Meeting No. 133
Wednesday, 17 October 2018
9.00 a.m. – 10.30 a.m.

NSW Ports' Board Room, Level 3 Maritime Centre
91 Foreshore Road, Port Kembla

Minutes

PRESENT

Trevor Brown	NSW Ports, Acting Chairman
Andy Davis	University of Wollongong
Brian Kiely	Port Kembla Gateway
Dene Ladmore	Quattro Ports
Philip Laird	Community Representative
Lucinda Machell	Linx Cargo Care
Bruce Medcalf	Community Representative
Brendan Moss	GrainCorp
Greg Newman	Environment Protection Authority
Luke Pascot	Port Kembla Coal Terminal
Olive Rodwell	Community Representative
Renee Winsor	Wollongong City Council
Lawrence Zammit	BlueScope Steel

1. Apologies

Chris Haley	Chairman
Ron Hales	Community Representative
John Morrison	University of Wollongong

2. Presentations

2.1. Fire Fighting Foams PFOS – PFAS Overview – Lawrence Zammit, BlueScope Steel

Lawrence Zammit gave a presentation regarding the use of per- and poly-fluorinated alkyl substances (PFAS) chemicals in firefighting foams, a copy of which is provided at Attachment A along with relevant documents issued by the Australian Government.

Greg Newman that he was not aware of concerns regarding the effectiveness of fluorine-free foams.

Bruce Medcalf said that he served in the NSW Fire Brigade for many years. He has had x-rays and a range of medical tests which have found pleural plaque. Bruce was always careful to avoid contact with foams. He is concerned that his condition may be due to foam exposure.

Lawrence noted that EPA has recently been seeking information from key facilities and industries regarding historical use of PFAS. Greg said that the EPA has

established a PFAS unit with 20 staff. The unit has sent out a questionnaire to sites of potential PFAS use. Based on the responses received, sites have been selected for groundwater monitoring, including Port Kembla Steelworks and Park fuel facility in the local area. The main aim of the program is to assess the extent of PFAS in the environment and avoid or minimise the potential exposure of humans and ecosystems to these chemicals.

Bruce expressed concern regarding the use of foam to fight the fire on the Iron Chieftain. Greg replied that the incident will be investigated by the NSW Coroner.

Post Meeting Note: Lawrence Zammit confirmed after the meeting that only PFAS-free foam was used to fight the fire on the Iron Chieftain.

3. **Confirmation of Minutes of Meeting No. 132 held on Wednesday, 1 August 2018**
   The Minutes of Meeting 132 held on Wednesday, 2 August 2018, were received and accepted.

4. **Key Initiatives and Actions**
   The status of key initiatives and actions was deferred for discussion at the next meeting.

5. **Climate Change**
   Philip Laird noted that there continues to be a lack of direction from the Federal Government on climate change policy. He suggested that ports needed to show leadership on issues such as sustainable transport.

   Trevor Brown said that NSW Ports is a strong advocate for rail transport, noting that Cement Australia has in recent months started to move significant volumes of cement product out of Port Kembla by rail.

   Brian Kiely said that Port Kembla Gateway is close to reaching agreement to receive zinc-copper concentrate from the soon to reopen Woodlawn mine by rail for export.

   Philip noted that Lesley Hughes, Director of the Climate Council will give a presentation at the Innovation Campus on Wed 17 October regarding the latest report of the Intergovernmental Panel on Climate Change.

6. **Road and Rail Infrastructure**
   Philip Laird noted that the *NSW Freight and Ports Plan 2018-2023* was released in September. The plan identifies five objectives of which safety is relegated to number 4. The plan includes mention of the Maldon-Dombarton rail line as a potential action to be undertaken in 10+ years. He said that without the line, congestion on the South Coast rail line and Mt Ousley Road would continue to increase.
   ACTION: Philip Laird to draft a letter to the Minister for Transport expressing support for the construction of the Maldon-Dombarton rail line. The letter shall be provided to Chris Haley to sign on behalf of the Group, with copies to be sent to the Parliamentary Secretary for the Illawarra, the Member for Wollongong and the Member for Keira.

