²² Mr Steve Grzeskowiak, Deputy Secretary, Estate and Infrastructure, Department of Defence, *Committee Hansard*, 2 December 2019, p. 7.

²³ Government response, *Recommendation 7*, p. 20.

²⁴ JSCFADT, *Inquiry into management of PFAS contamination in and around Defence bases*, December

5.25 In its response the Government explains that Australia, unlike other most other convention parties, chose to be an 'opt-in' party. This means that it enters a domestic treaty making process to determine whether to ratify any amendments to the Convention, which includes any new chemical listings.²⁵ It further advises that progress towards the National Standard will provide the foundation for ratification to meet the specific obligations for the management of those chemicals under the Stockholm Convention in a nationally consistent framework, noting:

The Australian Government, and state and territory governments, have undertaken extensive consultation on the National Standard over the past five years. Governments are continuing targeted consultation with affected stakeholders, industry and governments to ensure a robust regulatory framework. The Australian Government is working to bring forward framework legislation for consideration by the Parliament as soon as possible.²⁶

5.26 The Sub-committee asked the DAWE about the timeframes it anticipated for Australia to advance its ratification. Mr Tregurtha confirmed the finalisation of the National Standard will enable Australia to ratify the chemicals indicated. He noted however that ratification of any chemical would need to be approved by Government and the Minister.²⁷

5.27 In Chapter 3, the Sub-committee reported advice from the Queensland Government that it had introduced the first legislation banning the use of PFAS based fire-fighting foams in Australia. The submission advised:

On 7 July 2016, in the absence of Australian ratification of the Stockholm convention, the Department of Environment and Science (DES) introduced the Environmental Management of Firefighting Foam Operational Policy and provided a 3 year transition period for firefighting foam users to comply with the

2018, p. 149.

²⁵ New Zealand, by contrast, elected to be an 'opt-out' country. This means that the listing of PFOA automatically comes into effect in December 2020, with amendments to legislation supporting this currently being drafted. See FSANZ, *Submission 14 – AQoN*, p. 1.

²⁶ Government response, *Recommendation 8*, p. 21.

²⁷ Mr Tregurtha, DAWE, *Committee Hansard*, Canberra, 10 February 2020, p. 5.

policy. As of 7 July 2019, all persons in Queensland are expected to have fully complied with the policy.²⁸

- 5.28 The Queensland DES explains that the *Environmental Protection Act 1994* (Qld) is not a legislative requirement but a policy which ‘clearly articulates expectations for meeting General Environmental Duty (s.319) requirements’. It further explains that:

The policy’s objective is to prevent short-term and long-term environmental harm taking into account the precautionary principle as set out in the Intergovernmental Agreement on the Environment and best practice environmental management. It sets out the environmental management standards to be met by foam users for both Class A foams used for solid combustible fires and Class B foams used for flammable liquid fires in recognition that all firefighting foams pose a range of hazards to the environment, and applies to anyone who handles, transports, disposes, stores, uses, or releases firefighting foams in Queensland.²⁹

- 5.29 The submission also states that Queensland’s policy has been regarded internationally as a benchmark for best practice in guiding transition to sustainable firefighting foam alternatives. The work has also been frequently referenced by other regulatory agencies, industry groups and the foam industry, as well as the Stockholm Convention POP [Persistent Organic Pollutants] Committee and Conference of the Parties.³⁰

Requirements for a national PFAS safety net

- 5.30 *Recommendation 9* of the JSCFADT report calls for an independent review of the environmental regulation of Commonwealth lands, including to ensure:
- the adequacy of current and proposed arrangements to ensure that responses to contamination events originating on Commonwealth land are given appropriate regulatory oversight;
 - possible measures to enhance the regulatory response to contamination events that cross jurisdictional boundaries.

²⁸ Queensland Department of Environment and Science (Qld DES), *Submission 7*, p. 1.

²⁹ Qld DES, *Submission 7*, p. 1.

³⁰ Qld DES, *Submission 7*, p. 1.

- 5.31 The recommendation also invites consideration of the value of establishing a national EPA, or other alternative options to regulate the Commonwealth's management of federally owned land.³¹
- 5.32 Effectively this recommendation aims to ensure consistent national regulation of PFAS, in a national PFAS safety net. It would capture Commonwealth lands but also apply to affected properties adjoining them under state or territory jurisdiction. As discussed in this report, consistency remains a live issue for people in this situation as the national frameworks designed to uphold this consistent approach are finalised and implemented.

