LOCAL GOVERNMENT NSW

DRAFT SUBMISSION

Discussion paper - Management of asbestos in recovered fines and recovered materials for beneficial reuse in NSW

July 2024

ONE VOICE FOR COUNCILS

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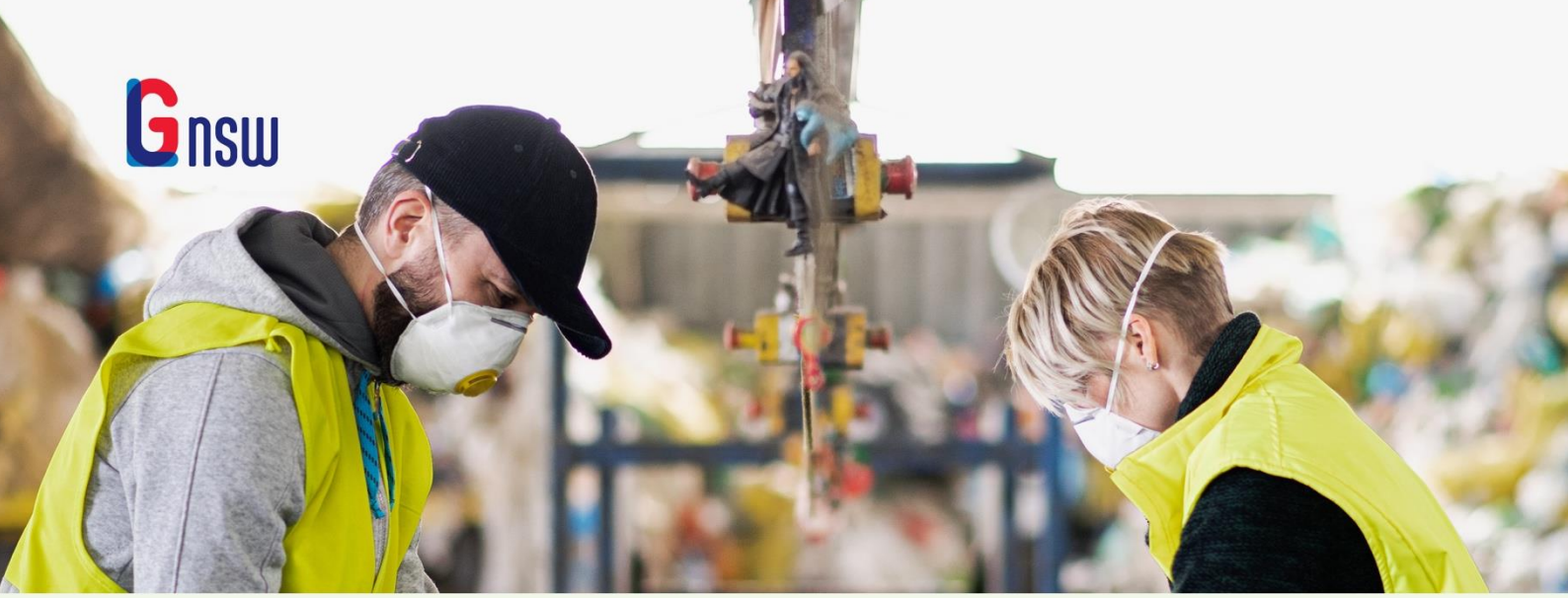

Local Government NSW (LGNSW) is the peak body for local government in NSW, representing NSW general purpose councils and related entities. LGNSW facilitates the development of an effective community-based system of local government in the State.

OVERVIEW OF THE LOCAL GOVERNMENT SECTOR

Local government in NSW employs **55,000 people**

Local government in NSW looks after more than **$177 billion** of community assets

Local government in NSW spends more than **$2.2 billion** each year on caring for the environment

NSW has more than **350 council-run libraries** that attract tens of millions of visits each year

Local government in NSW is responsible for about **90% of the state's roads and bridges**

NSW councils manage an estimated **4 million tonnes of waste** each year

NSW councils own and manage more than **600 museums, galleries, theatres and art centres**

NSW has more than **400 public swimming and ocean pools**

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Opening

Local Government NSW (LGNSW) is the peak body for local government in NSW, representing all NSW general purpose councils and related entities. LGNSW facilitates the development of an effective community-based system of local government in the State.

LGNSW welcomes the opportunity to provide feedback to the Office of the Chief Scientist & Engineer (OCSE) discussion paper on the Management of Asbestos in Recovered Fines and Recovered Materials for Beneficial Reuse in NSW.

