



National coordinators on behalf of HEPA's National Chemicals Working Group
PFAS Coordination and Feedback Management
Australian Government
CANBERRA ACT

Email: pfasstandards@environment.gov.au

28 February 2023

Dear Sir/ Madam

**Re: Draft PFAS National Environmental Management Plan (NEMP)
Version 3.0 – Draft Prepared for Public Consultation**

Thank you for the opportunity to provide feedback on the National Chemicals Working Group of the Heads of EPA ANZ Draft *PFAS-National Environmental Plan (NEMP) Version 3.0*. The Waste Management and Resource Recovery Association of Australia (WMRR) is the national peak body for all stakeholders in the essential waste and resource recovery (WARR) industry. We have more than 2,000 members across the nation, representing the breadth and depth of the sector within business organisations, the three (3) tiers of government, universities, and NGOs. Our membership covers the entire spectrum of the industry including landfill, recycling and resource recovery, energy from waste, e-waste, organics, construction, and demolition, commercial and industrial, hazardous and biohazardous waste sectors.

At the outset WMRR would like to state that we remain deeply concerned that PFAS remains prevalent in the broader Australian community, with little to no awareness of this fact. In WMRR's correspondence with state and federal governments, WMRR has highlighted that PFAS continues to be present in a range of everyday household items, including microwaveable popcorn bags, pizza boxes, aerosols, and non-stick cookware and embedded in many consumer goods and commercial products. We do note however that the risk of PFAS to human health is still not clearly proven, for example the Australian government's independent expert health panel established in April 2019 concluded that there is "mostly limited, or in some cases no evidence, that human exposure to perand poly-fluoroalkyl substances (PFAS) is linked with human diseases". Importantly, the panel concluded that there is 'no current evidence that suggests an increase in overall cancer risk'. However, the panel also noted that given PFAS continues to persist in humans and the environment, exposure to these chemicals should be minimised and future research should focus on long-term studies.

Whilst this uncertainty about PFAS exists, and the Australian government (at all levels) fails to take action on the ongoing availability of this material to the community, the waste and resource recovery sector is at a loss to understand why the continued focus on this material at end of pipe and not across the entire supply chain. It is nothing short of ironic that products containing PFAS can be placed on a supermarket shelf (without warning to the consumer) yet these same products may not be able to be deposited in highly engineered landfill for safe disposal, if assessed outside the mixed residual waste streams which permit their lawful acceptance.

Urgent consideration needs to be given to preventing PFAS from being included in the waste stream. Having said this, WMRR does recognise that PFAS contamination requires active management to protect the environment and welcomes the National Environmental Management Plan (NEMP) in general. WMRR would stress that what we urgently require is a consistent national approach to the waste management and resource recovery industry, rather than relying on environmental regulators in each jurisdiction to interpret and apply

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unique approaches to PFAS management and regulation. At present, we see differing approaches and timing to regulation and enforcement across Australia, which is both confusing and costly to both the community and industry. Either PFAS is an issue or it is not!

Australia requires a balanced approach to the waste management and resource recovery sector, with recognition of the risks of PFAS contaminants remaining in the broader environment if landfills are forced to refuse acceptance, and consideration of the relative benefits of removing contaminated recyclables from the environment or reprocessing them to extend their lives. There is significant cost and risk in this draft NEMP that is being placed squarely in the waste and resource recovery sector, that has no responsibility for generating this material. This cost and risk could be mitigated by responsibility being placed on generators as opposed to simply placing greater burden on our essential sector (which in large part the NEMP does through the actions of EPA's), without recognizing the reality of both how supply chains operate, and waste material is received.