Towards the national framework

- 5.33 The Government's response indicates its confidence that the *National Standard for Environmental Risks Management of Industrial Chemicals* (the National Standard) will achieve the required broader framework of protections. The Council of Australian Governments (COAG) agreed in 2015:
- ...once established, the National Standard would be implemented by jurisdictions according to their responsibilities. This means that activities on Commonwealth land will need to comply with any restrictions or controls on the use and disposal of industrial chemicals, determined through the National Standard.³²
- 5.34 The response also notes the importance of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) in regulation of Commonwealth lands, and its current review to be completed in October 2020. This review requires an independent review of the EPBC Act's operation every ten years, ostensibly meeting the proposal for independent review of the Commonwealth regulatory framework in *Recommendation 9*.³³
- 5.35 In its review last Parliament the JSCFADT was cognisant of the limits of the EPBC Act. For example, it noted concerns that there was a lack of sufficient separation between the 'regulated and the regulator' in the

³¹ *Recommendation 9*, JSCFADT, *Inquiry into management of PFAS contamination in and around Defence bases*, December 2018, p. 151.

³² Government response, *Recommendation 9*, p. 23.

³³ Under section 522A of the Act, its Government response, *Recommendation 9*, p. 23.

Department of Defence's oversight of its remediation works.³⁴ There were also limitations in the jurisdiction of the EPBC Act, which only applies to new actions consistent to past precedents.³⁵

- 5.36 Effectively, there was no overseeing role in regulation of the Act at the federal level, as would have occurred if contamination was dealt with on non-commonwealth land under the jurisdiction of state and territory EPAs. Meanwhile, the JSCFADT noted: 'Despite PFAS contamination emanating from Defence land into surrounding communities, state EPAs have been unable to fill this gap due to jurisdictional limitations'.³⁶
- 5.37 As set out above, in supporting the National Standard, Government introduces a regulatory policy that applies to both Commonwealth and state and territory jurisdictions, with responsibility for non-Commonwealth lands applied to the latter.³⁷ In this context, there are issues arising about national consistency of action.
- 5.38 Queensland Department of Environment and Science (DES) has, for example, highlighted its progress in having phased out use of long chained PFAS. It also specifically requested Defence to cease using fluorinated firefighting foams at the Army Aviation Centre at Oakley, stating that:
- Continued use of fluorinated fire-fighting foam, particularly PFOS and long chain PFAS foams, presents a risk of recontamination of remediated areas or release of additional contaminants.³⁸
- 5.39 In this instance, Queensland is ahead of national regulation. In Chapter 3, the Sub-committee has called for Defence to improve the efficiency of work under PMAPs by responding to state-based environmental frameworks, which will implement the National Standard and the NEMP.³⁹

³⁴ JSCFADT, *Inquiry into management of PFAS contamination in and around Defence bases*, December 2018, p. 146.

³⁵ JSCFADT, *Inquiry into management of PFAS contamination in and around Defence bases*, December 2018, p. 150.

³⁶ JSCFADT, *Inquiry into management of PFAS contamination in and around Defence bases*, December 2018, p. 150.

³⁷ See also FSANZ, *Submission 14 – AQoN*, p. 1, for a description.

³⁸ Qld DES, *Submission 7*, p. 3.

³⁹ Qld DES, *Submission 7*, p. 5.

National standards for food safety

- 5.40 In the JSCFADT 2016 review other concerns arose about national consistency in regulation of food safety. Food Standards Australia New Zealand (FSANZ)'s national standards for regulation of PFAS in food were said to have 'complicated provision of advice' to agricultural producers. The report anticipated rectification of this problem following review of PFAS in FSANZ's 2019 Total Diet Survey.⁴⁰
- 5.41 However, in review of its regulation of PFAS for its dietary survey, FSANZ determined there was 'insufficient data' to make recommendations for a national regulatory approach. Instead, FSANZ set 'trigger points' for investigation for PFOS and PFHxS combined and for PFOA, which would be interpreted by state based authorities. FSANZ's Dr Scott Crear explained how the method works in practice:
- FSANZ proposed trigger points as a flag for when levels in the food were high, which warranted further investigation by regulatory authorities to look at what further they could do to minimise exposure. These trigger points represent the maximum concentration of the chemical that can be present in individual foods. If you have high consumers of these foods, we wanted to make sure they wouldn't exceed those relevant health based guidance values.⁴¹
- 5.42 Ms Tracy Hambridge, Principal Specialist Dietary Exposure Assessment, explained how the trigger points are set:
- The trigger points are established based on high consumption amongst children. Children eat more per kilo of body weight and have lower body weight, so they're at higher risk, usually, for exposure than the other groups in the population. They are protective in that sense. The other bits of information that you need is some more information on concentrations – how much are people actually consuming; how frequently are different foods being consumed; and what different types of foods are people