To facilitate input from councils, LGNSW hosted an online presentation and Q&A by the OCSE which was attended by local government employees from across the state. Those views have been incorporated into this submission and we are also aware of councils making their own submissions.

This submission is provided as a draft, pending endorsement by the LGNSW Board at its next meeting. We will advise of any amendments to the submission in due course.

LGNSW Advocacy Priority

Implement initiatives and investment to make asbestos disposal simpler, cheaper, and safer.

Local government plays a critical role in managing the risks of exposure to asbestos. Working in conjunction with the NSW State Government and the community, councils continue to address the unfortunate legacy of asbestos in our environment.

Situations where NSW councils play an active role include:

- Emergency response
- Management of naturally occurring asbestos
- Regulation of activities (non-work sites, particularly DIY home renovations)
- Regulation of non-declared contaminated land
- Management of council land, buildings, and assets
- As a responsible employer
- Education and advice to the wider public
- Waste transport, disposal, and regulation
- Land use planning (including development approvals and demolition)

Summary of Recommendations

1. That the OCSE recognise that the identification, management, and controls required for asbestos safety are a specialised area of expertise. Any consideration of thresholds or screening levels must not lead to practices that will expose workers and the public to airborne asbestos fibres and/or leave a legacy of asbestos contaminated land for future generations to manage.

2. That the OCSE recommend to the NSW government that systematic and thorough records should be kept and circulated to councils on the incidence and outcomes of waste loads rejected due to asbestos contamination.

3. That the OCSE recommend to the NSW Government that systematic and thorough records should be kept and circulated to councils on the incidence and outcomes of asbestos contamination at C&D waste facilities.

4. That the OCSE recommend to the NSW Government a methodology that can be used by government and councils to take sufficient samples of waste streams to determine the occurrence of asbestos contamination.

5. That the OCSE recommend to the NSW Government that there are significant opportunities to prevent asbestos contamination of waste, thereby reducing the need for thresholds and screening levels.

6. That the OCSE recommend to the NSW Government it develop a holistic approach to thresholds and screening levels for asbestos that includes education and support for waste generators to ensure asbestos does not contaminate waste streams.

7. That the OCSE recommend to the NSW Government that the Work Health and Safety Act and Regulations, Protection of the Environment Operations Act and Regulations, and the Contaminated Land Management Act be reviewed and better aligned to eliminate the risks of airborne asbestos exposure in the workplace as well as in the community.

8. That the OCSE recommend to the NSW Government that alternative methods of asbestos waste treatment be explored to reduce the risk of airborne asbestos fibres.

Response

Thresholds and screening levels

Question 1: *What factors should be considered when deriving a threshold or screening level for asbestos in recovered fines and material for beneficial reuse?*

Factors to consider include:

Sampling methods: The sampling method involved (sample number & sample size) and how this would be applied to at least 3000 known asbestos products as well as the density of the material and how this can be detected in C&D waste.

The potential for asbestos fibres to become airborne and inhaled: Asbestos fibres can become airborne during various activities such as handling, cutting, or disturbing materials containing asbestos. Once airborne, they can be inhaled, leading to serious health risks. Airborne fibres are a risk to the handlers of the waste, the samplers of the waste, and the workers who re-use the waste, as well as the people in the locations where the waste is re-used.

There is no minimum dose of asbestos. Any exposure is harmful: Health authority guidelines state that there is no safe level of asbestos exposure. Even minimal exposure can pose health risks, including asbestosis, lung cancer, and mesothelioma.

Asbestos fibres are not visible to the human eye: Asbestos fibres are microscopic and cannot be seen without specialised equipment, making it virtually impossible to detect their presence without proper testing and/or equipment.

Will this require air monitoring? When asbestos removal is being undertaken air monitoring may be required depending on the condition of the asbestos containing material (ACM) and the means by which it is being removed. Small quantities of ACM are currently able to be removed by homeowners and they may not have access to monitoring equipment. Air monitoring is often required to assess the concentration of asbestos fibres in the air, especially in environments where asbestos-containing materials are disturbed. This helps ensure that exposure levels are within safe limits. If you are processing fines and your screening processes have been adequate you may be able to eliminate much of the risk, however it will depend on the nature of the fines.

Asbestos detection in situ for recovered fines must not be undertaken, samples must be sent to a NATA lab to confirm presence/absence of asbestos: In situ detection of asbestos is challenging, and samples typically need to be analysed in accredited laboratories, such as those certified by the National Association of Testing Authorities (NATA), to confirm the presence or absence of asbestos. Therefore, the approach should be to adopt appropriate precautionary measure such as PPE and filters in machines.