7. **PKHEG Website**
   Trevor Brown apologised for not having the draft website available to show and indicated it would be presented to the next meeting.

8. Legislation and Policy

Trevor Brown noted that draft amendments to the State Environmental Planning Policy (Three Ports) 2013 are currently on exhibition for public review and comment. Refer to the Department of Planning and Environment's website for details.

It was also noted that changes have been foreshadowed to the *Protection of the Environment Operations (Waste) Regulation 2014* although no details were available at the meeting.

9. Round Table Reports (update on Harbour related information)

9.1. University of Wollongong

Andy Davis said that his research team is applying for funding to undertake a large-scale experiment on the impact of anchoring on marine benthic habitats off the coast of Port Kembla.

9.2. Quattro Ports

Dene Ladmore said that Quattro Ports has commenced receiving grain by ship from South Australia and Western Australia to supply drought-affected areas in NSW. The grain will be distributed by road and rail transport. In response to a question from Philip Laird, Dene said that there have been some enquiries about importing grain from overseas but this would need significant work to manage biosecurity risks before it could happen.

9.3. Port Kembla Coal Terminal

Luke Pascot reported that Port Kembla Coal Terminal expects to complete demolition of its old yard machines (stackers and reclaimers) by the end of November 2018.

9.4. Linx Cargo Care

Lucinda Machell reported that Linx Cargo Care is assisting BlueScope Steel to manage its shipping while Berth 113 is unavailable due to the ongoing presence of the *Iron Chieftain*. Bulk materials are being handled at Berth 109 as a temporary measure.

9.5. GrainCorp

Brendan Moss reported that GrainCorp has also commenced receiving grin by ship from South Australia and Western Australia. GrainCorp is currently using portable equipment for train loading but is planning to modify its rail receival shed to allow outloading of grain to trains.

9.6. Environment Protection Authority

Greg Newman said that the Environment Protection Authority has scheduled an industry forum regarding bulk materials handling practices to be attended by terminal operators, stevedores and NSW Ports on 7 November 2018.

Greg provided a written report that is enclosed at Attachment B.

9.7. BlueScope Steel

Lawrence Zammit reported that the Environment Department at BlueScope has been restructured as follows:

- former Manager, Matthew Imber has moved to a head-office role in Melbourne;
- Natasha Porteous is the new Environment Manager for Australian Steel Products;

- Lawrence Zammit is Senior Environmental Advisor for Ausrtalian Steel Products covering all Australian sites, including downstream processors;
- Samantha Cole is responsible for Recycling and Energy sectors;
- New member to be recruited to fill the role previously held by Lawrence (i.e. raw materials, coke making, iron and steel making).

Lawrence said that he will continue to represent BlueScope at PKHEG meetings.

9.8. Community representatives

Bruce Medcalf asked why the PKHEG meeting had been deferred from 3rd till the 17th. Trevor Brown replied that it was because he had been on leave for the first 2 weeks of October.

10. General Business

10.1. Actions from previous meetings

10.1.1. Allans Creek Litter Boom

Trevor Brown advised that a letter was received from Mr Nur Joy, Senior Civil Assets Engineer at Wollongong City Council advising that Allans Creek Catchment is "one of the priorities for future treatment measures" to improve water quality. Council will "consider undertaking the feasibility study for Allans Creek in a future financial year."

10.2. New Business

Nil to report.

10.3. Correspondence

Nil to report

11. Next Meeting:

DATE: Wednesday, 5 December 2018

VENUE: NSW Ports Board Room
Level 3, Maritime Centre
91 Foreshore Road
PORT KEMBLA

TIME: 9.00 a.m. to 10.30 a.m.