⁴⁰ JSCFADT, *Inquiry into management of PFAS contamination in and around Defence bases*, December 2018, p. 150.

⁴¹ Dr Scott Crear, General Manager Science and Risk Assessment, Food Standards Australia New Zealand (FSANZ) *Proof Committee Hansard*, Canberra, 15 June 2020, p. 2.

eating? You can then try and bring all of that information together to make a conclusion about public health and safety.⁴²

5.43 In this inquiry, the Sub-committee heard concerns from cattle growers in the Richmond area who, while being subject to restrictions imposed on consumption of their produce locally, were encouraged to sell it into the open market.⁴³ The Committee asked the Department of Health for clarification. Dr Lum advised:

.... It's known in the work from Richmond, which is available on the PFAS website, that when they looked at things like mammal meat as well as eggs – particularly the yolks, not the whites – as well as some vegetables, there were higher levels of PFAS compared to the general background for those particular products. So the Department of Health, through Food Standards Australia New Zealand...provided trigger levels for state and territory health authorities, which have got the responsibility for food, to look at whether any investigation should occur for any particular types of food.⁴⁴

5.44 In clarification on the livestock standards, Dr Lum advised:

For example, for beef, the advice has been that, if it's at all possible and if producers of cattle know that their livestock is grazing in PFAS contaminated areas, they're fine to sell it in the open market because there's a dilution effect. But what they probably shouldn't do is consume a whole beast themselves over a period of time.⁴⁵

5.45 The Sub-committee asked for further clarification on regulation of PFAS exposures in cattle through water consumption from DAWE. DAWE referred to FSANZ's trigger points for PFAS exposure of livestock, indicating that these are an analytical tool and not a safety standard.⁴⁶

5.46 It further indicated that, while FSANZ sets tolerable daily intake (TDI) levels used by the NHMRC for its human water consumption guidelines,

⁴² Ms Tracy Hambridge, Principal Specialist Dietary Exposure Assessment, FSANZ, *Proof Committee Hansard*, Canberra, 15 June 2020, p. 3.

⁴³ HEN, *Submission 3*, Attachment 1.

⁴⁴ Dr Gary Lum, Principal Medical Officer, Department of Health, *Committee Hansard*, Canberra, 24 February 2020, p. 5.

⁴⁵ Dr Lum, Department of Health, *Committee Hansard*, Canberra, 24 February 2020, p. 5.

⁴⁶ DAWE, *Submission 2:1 – AQoN*, Question 1, pp. [1-3].

DAWE does not issue water safety guidance for livestock. This is a local regulation matter, dealt with by state and territory jurisdictions.⁴⁷

- 5.47 Asked about this at hearings Dr Crear advised that the model provides flexibility: 'The advice upon which these trigger points are used varies across the jurisdiction depending on the specific issues at the particular site'.⁴⁸ He also made clear that the actual standard applied is a decision for the specific jurisdiction, which may mean more stringency:

Sometimes they approach it more cautiously. In New South Wales – it might have been Williamstown – they halved the values and said, 'We want to investigate when it's half the trigger-point value.'⁴⁹

- 5.48 FSANZ subsequently confirmed that it is currently in discussion with the PFAS Taskforce to provide targeted guidance and communication materials to ensure consistent application of its trigger points.⁵⁰
- 5.49 As discussed previously, the FSANZ also prepares the Health Based Guidance Values (HBGVs) which are based on the maximum TDIs set for consumption of PFAS contaminants. These in turn are used in the formulation of key guidance documents for the national regulation of PFAS, including the revised NEMP and its appendices, including the *Guidelines for Managing Risks in Recreational Water* prepared by the NHMRC.⁵¹
- 5.50 The FSANZ has advised that, following a request from the Food Regulation Standing Committee,⁵² it is currently undertaking monitoring of PFAS in the general food supply as part of the 27th Australian Total Diet Study. With food sampling completed in April 2020, the report is expected for publication in mid-2021.⁵³

⁴⁷ DAWE, *Submission 2:1 – AQoN*, Question 2, pp. [4–5] see also Question 1, p. [3].