Is there an accurate correlation between amount of asbestos required to be in recovered fines to produce respirable asbestos fibres and under what circumstances? The correlation between the amount of asbestos in recovered fines and the production of respirable fibres depends on various factors, including the type of material, the degree of disturbance, the method of processing and environmental conditions. Accurate assessment usually requires detailed analysis by experts in a lab and the identification and elimination of ACM at source should always be the objective.

Lack of asbestos awareness for those involved in recovered fines: This is a significant issue. Awareness and proper training about the risks and handling procedures for asbestos-containing materials are crucial for anyone involved in activities where asbestos might be present. In the construction and demolition (C&D) context there are many workers involved across removal, demolition, placing of waste in bins at source site, maintenance of bins at source site, collection and transport of bins, transfer of bins, final disposal of bin contents. A lack of awareness at any of these stages puts all of the other workers at risk.

Competency of person taking sample to determine if threshold has been exceeded: The competency of individuals taking samples is critical. Proper training and certification are necessary to ensure that samples are collected correctly and that the results accurately reflect asbestos levels. Feedback from councils is that this skill is limited to expert consultants that they usually have to contract in.

Beneficial re-use is not defined: Material containing ACM should not be applied for beneficial reuse. The term "beneficial re-use" needs to be clearly defined, especially in contexts involving hazardous materials like asbestos. Clear definitions and guidelines are essential to ensure safe and appropriate use.

Recommendation 1:

That the OCSE recognise that the identification, management, and controls required for asbestos safety are a specialised area of expertise. Any consideration of thresholds or screening levels must not lead to practices that will expose workers and the public to airborne asbestos fibres and/or leave a legacy of asbestos contaminated land for future generations to manage.

Asbestos waste management at recycling facilities

***Question 2**: Can you provide any data on annual volumes of C&D waste being recycled or alternatively sent to landfill? Data on rejected loads due to asbestos presence and any other data related to all TOR items is welcomed.*

All councils report rejected loads to the EPA. Many of the rejected loads are due to the presence of asbestos. The OCSE could contact all councils to request information on rejected loads in addition to requesting this information from the EPA. At present, data on rejected loads is not publicly available, with most councils not informed of the outcomes of reporting rejected loads. Many councils have informed LGNSW that they

suspect rejected loads lead to illegal dumping in parks, roadside, and other public open spaces. Two examples of data shared with LGNSW follow:

Example 1: Data is available on processed aggregates and recovered organics and fill. Most of the rejected loads at our facility are because of the incorrect treatment of ACM and these are all reported. We also report ACM loads that are presented without registration in the state-based system which are over 100kg.

Example 2: Annual estimated figure for regional C&D to landfill - 125,000 m3 pa. (but this included a whole range of materials most of which would be unlikely to have ACM e.g. timber, sheeting of all types, plastics hard & soft, fixtures & fittings, carpet, as well as cladding, concrete, tiles, masonry). Figures for rejected loads due to asbestos - regionally - 2016/17 (107) incidents; 2017/18 (77) incidents.

Recommendation 2:

That the OCSE recommend to the NSW government that systematic and thorough records should be kept and circulated to councils on the incidence and outcomes of waste loads rejected due to asbestos contamination.

***Question 3**: Can you provide any other information on the potential presence of asbestos in recycled C&D material?*

i. *Information on the methods of separating and removing asbestos from waste that can inform alternative approaches?*

Many councils with waste facilities have been impacted by asbestos contaminating domestic recycling as well as C&D waste. Examples of this can be requested from councils in northeast NSW, with the consequences going beyond the contaminated load and risking significant quantities of recycling and/or organics. Contact details have been provided to the OCSE.

As an example, one region of NSW has had incidents of asbestos in kerbside bins reported on a number of occasions. Also, during two different kerbside bin audits in the last two years, pieces of ACM sheeting where found in the aggregated waste (in both residual & recycling streams).

Another region reported regular detection of ACM in kerbside recycling bins (discovered at Material Recovery Facilities - MRFs) in the months following the 2022 floods. A public awareness campaign was launched to tackle the issue. An unexpected outcome of this was the discovery of flood legacy ACM debris on kerbsides across much of the flood affected area.

ii. *What reuse scenarios are there for recycled waste, including end-products and their use?*

C&D waste, particularly timber, has significant reuse potential whether treated or untreated as long as it is not contaminated (with asbestos, lead based paint and other). For many councils the risk of asbestos contamination in potential streams of C&D waste has resulted in those councils discontinuing recycling of C&D waste due to no practicable way to screen for asbestos. There have also been cases where

materials are received by the landfill at a subsidised rate due to the ability to process and recover. However, because of contamination the material ends up being disposed of to landfill attracting the levy, which may be more than the cost charged for disposal. This includes recycled aggregate that may be sold to the public or reused in civil projects avoiding the need for virgin materials.

