

Office of the Minister for the Environment

Chair

Cabinet Environment Committee

**All of Government programme required to manage the response to per- and poly-fluorinated alkyl substances**

**Purpose**

1. The purpose of this paper is to update you on the current investigations and next phase of the nationwide All of Government programme, to ensure the successful management of per- and poly-fluorinated alkyl substances (PFAS) contamination.

**Executive summary**

2. This paper outlines the next phase of the investigation into sites potentially contaminated with PFAS across New Zealand.
3. To ensure this next phase is appropriately managed, the All of Government programme, with the Ministry for the Environment as the lead agency, requires the appropriate resource and mandate. It is expected that the next phase will run for approximately 12-18 months.
4. I am proposing that the All of Government programme be mandated to direct a co-ordinated response across all agencies involved, and act on behalf of the landowner/polluter when in relation to a Crown owned site.
5. In relation to non-Crown sites the All of Government programme will continue to work in partnership with local government. This includes providing guidance to local government, recognising that PFAS is an emerging contaminant.

**Background**

*PFAS is an emerging contaminant of concern*

6. PFAS is an acronym for a group of chemical compounds known as per- and poly-fluorinated alkyl substances that have been extensively manufactured and used worldwide.
7. PFAS have been used since the 1950s to give a wide range of products some unique physical and chemical properties. These products can resist heat, stains, grease and water, and include furniture protectants, floor wax, treated fabrics and leather, paper products, non-stick cookware, food packaging, insecticides and specialised firefighting foams.

8. PFAS are found globally in both remote and urban environments, and some PFAS are present in humans, soils, sediments, surface and groundwater, and wildlife. The evidence of health effects is not clear, and there is no conclusive evidence that PFAS exposure will result in future health problems. However, potential adverse health effects in humans cannot be excluded.

*PFAS contamination investigations are underway*

9. Cabinet has previously noted that investigations were to be carried out at Woodbourne and Ohakea Airbases and other potentially contaminated New Zealand Defence Force sites [CBC-17-MIN-0022] and [CBC-17-MIN-0047].
10. The New Zealand Defence Force has to date been leading the operations and logistics of the response on their land. This includes the testing approach taken and potential mitigation measures. The New Zealand Defence Force has a testing programme planned for the next 12 months. Testing has been prioritised in order of risk to human health.
11. I have attached an update on the Crown testing programme to this paper (see Appendix 1).
12. The All of Government programme is now broadening its focus to Crown sites and non-Crown sites across New Zealand.
13. The Environmental Protection Authority is conducting a separate independent investigation into the storage and use of unapproved firefighting foam, to ensure compliance with the Hazardous Substances and New Organisms Act.

**Current All of Government Programme**

14. The current All of Government programme involves officials from Ministry for the Environment, New Zealand Defence Force, Ministry for Primary Industries, Ministry of Health, Environmental Protection Authority, Crown Law Office and the Department of Prime Minister and Cabinet.
15. The Ministry for the Environment is the lead agency for the All of Government programme. It is the best placed agency to lead this response as it has a broad mandate, which encompasses issues including human health and contaminated land, and it has strong relationships with local government.
16. Work has commenced to identify and prioritise PFAS contaminated sites nationwide. This work covers industries and activities that have used PFAS historically, for example airports, ports and some industrial activities, and potentially contributed to contamination of sites.
17. The national scale of the investigation requires a significantly larger response for at least the next 12 months. This includes an expanding testing programme for Crown sites and surrounds, as well as priority sites identified by the 16 Regional Councils and Unitary Authorities.
18. Through an identification of roles and responsibilities as part of the broader programme of work, the remaining investigation being undertaken by New Zealand Defence Force will be led through the All of Government programme, recognising local government as the lead regulatory agency.
19. The All of Government programme for the next 12 months has two focus areas:

- Completing investigations and mitigation measures at Auckland (Devonport and Whenuapai), Ohakea and Woodbourne airbases.
- Identifying other sites across New Zealand, and supporting councils and communities to undertake investigation and mitigation actions where required. This includes Crown owned sites and high priority sites identified by councils.