⁴⁸ Dr Crear, FSANZ, *Proof Committee Hansard*, Canberra, 15 June 2020, p. 2.

⁴⁹ Dr Crear, FSANZ, *Proof Committee Hansard*, Canberra, 15 June 2020, p. 3.

⁵⁰ FSANZ, *Submission 14 – AQoN*, p. 2.

⁵¹ National Health and Medical Research Council (NHMRC), *Submission 6*, p. [1].

⁵² The Food Regulation Standing Committee (FRSC) is the sub-committee of the Australia and New Zealand Ministerial Forum on Food Regulation at [//foodregulation.gov.au/internet/fr/publishing.nsf/Content/FRSC](https://foodregulation.gov.au/internet/fr/publishing.nsf/Content/FRSC) viewed 20 July 2020.

⁵³ FSANZ, FSANZ work on perfluorinated compounds, www.foodstandards.gov.au/consumer/

- 5.51 The NHMRC noted that its current guidance relating to PFAS is based on TDIs calculated by FSANZ for its 2017 *Perfluorinated Chemicals in Food*. The submission states that it will be monitoring FSANZ's dietary review, and the European Food Safety Authority (EFSA)'s ongoing review of TDIs for PFAS, as it prepares relevant guidance on chemical and water safety:

This revision may have an effect on Australia's consideration of health-based guideline values, including those developed by NHMRC for water exposure. NHMRC will continue to monitor the outcomes of EFSA's recent changes and the upcoming review of this work by FSANZ. In addition, as part of the update to the *Guidelines for Managing Risks from Recreational Water*, the Recreational Water Quality Advisory Committee will review the methodology used to calculate chemical guideline values, including those for PFAS.⁵⁴

Committee conclusion

- 5.52 The Sub-committee notes the ongoing community concern regarding contamination in non-Commonwealth sites and a lack of consistency in the Government's coordination of the response to this contamination.
- 5.53 The Government's response to *Recommendations 7, 8 and 9* indicate the challenges involved in forging national agreements about regulation of PFAS in Australia. The differences between federal and state-based regulation require extensive consultation and agreement. This in turn delays endorsement of international agreements which would control its use.
- 5.54 Each agreement discussed in this chapter is subject to this process. For people living in PFAS affected sites across Australia this means living with inconsistency in policies and regulatory approaches to local problems daily, and for years. This is an issue that potentially fuels the growth in class actions against the Commonwealth discussed in Chapter 3.
- 5.55 As shown in this chapter, the Commonwealth has the pieces in place and is making progress on national action. However, due to the need for negotiated agreement, it is moving slowly compared with some Australian jurisdictions and some other nations. Government has reported

[chemicals/Pages/Perfluorinated-compounds.aspx](#), viewed 22 July 2020.

⁵⁴ NHMRC, *Submission 6*, p. [1].

that it is now near achieving the envisioned framework for national PFAS management in its *National Standard for Environmental Risks Management of Industrial Chemicals* and the *NEMP*.

- 5.56 Once the National Standard is in place, the Government advises, Australia will be in a position to ratify the Stockholm Convention and ban PFOS and other PFAS substances. The Standard is, however, not expected to be implemented until 2022 – another long wait in a nine year ratification process. Queensland’s progress on this matter is a best practice model commended internationally, which could assist other jurisdictions to begin their transition to phase out PFAS permanently.
- 5.57 The Sub-committee concludes that some decisions impacting people in PFAS communities are dependent on Government’s will to act, for example, to sanction review of underpinning health judgements and guidance values, as discussed in Chapter 4, and to ensure the new regulatory standards are enforceable across all jurisdictions. The Committee notes that the National Standard is designed to achieve that goal.
- 5.58 Meanwhile, the Sub-committee anticipates that the revised NEMP should consolidate action on harmonisation of standards and approaches across Australia. The Sub-committee notes that the endorsed version has now been published on the DAWE website.
- 5.59 The Committee will be monitoring NEMP implementation and expects the PFAS Taskforce might play an important role in coordinating this process, The Sub-committee looks forward to following developments and to seeing further updates on the PFAS News tab.
- 5.60 In the broader international context, the Committee also expects the Government will prioritise progress in ratifying and expediting the listing of PFAS substances under the Stockholm Convention, and recommends that this progress should be documented in a timeline.