Recommendation 3:
That the OCSE recommend to the NSW Government that systematic and thorough records should be kept and circulated to councils on the incidence and outcomes of asbestos contamination at C&D waste facilities.

***Question 4**: While this section focuses on C&D waste, are there other waste types which are suitable for beneficial reuse which have the potential to be contaminated with asbestos?*

Anything has the potential to be contaminated with asbestos, so perhaps the question should be what is the likelihood (level of risk) of it occurring? For example, the risk of finding asbestos in the kerbside recycling bins increased in the Lismore area due to the disaster event.

Examples of waste types known to have been contaminated by asbestos include:

- Green bin contents.
- Bulky kerbside waste (council clean-ups).
- Disaster waste.
- Soils.

However, councils report that contamination can often go undetected.

Recommendation 4:
That the OCSE recommend to the NSW Government a methodology that can be used by government and councils to take sufficient samples of waste streams to determine the occurrence of asbestos contamination.

Management of asbestos in soil

***Question 5**: Is it appropriate for the health screening levels for asbestos in soils to apply to asbestos in waste? Note that the threshold level in this instance refers to a level where further action is required.*

i. Why or why not?

The National Environment Protection Council (NEPC) is the main reference for management of asbestos in soils in Australia. The NEPC guide[1] "applies to asbestos

[1] National Environment Protection Council (2022); National Environment Protection (Assessment of Site Contamination) Measure April 11 *Schedule B1: Draft Guideline on Investigation Levels for Soil and Groundwater*

materials in soil and does not address asbestos issues related to occupational health and safety, waste management or mining sites which are covered by specific regulations in each jurisdiction" and "does not apply to asbestos materials as wastes such as demolition materials stacked on the surface of land or asbestos materials in buildings".

In the NEPC guide there are no health screening levels for asbestos; it only has health screening levels listed for hydrocarbons. Applying the concept of health screening levels to asbestos would therefore require in-depth research and validation.

Question 6: *Health screening levels are not the only tool used for managing asbestos in soils. If threshold levels in soils were to be applied to asbestos in waste for beneficial reuse,*

i. *what other tools can support managing asbestos in waste for beneficial reuse?*
ii. *what would be the limitations, costs or feasibility of safely removing asbestos in waste?*
iii. *are there certain scenarios where recycled C&D material should not be reused?*
iv. *are there certain scenarios where reuse of recycled C&D material could result in land legacy issues?*

Correct identification and removal of asbestos and ACM prior to demolition or deconstruction of buildings and structures significantly reduces the likelihood that asbestos will end up in recovered fines. Put simply: prevention is better than cure.

In addition to this, source separation of C&D material intended for re-use and recycling with an additional check for asbestos contamination before being transported to C&D waste facilities ensures that contamination is identified and removed early. Solutions to asbestos contamination of recovered fines should not encourage unsafe or illegal asbestos removal practices.

Council feedback: In regard to disaster waste, if some priority could be given to a systematic removal of ACM from areas that are considered to be a high disaster risk would help in mitigating the issue before it can arise. The use of handheld or portable near-infrared spectroscopy tools and any other emerging technology should be considered. Many councils in northern NSW use screening/identification technology at their weighbridges.

Recommendation 5:
That the OCSE recommend to the NSW Government that there are significant opportunities to prevent asbestos contamination of waste, thereby reducing the need for thresholds and screening levels.

Standards and guidelines for asbestos in waste

Question 7: *Are there other standards or guidelines that would be applicable for managing asbestos in waste for beneficial reuse that can be provided?*

The SafeWork NSW Code of practice on how to manage and control asbestos in the workplace and the Code of practice on how to safely remove asbestos provide detailed information on removing asbestos and ensuring it is disposed of legally and safely.

The mandatory training for licensed asbestos removal and asbestos licensing requirements are additional safeguards for ensuring asbestos does not contaminate C&D waste intended for reuse or recycling. Strengthening of the planning and demolition requirements to ensure asbestos is identified and removed will reduce the need for establishing thresholds for asbestos contamination in waste. However, with much renovation being exempt development it bypasses any opportunity for council to influence at the planning stage, and education is the main option for improving outcomes.