### **Roles and Responsibilities**

20. As we move into the next stage of the response, it is becoming clearer that the primary responsibility for investigating and managing PFAS contamination will lie with the regional and unitary councils, in respect of their functions under the Resource Management Act. Under that Act those councils have specific functions to identify and investigate contaminated land and water.
21. My expectation is that the All of Government programme (through the Governance Group and a Working Group) will act on behalf of the landowner/polluter when in relation to a Crown owned site. Their actions will be in conjunction with local government as the regulatory agency. Actions will include the development of testing programmes and schedules, communication and long term management plans.
22. For non-Crown sites the approach and management will be led by local government, in conjunction with the relevant landowner/polluter. In these instances the All of Government programme will assist local government across the country, recognising that PFAS is a new and emerging contaminant. Our knowledge and understanding, including the effects on people and the environment, is still evolving. It will take time for PFAS to be well understood and treated like other contaminants, by local government, in a business as usual manner.
23. As the National Programme evolves throughout 2018, regional and territorial councils will need the support of the All of Government programme. This assistance will involve setting standards and protocols for sampling and testing, and coordinating to ensure a consistent approach across New Zealand. The Ministry for the Environment is working with other central government agencies and local government to develop a toolbox of guidance and information.

### **Risks**

24. There is increasing public concern about the uncertainty of PFAS contamination, what it means for individuals, land owners and businesses, and how it may impact regions around New Zealand. The All of Government programme will provide consistency of information and response across the country.
25. The scientific community is rapidly improving its understanding of PFAS in the environment, as an emerging contaminant. Our understanding about PFAS will continue to develop through the course of this investigation. This will be informed by international research, including an Australian Expert Health Panel Report and a scientific opinion by the European Food Safety Authority. We will need to continue to review and reassess our approach to the issue throughout the programme.

### **Consultation with other agencies**

26. New Zealand Defence Force, Ministry of Primary Industries, Ministry of Health, Environmental Protection Authority, The Treasury and the Department of Prime Minister and Cabinet have been consulted on the drafting of this paper.

### **Financial implications**

27. I have secured additional funding for the All of Government programme through the budget process. This enables the national programme to be well established throughout the 18/19 FYR.

### **Implications - Human rights, gender and disability**

28. There are no gender, human rights, or disability implications associated with the funding request.

### **Publicity**

29. In line with the Government's commitment for open communication and transparency, I will publish this paper on the Ministry for the Environment website, subject to withholding financial information, and send it to council and community groups set up to manage PFAS.

### **Recommendations**

30. The Minister for the Environment recommends that the Committee:

1. **agree** that the All of Government response to the ongoing PFAS contamination issue requires a clear, mandated and well-resourced approach for the next phase of the investigations
2. **agree** the Ministry for the Environment, as the lead agency for the All of Government programme, be mandated to direct a co-ordinated response across all agencies involved
3. **note** that the scale of the issue and the response programme is moving from a focus on the Ohakea and Woodbourne Airbases, and more recently Auckland, to a nationwide investigation
4. **note** that the All of Government programme is developing information and guidance for local authorities to facilitate a consistent approach to manage this new and emerging contaminant across New Zealand.
5. **note** that funding for the All of Government programme has been provided through the budget process

Authorised for lodgement.

Hon David Parker

**Minister for the Environment**



## **Appendix 1**

### **Overview of All of Government PFAS Investigations – as at 26 April 2018**

#### **National Investigation workstream**

1. The first steps of the National Investigation workstream have commenced. Regional Councils and Territorial Authorities were contacted in March advising them of the workstream. Regional Councils have been requested to submit sites of highest priority for investigation to the All of Government programme. In particular, sites with proximity to a water source are of highest concern. Councils have been responding and a prioritisation process has begun.

#### **Environmental Protection Authority Investigation**

2. The Environmental Protection Authority is conducting an independent investigation that involves looking at the storage and use of unapproved firefighting foams or firefighting foams that contain PFOS or PFOA. The purpose is to ensure compliance with the Hazardous Substances and New Organisms Act and consequently prevent the risk of any product being used.
3. As part of the investigation, samples of fire-fighting foams have been taken from a number of airports. On the basis of test results being positive for PFOS, Compliance Orders have been served on Nelson, Gisborne, Hawke's Bay and Palmerston North airports. This requires the airports to stop using fire-fighting foam containing PFOS when responding to emergencies, as soon as practicable.
4. The Environmental Protection Authority released guidance in April on the appropriate disposal of foams and other materials/liquids containing PFOS. The guidance provides information on the selection of appropriate waste contractors, facilities and methods. It also includes:
  - a) High level recommendations for the decontamination of fire-fighting appliances and associated equipment
  - b) Advice on what to include in a PFOS waste-management plan.
5. The guidance material is on the EPA and MfE websites.