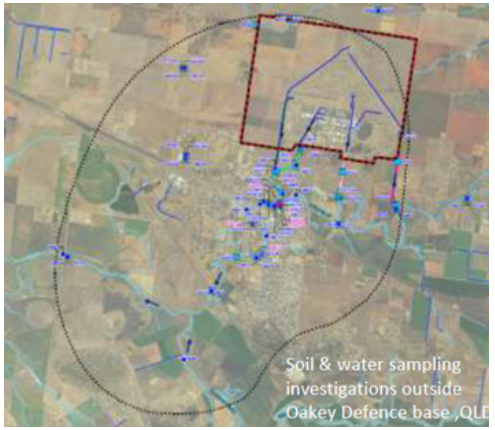
RSVP: Trevor Brown on Telephone: 4275 0714
or E-mail trevor.brown@nswports.com.au

Fire Fighting Foams PFOS – PFAS overview

L.Zammit

17th August 2018

Context:



- With fire-fighting foam being highlighted in the media recently, it is important that our organization understands the firfighting foam that we have on our sites.

FOAM EXTINGUISHER TYPES

- Perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) and
- Perfluorohexane sulfonate (PFHxS) belong to this group of chemicals. These chemicals are very stable and do not break down in the environment. <C8 – UP TO 8 CHEMICALS
- Per- and poly-fluoroalkyl substances, also known as "PFASs", are a group of man-made chemicals that have been used in a range of common household products and specialty applications, including in the manufacture of non-stick cookware; fabric, furniture and carpet stain protection applications; food packaging; some industrial processes; and in some types of fire-fighting foam. . <C6 – UP TO 6 CHEMICALS

They can persist for a long time in the environment. –

- PFAS Free Fire Fighting Foams – (F3)

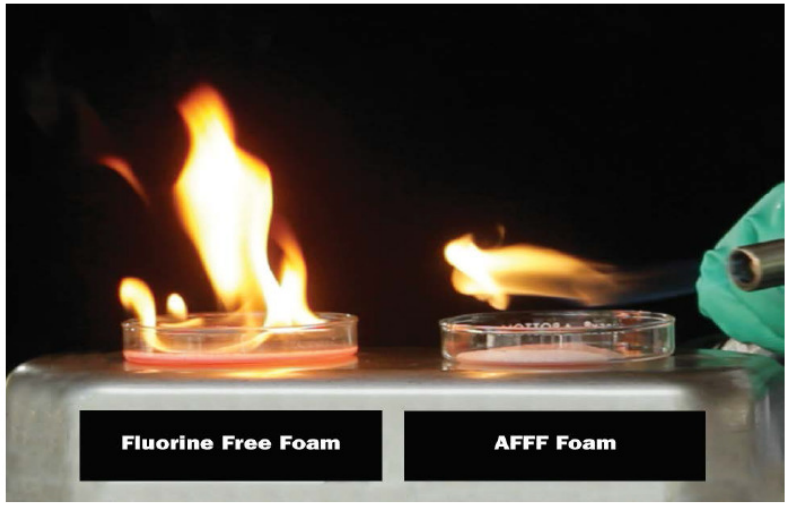
NSW Gov. htttp://www.health.nsw.gov.au/environment/factsheets/Pages/pfos.aspx

Scientific Argument

Research conducted in the USA, Belgium, Great Britain – challenges effectiveness of PFAS Free Foams!

USE FLUORINE FREE FOAMS (F3)?

FIREAUSTRALIA 17 CONFERENCE & TRADESHOW



www.youtube.com/watch?v=IuKRU-HudSU

- ✓ No persistence and 100% biodegradable
- ✓ Advantageous for dispersive areas without containment

But struggles with…

- X No fuel repelling capability
- X Poor vapour sealing
- X Slower control and extinction
- X Sudden unpredictable flare ups and flashovers
- X Greater escalation and re-ignition risks
- X More damage likely from larger events
- X Increased life safety risks
- X Increased firewater runoff and aquatic toxicity issues

BLUESCOPE

Legitimate Public Concerns

- **Fears** …about PFAS exposure harming human health
- **Worry** …about occupational exposure & increased risks of cancers
- **Outrage** …about contamination spreading from legacy high use sites
- **Anxiety** …over perceived "lack of transparency" in Government responses
- **Not enough** …research into human health impacts …*why no blood tests? etc.?*

Australia's Dept. of Health Expert Panel for PFAS (May 2018) concluded:

- PFOS blood level in Australian population generally higher than PFOA
- **Limited or no evidence** for any link with PFAS & human diseases
- **Differences generally small** between people with low & high exposure
- **Suggests no current evidence of increased overall cancer risk**
- Many study links may be **explained by reverse causation/confounding**
- Evidence **does not support** any **specific health or disease screening** or other health interventions **for highly exposed groups** - except research

What is Best Suited for MHFs*?