Recommendation 10

The Committee recommends that the Government expedite the work to ban the use of, contain, and ultimately safely destroy, long chain PFAS-based firefighting foams (including those containing PFOS, PFOA and PFHxS), with the objective of urgently ratifying the listing of PFOS and expediting the process for PFOA and PFHxS in the event they are listed under the Stockholm Convention on Persistent Organic Pollutants.

The Committee recommends that the Government provide a timeline for the processes identified in the previous recommendation.

Senator the Hon David Fawcett

Dr John McVeigh MP

Chair, Joint Standing Committee on Foreign Affairs, Defence and Trade

Chair, PFAS Sub-committee of the JSCFADT

August 2020

August 2020



Appendix A – Submissions

List of submissions

- 1 Department of Defence - Answers to Questions on Notice
 - 1.1 Supplementary submission to Submission No 1
 - 1.2 Supplementary submission to Submission No 1
- 2 Department of Agriculture, Water and the Environment - Answers to Questions on Notice
 - 2.1 Supplementary submission to Submission No 2
- 3 Hawkesbury Environment Network (HEN)
 - Attachment 1
 - Attachment 2
 - Attachment 3
 - Attachment 4
- 4 Fullerton Cove Residents Action Group
- 5 Department of Health - Answers to Questions on Notice
- 6 National Health and Medical Research Council (NHMRC)
- 7 Department of Environment and Science
- 8 Coalition against PFAS
- 9 Associate Professor Deborah Glass
- 10 Professor Cheng Fang
- 11 Metropolitan Fire Brigade (MFB) and Macquarie University PFAS Clinical Trial
- 12 PFAS communities, risk communication and mental health - ANU & University of Newcastle

- 13 Professor Behdad Moghtaderi - University of Newcastle
- 14 Food Standards Australia and New Zealand (FSANZ) - Answers to Questions on Notice
- 15 Plasma Bubble Column Project - University of Sydney
- 16 Synergy Resource Management Pty Limited
- 17 United Firefighters Union Australia (UFUA)
 - Attachment 1
 - Attachment 2
 - Attachment 3
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- 18 Dr K Morphett, Assoc Profs K Fielding and A. Roiko
- 19 Contamination Assessment and Remediation of the Environment (CRC CARE)
- 20 John Donahoo
 - Attachment 1
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Appendix B—Public hearings

Public hearing, 25 November 2019 – Canberra

Australian National University

- Professor Martyn Kirk, Principal Investigator, PFAS Health Study, National Centre for Epidemiology and Population Health
- Dr Miranda Harris, Public Health Medicine Registrar

Public hearing, 2 December 2019 – Canberra

Department of Defence

- Mr Christopher Birrer, First Assistant Secretary, Infrastructure
- Mr Steven Grzeskowiak, Deputy Secretary, Estate and Infrastructure
- Mr Luke McLeod, Assistant Secretary, PFAS Investigation and Management

Public hearing, 10 February 2020 – Canberra

A Department of Agriculture, Water and the Environment

- Dr Sara Broomhall, Director, Chemicals Policy and Advice Section, Department of Agriculture, Water and the Environment
- Mr Anthony McGregor, Assistant Secretary, Chemicals Management Branch
- Ms Nicola Powell, Director, PFAS Taskforce, Chemicals Management Branch
- Mr James Tregurtha, First Assistant Secretary

Public hearing, 24 February 2020 – Canberra**Department of Health**

- Dr Gary Lum, Principal Medical Advisor, Officer of Health Protection,

Public hearing, 15 June 2020 – Canberra**Food Standards Australia New Zealand**

- Dr Scott Crerar, General Manager Science and Risk Assessment
- Ms Tracy Hambridge, Principal Specialist Dietary Exposure Assessment
- Dr Matthew O’Mullane, Section Manager Standards and Surveillance