#### **Upcoming Reports**

6. An Australian Expert Health Panel Report is due to be provided to the Australian Minister of Health. The publication date is not yet clear. While the report has not yet been made available, we understand it examines the evidence on health effects and proposes research priorities. As soon as this report is available, it will be analysed to see what conclusion are relevant in the New Zealand context.
7. The European Food Safety Authority has been developing an updated scientific opinion on the dietary risks of PFOS and PFOA. A meeting agenda for 20-22 March had the PFOS/PFOA scientific opinion listed for discussion and potential adoption. The minutes from this meeting were adopted, subject to minor changes. The Ministry for Primary Industries is anticipating that the report will be made available in May, and will review the outcomes once available.

#### **Update on New Zealand Defence Force Site Investigations**

8. In early 2015, consultants undertook a site assessment for contaminants at the Ohakea Fire Training Area. The New Zealand Defence Force was advised of the

presence of PFAS and that further investigation should be undertaken. Further testing progressed throughout the year and identified a range of contaminants onsite.

9. During 2016, the New Zealand Defence Force worked with consultants to develop a standardised approach and methodology for testing PFAS across the New Zealand Defence Force estate. During 2017, technical experts were commissioned to undertake groundwater modelling to predict the migration of PFAS in groundwater which would subsequently inform the testing programme.
10. For assurance purposes, the New Zealand Defence Force commissioned testing of their water supplies at Waiouru, Linton, Ohakea, Woodbourne and Burnham bases, where the New Zealand Defence Force self-supply potable water. Water supplies were confirmed safe to drink. Drinking-water supplies at Whenuapai and Devonport were not tested as this water is sourced from reticulated 'town supply' (Auckland City).
11. In August 2017, the New Zealand Defence Force briefed the Minister of Defence, and advised the next step of the investigation would be to take water samples from wells on private land adjacent to Ohakea and Woodbourne – informed by the scientific groundwater modelling.

#### **Ohakea Airbase**

12. Stage 1 offsite investigations commenced at Ohakea on 7 December 2017. Testing was confined to the predicted plume area extending out from the Airbase. The first round of testing found four wells servicing five properties where water for drinking had PFAS levels above the drinking-water guidelines.
13. The Ministry for Primary Industries has conducted tests for PFOS and PFOA on milk produced from dairy farms neighbouring the Ohakea Airbase. No results were detected above the laboratory's detecting limits. These levels pose no food safety risk.
14. The New Zealand Defence Force has progressed its offer of water tanks to seven affected households whose drinking-water supplies are near or exceed the interim drinking-water guidelines. Three landowners have accepted the offer and are working with the New Zealand Defence Force on the logistics of tank installation.
15. The second round of testing was completed at Ohakea by 28 February 2018. This included a second test for sites within the Stage 1 plume area, and first round tests for new properties in the extended plume area. A testing regime for land adjacent to the extended plume area will be reviewed now that test results have been received.
16. Individual test results from the second stage of sampling were communicated directly to the landowners on 19 and 20 April 2018.
17. Seventy-four groundwater samples were taken in Ohakea in the second stage of testing, up from 26 samples in the first stage. Six wells servicing eight households returned results with levels at or above the interim drinking water guidelines. Two of these wells are newly identified and servicing four households in total. All new affected households have been offered an alternative drinking-water source.

18. An investigation into an alternative long-term water source, including a community water scheme, to resolve the contaminated water issue is underway. This has been led by the Manawatu District Council.

#### *Bulls*

19. Rangitikei District Council took up the New Zealand Defence Force's offer to test the Bulls water supply because of its proximity to the Ohakea Airbase and that the water for Bulls is drawn from groundwater bores. The first two rounds of testing has detected PFAS in four of the five bores tested and in the supply network, but well below the threshold level of the interim drinking-water guidelines.

20. The New Zealand Defence Force's expert advice is that detection of PFAS in the Bulls water supply is highly unlikely to have come from Ohakea as the up gradient of the PFAS source areas on the base. The All of Government programme is working with the local Council to determine the source of PFAS in the Bulls water supply.

#### *Sanson*

21. Manawatu District Council took up the New Zealand Defence Force's offer to test Sanson's water supply because of its proximity to the Ohakea Airbase. No detection of PFAS was found in the water supply.

#### **Woodbourne Airbase**

22. Stage 1 investigations commenced around the Woodbourne Airbase on 7 December 2017. Testing was confined to the predicted plume area extending out from the Airbase.