(accepting …neither is ideal!)

F3?

- NOT Persistent… 100% biodegradeable
- **BUT attracts not sheds fuel = slower control, more used**
- vulnerable to flashbacks/re-involvement/escalation
- more smoke, increased runoff/overflows/escapes
- more toxic & potentially bigger BOD impacts
- less reliable

= increased life safety risks + environmental harm.

≤C6?

- Persistent but NOT Bioaccumulative, NOR Toxic
- fuel shedding, film forming
- fast, effective, efficient, reliable = less used, less overflow
- life safety & community safety protected
- less escalation/damage/runoff/disruption

= best practice + minimised environmental harm

Effective fire performance is critical to reducing environmental harm

UK EA recommends:

"primary concern should be which foam is the most effective at putting out the fire.

All firewater runoff and all foams present a pollution hazard."

(Source: "Firefighting foams: fluorine vs non-fluorine", UK Environment Agency, Fire Times, Aug-Sep 2014.)

* *includes Airports, hangars, Military sites & Assets, helidecks, offshore platforms, VLCCs, Cruise ships & berthing, large mine sites & specialised vehicles, + other significant volatile fuel storage/processing areas - pharmaceuticals, paints, plastics, metal smelting etc. etc.*

Important to understand & achieve!

Navigating this Minefield

Necessary Objectives for Future Success:

- protect life safety
- reduce re-involvement/escalation
- minimise foam and water usage
- reduce noxious breakdown products & incident runoff (also minimising toxicity & BOD effects)
- reduce damage & disruption

= Delivery of Minimised Environmental Harm

Requires holistic approach to whole fire incident:

Assess: risks, exposures and liabilities
Identify: critical factors and life safety issues
Seek: strengths/weaknesses of agents
Avoid: misleading assumptions & interpretations
Select solution… based on:

- **delivering reliable fire performance***
- **protecting people/community safety**
- **protecting valuable assets**
- **minimising risks, liabilities, exposures**
- **delivering environmental responsibility**
- **providing containment, remediation and safe disposal (meeting local regulations)**

* *higher level fire performance required for Major Hazard Facilities (incl. airports), to address higher risks & consequences*

* Up to 5 times the amount of PFAS Free foam and water may be required to extinguish a fire – that would otherwise would be extinguished using a C6 Foam

Conclusions

Most agree:

- **Legacy ≥C8s** (PFOS, PFOA and PFHxS) = **undesirable, should be banned/ restricted, …manage legacy issues**
- **All fire types can pollute**: firewater runoff alone …. with/without any foam use!
- **Good fire protection is critical** to minimising environmental impacts
- **Minimising risks, liabilities and exposures** facilitates best practice, …without complete re-engineering of fire systems
- **Careful risk assessment of whole incident** critical to protecting life safety, fast action = minimised environmental impacts

Weigh up best suited option *from risk assessment:* ***Is it…***

- **Let it burn?**
- **Fluorine Free Foam (F3)?**
- **Pure ≤C6 fluorinated Agent?**

Achieve Critical Objective

Provide good fire protection: fast; efficient; effective; reliable; environmentally responsible incident control; effective containment disposal according AHJ = ***reduced consequences***

= Necessary requirement for all MHFs

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CURRENT STATUS

- Queensland & South Australian Regulations in place to encourage industries to use PFAS free foams.
- Will other Australian States be required to meet the same regulations?
- EPA requested a report detailing an historical account where PFAS sources were used at BSL PK site.