WMRR continues to call on the federal government to prioritise a national phase-out of Persistent Organic Pollutants (POPs), starting with PFAS, by banning the use of these substances as raw materials in products in the first instance, and an EU style labelling scheme for all products that currently contain these POPs. WMRR is also seeking the development of a national program that requires all manufacturers – local and import – to report and identify hazardous chemicals within the products they produce and supply, similar to, for example, the EU's Register, Authorisation and Restriction of Chemicals (REACH) program as well as the Classification Labeling and Packaging (CLP) initiative, which requires identification of the material to allow consumers to make an informed choice. WMRR submits that there must be coordinated attention nationally about how Australia classifies and manages this substance before the disposal stage, and not simply continue to focus on end-of-pipe alone, given this is a supply chain issue. At the very least, the community must be made aware that they are purchasing/using items that contain PFAS and accept these are risks and costs that will be borne by them during use and at end of life.

We also note that in most states and territories levies are applied to waste deposited in landfills. Levy funding to the waste management and resource recovery sector to enable upgrades to infrastructure and meet the operational impacts to meet the requirements of the NEMP guidance (as implemented by EPA's) must be considered and supported by government if it is bona fide about adopting these measures, as well as addressing legacy issues. Whilst WMRR's comments on the Draft NEMP is contained at **Annexure A**, we do, however, have several overarching issues we wish to highlight.

Landfills

- a) *The role and lifespan of landfills*- Waste deposited to landfill generates leachate and landfill gas for more than ten (10) years after waste deposition. Local governments have operated landfills in Australia for decades, either under direct ownership or through the private sector. They have an obligation to do so in order to manage public health.

Many older landfills have accepted, and continue to accept, PFAS contaminated materials, particularly prior to these materials being identified as problematic. These older landfills may not be designed and constructed to contemporary standards. Modern well designed and constructed landfills also contain PFAS contaminated waste that was accepted prior to the emergence of PFAS as a contaminant of concern. A policy to deal with these legacy issues should be appropriately dealt with in the NEMP. Levy funds have a role in this regard, to assist with meeting costs associated with this.

- b) *Landfills and the waste management hierarchy*- The NEMP states that "acceptance of PFAS-contaminated materials is a commercial decision for the landfill operator" (at 2874). WMRR challenges this statement.

- i. The waste management hierarchy places disposal and therefore landfill as the last resort. Accordingly, it is not always a commercial decision whether to accept material- there may be no other alternative (is the government really advocating for illegal dumping of material?), landfills are not always able to refuse to accept waste. In fact, in at least one (1) jurisdiction the EPA instructed selected landfills to accept PFAS contaminated material because this provides a better environmental outcome than the alternatives.
 - ii. Landfills are also required to accept a wide range of materials, almost certainly including PFAS contaminants, after natural disasters. With the imposition of stringent regulations landfills may have no choice other than to refuse PFAS contaminated or suspected contaminated material. This will not be the best overall outcome for the environment if there are not alternative treatment facilities or other options available for such material (as is currently the case in South Australia).
 - iii. Landfills are lawfully permitted to accept mixed waste streams which the NEMP recognises contain PFAS as a result of their use in many consumer goods and products, which would not be permitted by EPA regulations if these materials were disposed of separately. The commercial decision in this case is to cease to operate.
- c) *Testing at landfills*- The reality is that material delivered to landfills is often bagged and/ or within mixed loads. Testing to obtain a realistic and representative measure of contamination in individual truck loads would be extremely difficult, time consuming and cost prohibitive. National guidelines or standards would be of assistance.
- Under the Draft NEMP sampling and testing required by EPA's will likely need to be expanded to cover a broader range of PFAS (including those in a gaseous phase), a wider geographical area, and a broader range of waste. This will significantly increase costs meaning that the ongoing frequency of these events is important.
- d) *Leachate*- Leachate management often relies on active evaporation which could result in airborne PFAS. In the absence of viable alternatives, this process poses a risk to the environment from the potential for uncontrolled spills of leachate. Guidance should consider and balance the demonstrated risks and benefits of existing practices which mitigate other acute risks to inform stakeholders in a balanced way.
- e) *Landfill gas*- Landfill gas is generally flared to reduce greenhouse gas emissions and/ or used to generate electricity that is fed into the national electricity grid. Flares go hand in hand with generators because they are needed to dispose of gas surplus to that used for generation. This will result in more greenhouse gases being released into the environment, and less electricity will be available to the national grid. Guidance should consider and balance the demonstrated risks and benefits of existing practices which mitigate other acute risks to inform stakeholders in a balanced way.