23. The first round of testing found two properties where water for drinking had PFAS above the drinking-water guidelines. A further three landowners had results close to the interim drinking-water guidelines. Four of those five households have had water tanks installed, supplied by the New Zealand Defence Force.

24. Marlborough District Council took samples from four of Blenheim's water supply bores to test for PFOS/PFOA substances - no PFOS or PFOA was detected during the first and second round of testing. The third round of testing found detection in one bore, well below the interim drinking-water guidelines.

25. The New Zealand Defence Force, at the request of wine growers, tested grapes from vineyards in the vicinity of the base at Woodbourne for the presence of PFOS and PFOA. No PFOS or PFOA was detected. The Ministry for Primary Industries is confident that there is no food safety risk for grapes or wine from PFAS.

26. The second round of testing was completed at Woodbourne by 28 February 2018. This included a second test for sites within the Stage 1 plume area, and first round tests for new properties in the extended plume area.

27. Individual test results from the second round of sampling were communicated directly to the landowners between the 19th and 23<sup>rd</sup> of April.

28. Groundwater samples were obtained from 168 groundwater bores, up from 67 samples in the first stage. One sample was found to contain PFAS concentrations that exceed the interim guidance levels for drinking water, but the bore from which this sample was obtained is not used for drinking water purposes. Two samples



that exceeded the guidance levels during the first stage of testing were found to be under the guidance levels in the second stage testing.

### **Devonport Naval Base**

29. Initial investigations at the Sea Safety Training Squadron (on the shoreline at Ngataranga Bay) have found that groundwater contained PFAS substances.
30. Testing has shown that the mangrove flats adjacent to the training facility contain PFAS compounds. Those results were well below the guidelines (the results came in between 0.5ug/kg and 109ug/kg). The relevant US Environmental Protection Agency standard to which we have compared those sample results, in lieu of a relevant New Zealand or Australian standard at the time, is 6000ug/kg (ppb).
31. The New Zealand Defence Force therefore does not believe there is significant cause for concern about PFAS on the mudflats or in the waters of the bay. Further testing has been carried out, and results are expected in May.
32. The New Zealand Defence Force is confident that there is no issue for public drinking water as local water is sourced from the town supply.

### **Whenuapai**

33. It is understood that the Whenuapai Air Base used firefighting foam containing PFAS in the past. Consultants are carrying out an in-boundary Preliminary Site Investigation on the site to determine what needs to happen next.
34. Auckland Council has discussed the testing programme with the New Zealand Defence Force and advised that given the public interest in the area, Council would be keen to see the New Zealand Defence Force do an in-boundary and external Detailed Site Investigation concurrently.
35. Auckland Council and the New Zealand Defence Force are working together on jointly scoping the programme for the external testing.
36. The Base, like the majority of households in the Whenuapai area including the new Special Housing Area developments, is on town water supply. Auckland Council is further investigating groundwater bores in the area to determine whether there is a risk of contamination.

### **Hobsonville (ex New Zealand Defence Force site)**

37. Investigations have found that the Hobsonville Base has not been used as a fire-fighter training site and so is not of concern, with respect to historic use of fire-fighting foams containing PFAS. Occasional use of foam may have taken place at Hobsonville. From the information available, the New Zealand Defence Force is confident that any usage was insufficient to leave significant residues in the soil.
38. The New Zealand Defence Force completed significant remedial earthworks, targeting hydrocarbon residues, at the Base prior to releasing the land for housing development.
39. This information has been provided to the new owner (Hobsonville Land Company).

### **Other New Zealand Defence Force sites**

40. Site Investigations will be initiated at Wigram, Burnham, Makomako and Linton progressively through 2018.

### **Food Safety**

41. There is no conclusive evidence that PFOS and PFOA exposure will result in future health problems. The evidence of health effects is not clear, and some effects may not be clinically significant. As the long term effects are not known, a precautionary approach is being taken to limit long-term consistent exposure.
42. For the general population sourcing food from the national food supply, consuming food such as vegetables, meat, milk, eggs from an affected area is completely safe, as the amount of any PFAS consumed would be so low it is not expected to pose any health risks.
43. The general advice to people in affected areas is to source their food from a range of places to limit the overall amount of PFAS consumed and reduce any long-term health risk.

### **Fire and Emergency New Zealand**

44. Fire and Emergency New Zealand has issued guidance to its ground staff on the PFAS contamination issue. They are participating in regional group meetings with local authorities and are identifying and prioritising their sites for further investigation.