QLD Foam Policy: Problems & Issues

Policy Effective Now – 12 months to implement

ALL Fluorinated foams/contaminated runoff = regulated waste -disposal by incineration >1,100ºC

Most firewater runoff likely regulated waste – whether F3, ≤C6 or NO foam used! *(due ubiquitous residual PFAS from buildings, vehicles etc.)*

Key Problems & Issues:

- **F3 preference contradicts Life Safety being Paramount -** F3 inferior performance increases life safety risks and BOD (≤C6 OK if incinerate).
- **Favours adverse environmental foam impacts** - at expense of life safety and irreversible/greater property damage.
- **Foam Users Duty of Care** for fast, effective, efficient **whole of incident control** to save lives, reduce escalation, reduce smoke/toxins/runoff, community disruption, remediation, cleanup and reduced environmental harm… *seem sidelined*. ***Why?***
- **WHY 2 conflicting regulations** for same PFAS chemicals? ALL fluorochemical uses should ALSO be prevented from daily disposal via WWTP effluent, biosludge & landfill leachate into environment?!

Without addressing these issues, …the REAL problems cannot be fixed!

Proposed Process to Manage PFAS on the BSL PK site

1. **OBTAIN AN INVENTORY LIST OF ALL FOAM FIRE-FIGHTING EXTINGUISHERS ON YOUR SITE.**

   Recent discussions have verified that there is potential environmental risk associated with the use of large fire-fighting (Foam Type) in Deluge systems – single foam extinguishers are not considered to pose significant environmental risk.

2. **ENSURE THAT THE SITE HAS A SDS FOR THIS FOAM IN IT'S INFOSAFE SDS SYSTEM.**

3. **ENSURE THAT THE SITE HAS INCLUDED ANY SAFETY / ENVIRONMENTAL PFAS RISK INTO THEIR DEPARTMENTAL RISK REGISTERS**

Proposed Process to Manage PFAS on the PK site

4. **THE SITE IS TO CONDUCT AN COMBINED SAFETY / ENVIRONMENTAL RISK ASSESSMENT – UTILISING THE CURRENT HAZARDOUS Chemicals Risk Review SOP – F.BZ-SEQ-S-03-116.01**

5. **VERIFY AND UPDATE WHERE APPROPRIATE DEPARTMENTAL EMERGENCY PLANS TO REFERENCE ENVIRONMENTAL RISK ASSOCIATED WITH FIREWATER TO DISCHARGE INTO LOCAL / EPA LICENCED DRAINS / OFFSITE RECEIVING WATERWAYS.**

SPILLS

Advice from most firefighting foam manufacturers relating to spills of foam or concentrate are that they should be contained, converted into a solid and incinerated. They should not be allowed into water ways. i.e. the spill to be absorbed with granules or other spill kit materials, then collected and incinerated at an approved site. Please also note that if the foam or concentrate enters a recirculating water system, the water chemistry could also be disrupted.

MAINTENANCE OF FOAM SYSTEMS

Ensure that Fire-fighting Foam Systems are being maintained and inspected on a regular basis. Ultimately the systems are part of the departments own assets. Managing these chemicals is the department's responsibility.

Australian Government

Department of Health

CHIEF MEDICAL OFFICER

MEDIA RELEASE

7 May 2018

EXPERT HEALTH PANEL'S INDEPENDENT PFAS ADVICE

An independent expert health panel established by the Australian Government has concluded there is mostly limited, or in some cases no evidence, that human exposure to PFAS is linked with human disease. Importantly, the panel concluded there is "no current evidence that suggests an increase in overall cancer risk".

The panel also concluded that much of the evidence available is weak and inconsistent and that decisions to minimise exposure to PFAS chemicals should be largely based on their known ability to persist and accumulate in the body.

Australia's Chief Medical Officer, Professor Brendan Murphy, today released the advice from the Expert Health Panel for PFAS.

The panel was established in October 2017 to advise the Government on the potential health impacts associated with PFAS exposure, and identify priority areas for further research.