WMRR believes that the NEMP should include guidance on transitional implications outside of the initial priority areas as scientific knowledge and understanding evolves. Approaches to the management of diffuse sources will necessarily require upstream focus on supply chain issues and support for legacy issues. Further, there is a real risk that precautionary over regulation of PFAS contamination associated with landfills will result in significant increases in both capital and operational expenditure and questioning by stakeholders of existing essential requirements to mitigate known acute risks. This approach will make investment in landfills uncertain, potentially limiting landfill capacity resulting in unintended consequences (storage of wastes, illegal disposal and

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contamination of recovered products streams) to the public and to business, which rely on them to buffer variability in waste generation and where resource recovery options do not exist, increasing the cost of existing landfill space, and potentially result in increased costs to the community through increased gate fees, and potentially excessive increases where uncertainty and limited guidance results in inefficient use of capital.

Composting

Many composting facilities process biosolids on a regular basis. The draft NEMP has the potential to significantly impact composting operations by excluding these materials from composting processing, the types of impacts that this may cause for these facilities include reducing the financial viability of existing facilities, and challenging the business cases of new ones, it also may mean that there is a greater demand for landfill (or energy facilities) to manage this material if it is no longer able to be recovered, as well as users of the product, particularly large agricultural users, will need to source alternatives. WMRR queries if it is really the intention to reduce recovery rates and would urge a reconsideration of this approach.

We would appreciate the opportunity to discuss this response with you further, please do not hesitate to contact the undersigned to discuss.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Gayle Sloan'.

Gayle Sloan

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Annexure A

Line	Issue	WMRR Response / comment
56	This broadens the scope of PFAS compounds recognised by the NEMP beyond PFAS & PFOA to replacement PFAS compounds.	Replacement compounds are not addressed by current bans. There are limited to no guidance values on other PFAS compounds which are present in waste streams (non PFOS & PFOA and precursors). There is a lot of confusion – PFOS and PFOA are banned but not other PFAS. Greater clarity is sought as to what is within scope and how the compounds will be defined.
66	Specifically recognises landfills and wastewater treatment plants as sources of PFAS contamination and attributes PFAS diffused in the environment to a wider range of products	This is an end of pipe view. Circular economy considerations are not mentioned. (“Circular” is not found in the document). This section does not identify resource recovery facilities and materials as secondary sources, which could have a real impact on Australia’s stated ambition of creating a circular economy as well as achieve the 2030 resource recovery targets. In relation to achieving a circular economy, perhaps there is a need for this NEMP to consider a threshold below which there is a NEMP for all emerging contamination in the circular economy (microplastics, nanoparticles, PFAS and other POPs, endocrine disrupters etc) are managed upstream and in processing.
275	Monitoring	What is proposed here will require expanded scope and range of testing for many landfills. Can NEMP provide guidance on a justifiable nationally consistent approach?
591	PFAS inventory	How does this interact with iCHEMS? How will the prioritisation of regulatory action (596) occur- will states be taking a nationally consistent approach? WMRR supports recognizing in the PFAS inventory in products and built form, continuing addition to and fate at end of life and resource recovery.
1402	Site-specific risk assessment	This requirement will add to operating costs. The assessment is likely to be broader (and more expensive) than any existing PFAS testing regime. NEMP should provide guidance to EPA’s on a nationally consistent and justifiable assessment requirements.
1463	Requires targeted sampling of PFAS migration pathways and receptors.	As stated above, this is necessary but will add to costs and would benefit from further Guidance given the early state of science on some pathways.
2217	States that materials containing low levels of PFAS may be considered for reuse.	This puts composting facilities on notice, particularly those processing biosolids. Guidance is given on assessing risks, however industry seeks nationally consistent levels and approaches be adopted and enforced.