Comprised of experts in the fields of environmental health, toxicology, epidemiology and public health, the panel considered the evidence available from both Australian and international scientific research as well as the views of the public in forming its advice to the Government.

It met three times between October 2017 and February 2018 and conducted extensive out-of-session work.

The panel found the evidence on health effects associated with PFAS exposure is limited.

It acknowledges there is some research that identifies associations with health outcomes such as high cholesterol. However, there is limited or no evidence of human disease accompanying these associations and many of them are not considered to be clinically significant and require further research.

MDP 84 GPO Box 9848 Canberra ACT 2601
Telephone: (02) 6289 8408 Facsimile: (02) 6285 1994

The panel's report has been provided to the National Health and Medical Research Council (NHMRC) and it will be used to inform the $12.5 million *National Research Program into the Human Health Effects of Prolonged Exposure to PFAS*.

The panel's findings support the Environmental Health Standing Committee's advice that there is no consistent evidence that exposure to PFAS causes adverse human health effects.

However, given the chemicals continue to persist in humans and the environment, exposure to them should be minimised.

The panel advised the evidence does not support any specific screening or health interventions for highly-exposed groups — except for research purposes.

It also concluded there was insufficient evidence of causation between PFAS exposure and any adverse health outcomes.

When reviewing the panel's report, it is important to understand the difference between an association and causation. An association indicates a relationship between one thing measured and another — in this case, PFAS exposure and an adverse health outcome. Causation means that the thing measured directly causes a change in the other.

The panel recommended future research focus on long-term studies, adding PFAS exposure to existing research, and utilising linkable data from other health studies that relate to exposed communities.

The Australian Government is committed to supporting communities and responding effectively to PFAS contamination. This commitment has included reducing exposure from contaminated drinking water, providing mental health and counselling services, funding an epidemiological study into potential health effects and providing access to free blood tests for PFAS on a voluntary basis.

The Expert Health Panel for PFAS's report is available on the Department of Health website.

Media contact: Kay McNiece, 0448 207 226 news@health.gov.au

Expert Health Panel for PFAS:

SUMMARY

Background

Per- and poly-fluoroalkyl substances (PFAS) are a group of man-made chemicals that resist heat, oil, stains, grease and water and have been widely used since the 1950s in household and industrial products. While there are many types of PFAS, the most common are those referred to as perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). Since 1970, firefighting foams containing PFOS and PFOA were widely used in Australia and in other countries because they were highly effective in fighting liquid fuel fires. However, PFAS chemicals do not break down readily in the environment, can travel long distances through soil and water and can get into groundwater. PFAS levels build up in animals and humans and remain for many years in the human body.

In Australia, decisions were made about 10 years ago to phase out the most concerning PFAS chemicals, including the firefighting foams, to reduce human exposure. Recently, a number of communities close to where these fire-fighting foams were used in the past have been advised to lessen further exposure by not drinking contaminated water sources and eating foods with high levels of PFAS.

It is not practically possible to prevent all PFAS exposure due to the large number of sources from which people may still get very low exposures. Internationally, everyone generally has low levels of PFAS chemicals in their blood. In other countries, people in highly exposed communities (for example, people who live near manufacturing plants where PFAS is made or used), typically have PFAS concentrations up to 10 times higher than those in the general population. In Australia, fire fighters may have concentrations up to 10 times higher. Workers in overseas PFAS manufacturing plants have been found to have PFAS concentrations up to 1,000 times higher than the general population. There are no PFAS manufacturing plants in Australia.

In Australia, available evidence indicates that the amount of the chemical PFOS in the blood is generally higher than PFOA in the general population. It is important to note that many overseas studies relating to workers in manufacturing plants have focussed more on PFOA.

The Expert Health Panel

An Expert Health Panel was set up to advise the Australian Government on the scientific evidence about potential health impacts from PFAS exposure. The Panel was also asked to identify areas for research. The Panel includes members who are university professors, medical specialists, environmental or public health experts from Australia, and an international university academic.

Methodology

The Panel reviewed 20 recently published key Australian and international reports and academic reviews that had examined scientific studies on potential human health effects of PFAS exposure. The Panel also undertook a public consultation to inform them of the communities' concerns regarding PFAS, and their suggestions for future research.

Assessment of evidence

The Panel found that although the scientific evidence on the relationship between PFAS exposure and health effects is limited, current reports, reviews and scientific research provide fairly consistent reports with several health effects. These health effects were

- 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.

However, for the health effects above, the differences reported in the scientific studies between people who have the highest exposure to PFAS and those who have had low exposure, are generally small. The level of health effect reported in people with the highest exposure is generally still within the normal ranges for the whole population.

*The Panel concluded there is mostly **limited or no evidence** for any link with human disease from these observed differences. Importantly, there is no current evidence that supports a large impact on a person's health as a result of high levels of PFAS exposure. However, the Panel noted that even though the evidence for PFAS exposure and links to health effects is **very weak and inconsistent**, important health effects for individuals exposed to PFAS cannot be ruled out based on the current evidence.*

The Panel concluded that many of the biochemical (for example, higher cholesterol and uric acid levels in the blood) and disease links reported in the studies may be able to be explained by **reverse causation or confounding**. Reverse causation is when there is a link between the exposure to PFAS and a health effect, but it is not clear whether the exposure has caused the health effect or whether the health effect causes increased exposure. Confounding is where a third factor (for example, age, smoking, or socio-economic status), could influence the findings of the study.

For cancer, the Panel concluded there is **no current evidence that suggests an increase in overall cancer risk**. The Panel did however note that the most concerning signal reported in the scientific studies for life-threatening human disease is a possible link with an increased risk of two uncommon cancers: testicular and kidney cancer. However, these associations were only found in one cohort, and the Panel believes they were possibly due to chance, as they have yet to be found in other studies. Additionally, the Panel noted that the limited amount of evidence which is available on cancer relates to the PFOA chemical, not PFOS (which is more common in Australia).

The Panel noted there are **many issues and limitations** with the studies that make up the evidence base. Hundreds of scientific studies on PFAS and health effects are based on just seven cohorts of people, and that there is a high risk that bias or confounding is affecting the results reported. Bias can occur in any part of a study, from the type of people selected, through to how the researcher chooses to analyse the results. Additionally, there are very large numbers of comparisons being done in many studies. This brings an increased risk that findings may be interpreted as real whereas the finding may have in fact been due to chance. Another complicating factor is that there are lots of different PFAS chemicals, and other environmental or occupational differences, with possible interacting toxic effects, making it difficult to find exactly which chemical is involved or responsible for the study findings. Many of the studies had too few participants to detect important associations.

*After considering all the evidence, the Panel's advice to the Minister on this public health issue is that the evidence **does not support** any specific health or disease screening or other health interventions for highly exposed groups in Australia, except for research purposes. 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.*

Public consultation

The Panel invited written submissions from the public, affected communities and other stakeholders to hear their views about potential health effects of PFAS and priorities for future research. The Panel received 499 submissions through the public consultation.

The public consultation showed that:

- there is concern from the public, many of whom feel that PFAS exposure has already affected their health and it may affect their health in the future;
- public were concerned about past exposure to PFAS, occupational exposure to PFAS (especially in firefighters), and skin contact with PFAS;
- respondents felt they were not informed about the Government's response;
- respondents wanted research on the health effects of occupational exposure to PFAS (in particular among firefighters), and further research into potential health impacts for high-exposure communities;
- blood testing was suggested for those who have been exposed through their work or who live in or near an investigations site.

Research priorities

The public consultation showed that the community has many concerns about PFAS exposure and several health effects. Cancer risk and risks for children and firefighters stood out as areas of very great concern but there were many other concerns also mentioned.