2375	states that any waste originating from activities associated with PFAS contamination (includes agriculture and wastewater treatment) have a high likelihood of contamination and should not be considered for reuse unless analysed.	Given the long list of activities associated with potential contamination, the implication is that many inputs to a composting facility in particular should be tested. This will add considerably to the cost of operation, however as mentioned above any levels and testing/ sampling regime must be nationally consistent (content and timing of implementation) to ensure correct and consistent messaging to all stakeholders.
2392	Addresses managing the risks associated with PFAS in resource recovery products.	<p>Whilst this recognises that similar waste types may have different levels of PFAS in different jurisdictions the recommendation is a feedstock management plan including sampling and testing to ensure PFAS in outputs does not exceed relevant criteria or limits.</p> <p>Industry strongly believes that states should not take differing approaches to levels and approaches, for example as we are seeing currently with NSW and SA differing approach to compostable packaging in compost- this creates confusion and concern for both the community and industry. It also is a key risk and potential impediment to investment in resource recovery and the circular economy for other materials (see comments under 66).</p>
2874	states that acceptance of PFAS contaminated materials is a commercial decision for a landfill operator.	<p>This is not true. Landfilling is often the option of last resort for materials, and is identified as such under the waste management hierarchy. It is often difficult for an operator to refuse to accept materials- we cannot encourage illegal dumping and is not it better to have safe storage of these materials in engineered sites? In Tasmania, two (2) landfills were instructed to accept PFAS contaminated material.</p> <p>The majority of wastes that contain some PFAS are received lawfully and classified by way of a regulated mixed waste stream. The commercial decision is to operate or not – not to exclude PFAs containing waste streams given the pervasive nature of these compounds.</p>
2904	requires review and strengthening of operational practices if necessary.	This would likely include the monitoring regime, but also may involve redirecting material no longer acceptable for composting. Dust suppression often involves using leachate. This may no longer be allowed under the draft NEMP, which will increase landfills’ leachate challenges.
2916	requires leachate to be tested before treatment, disposal, or reuse.	As stated above, this may preclude using leachate for dust suppression, etc on site. Depending on current testing regimes, this could also be an additional cost.

2925	broadens the scope of monitoring by landfills.	This section requires PFAS to be tested for in landfill leachate, groundwater, surface water and terrestrial receptors. This will be an added cost. Frequency and scope need to be clarified.
2944	infers that the standard PFAS suite currently monitored in Australia is insufficient.	This indicates that testing must be expanded to include a broader range of PFAS, which in turn will lead to an increase in cost. NEMP should provide nationally consistent guidance on what is possible and reasonable based on current science and distinguish areas where pilot and research is required to inform monitoring requirements before wide application.
2950	states that volatile gas phase PFAS are not currently monitored.	Does this statement lead to the assumption that monitoring must be expanded to include gas chromatography/ mass spectrometry testing. This will also lead to increased costs. This could lead to active leachate evaporation/ aeration being restricted in advance of a scientific risk assessment, which would lead to operational issues and potentially increase other environmental risk e.g. leachate spills etc. Can this please be clarified? NEMP should provide nationally consistent guidance on what is possible and reasonable based on current science and distinguish areas where pilot and research is required to inform monitoring requirements before wide application.
2965	states that ongoing monitoring of closed landfills should consider PFAS in groundwater.	This appears to state that there will be additional costs of monitoring, and potentially the cost of any remedial actions that may be identified. How will this be funded, particularly if the landfill owner is no longer in business.
2968	establishes criteria to apply to disposal of PFAS contaminated materials to landfill.	Given the comprehensive list included in Appendix C of the Plan, most materials disposed of to landfill are potentially contaminated and should therefore be tested- how will this be funded?
2997	suggests criteria that should be met before landfills are allowed to accept PFAS contaminated materials.	This is a useful guide for the future, but it needs to be recognised that some landfills have been accepting contaminated material for some time (including prior to the identification of PFAS and its risks) and will not necessarily meet these criteria. Regulators will need to consider how to deal with the environmental risks from pre-existing contaminated sites.