The Panel's suggestions for research priorities included:

- long-term studies to reduce the risk of bias and confounding;
- adding PFAS exposure analysis to existing large studies (e.g. existing studies of pregnancy or early life, or long-term health of fire fighters);
- studies of exposed communities or workers using linkable data from other health studies (e.g. cancer registries, electronic medical records, etc.);
- better understanding of how PFAS affects humans and at what level, possibly including long-term studies or identifying ways to speed up the body's elimination of PFAS.

The Panel also recommends involving representative(s) of the exposed occupational group and/or community in study advisory committees for future PFAS research.

12170 April 2018

Environment Protection Authority
PO BOX 513, WOLLONGONG NSW 2520
www.epa.nsw.gov.au

PORT KEMBLA HARBOUR ENVIRONMENT GROUP — 17 OCTOBER 2018

REGULATORY ACTION

EPA fines Australian Amalgamated Terminals Pty Ltd $15,000
On 10 October 2018 the EPA issued Australian Amalgamated Terminals Pty Ltd (AAT) with a $15,000 Penalty Notice for not undertaking bulk material handling activities in a competent manner at its premises at Port Kembla Inner Harbour. The unloading activities resulted in excessive dust emissions (clinker) over multiple days in March 2018. The unloading operation was being undertaken by Qube, on behalf of AAT. The EPA also issued both Qube and AAT with Official Cautions for failing to notify the EPA of the incident. AAT has implemented systems and procedures to reduce the likelihood of a future occurrence. A copy of the EPA media release may be viewed on the EPA's website https://www.epa.nsw.gov.au/news/media-releases/2018/epamedia181011-epa-fines-australian-amalgamated-terminals-$15000

OTHER INFORMATION

Bulk Materials Handling Meeting
In March 2018 the EPA and multiple industries across the port area met to discuss best management practices and environmental controls for bulk materials handling activities. The aim of the discussion is to identify feasible options to control dust emissions and prevent water pollution. Feedback from participants was positive and the group will reconvene on 7 November 2018.

Managing run-off from service station forecourts
The NSW EPA is inviting industry, government stakeholders and the public to have their say on the draft Practice Note on Managing run-off from service station forecourts. This document which has been developed in response to local council and industry needs for guidance. To make a submission on the draft Practice Note please email your comments to UPSSREG@epa.nsw.gov.au. All submissions must be received by the EPA by 30 November 2018. For further information please visit the EPA website at https://engage.environment.nsw.gov.au/epaconsult

Industry Community Liaison Groups (CLG)
A BSL CCC meeting was held on 26 September 2018. A copy of the minutes will be made available on BlueScope Steel's website at https://www.bluescopeillawarra.com.au/community/community-consultative-committee/. The date of the next meeting will be 6 December 2018.

The Port Kembla Pollution Meeting was held on 13 October 2018. The next meeting is 10 November 2018.

William Dove 17 October 2018

WILLIAM DOVE
Unit Head Regulation

wollongong
city of innovation

WOLLONGONG CITY COUNCIL

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013

Mr T Brown
PO BOX 89
PORT KEMBLA NSW 2505

Request	**598101**
Request Type	Creek Maintenance
Date	29 August 2018

Dear Mr Brown

ALLANS CREEK CATCHMENT – GROSS POLLUTANT CONTROLS

Thank you for your correspondence to Council dated 17 August 2018 and received under Customer Request 598101 regarding potential gross pollutant controls for the Allans Creek Catchment. Council staff has investigated the issue and wish to offer following response.

Council is committed to improving the water quality within the Wollongong LGA. We are progressing a number of water quality improvement projects within the LGA and the Allans Creek Catchment remains one of the priorities for future treatment measures.

At this stage, Council's resourcing and funding is fully committed and would be unable to progress feasibility assessment during the current financial year. Notwithstanding we will consider undertaking the feasibility study for Allans Creek in a future financial year subject to measures identified in Stormwater Management Plan for the catchment, funding and resource availability.

Should you require any further information, please contact me care of Council's Customer Service Centre on 4227 7111.

This letter is authorised by

Mr Nur Joy
Senior Civil Assets Engineer
Wollongong City Council
Ph. 4227 7111