Significant risk exists from the DIY / home renovation sector which is not regulated like workplace environments. Even though asbestos removal in residential setting is limited to less than 10m2 of non-friable asbestos, it is a significant source of the ACM that is turning up in council kerbside bins/MRFs. Other options for dealing with this include cheaper disposal fees, subsidised licensed removal costs and programs of removal works for high disaster risk areas.

Question 8: *Should the approach in the WA guideline (Managing asbestos at construction and demolition waste recycling facilities), be implemented in NSW and if so, why or why not?*

i. *Are there other factors that should be considered if the WA Guideline is to be implemented?*
ii. *Is there an alternative approach that could be considered?*

In NSW detailed guidance on the early identification and removal of asbestos at all stages of the C&D waste generation and disposal process has been developed. Where possible all asbestos should be removed before making its way into recovered fines thereby reducing the need to establish asbestos contamination thresholds.

See following guides:
Management Of Asbestos in Recycled Construction and Demolition Waste – Guide (SafeWork NSW December 2010).

Draft Protocol for managing asbestos during resource recovery of construction and demolition waste (EPA 2014).

Standards for managing construction waste in NSW (EPA 2019).

Sampling and analysis

Question 9: *Apart from AS4964 and ASC NEPM, are there other sampling and analysis methods for detecting and quantifying asbestos in waste materials or recycled products that are being received and processed at recycling facilities?*

i. Are you aware of any other methods/processes for sampling and analysis of asbestos that the Review should consider? If so, please provide details and basis for their relevance to this Review.

ii. How reliable and accurate are these methods in ensuring that recycled waste is not contaminated?

The following guides have been used to assist in the identification of asbestos and ACM in C&D waste.

Management Of Asbestos in Recycled Construction and Demolition Waste – Guide (SafeWork NSW December 2010).

Draft Protocol for managing asbestos during resource recovery of construction and demolition waste (EPA 2014).

Standards for managing construction waste in NSW (EPA 2019).

Recommendation 6:
That the OCSE recommend to the NSW Government it develop a holistic approach to thresholds and screening levels for asbestos that includes education and support for waste generators to ensure asbestos does not contaminate waste streams.

Risk-based approaches for managing asbestos in waste.

Question 10: *Would a through-chain approach to managing asbestos in waste, where each business looks to minimise or eliminate the risk from asbestos in waste for beneficial reuse, work?*

i. What elements would be part of the system/approach?

ii. What would be the advantages/disadvantages of such a system?

In NSW there are three sets of legislation to take into account when managing for asbestos in waste:

- Work Health and Safety (WHS) Act and Regulations
- Protection of the Environment Operations (POEO) Act and Regulations
- Contaminated Land Management (CLM) Act

These three sets of legislation are not necessarily in sync and drive different outcomes. POEO and CLM are about land contamination and WHS is about the safety and health of workers involved with asbestos.

Any approach that prioritises early detection and removal of asbestos before it enters waste streams is in alignment with current WHS and POEO and CLM requirements. Addition of stop/go check points in waste streams will reduce the possibility of contaminated waste being added to otherwise uncontaminated stocks of C&D waste destined for re-use or recycling.

Recommendation 7:
That the OCSE recommend to the NSW Government that the Work Health and Safety Act and Regulations, Protection of the Environment Operations Act and Regulations, and the Contaminated Land Management Act be reviewed and better aligned to eliminate the risks of airborne asbestos exposure in the workplace as well as in the community.

Question 11: *Are there other risk-based approaches to managing asbestos in waste for beneficial reuse?*

This depends on which processing methods are applied in order to allow asbestos to be re-used (or processed for reuse), such that the processing or treatment of asbestos don't not transmit or create new or residual risks for people in the processing and downstream activities involved in any reuse.

Consideration could be given to the following experimental approaches:

1. Thermal treatment of asbestos
2. Chemical treatment of asbestos
3. Immobilisation of asbestos
4. Biological treatment of asbestos
5. Any combination of 1-4 above.

Recommendation 8:
That the OCSE recommend to the NSW Government that alternative methods of asbestos waste treatment be explored to reduce the risk of airborne asbestos fibres.

General

Question 12: *Is there any further information you would like to provide the Review to assist us with in responding to the Terms of Reference?*

In Japan a study has been undertaken and published on the accuracy and effectiveness of visual observation of asbestos in C&D Waste, See following title.

Asakura, H., Kawasaki, M., Suzuki, K., Nakagawa, K. and Watanabe, Y., 2014. Determination and sorting of asbestos-containing material by visual observation. *American Journal of Environmental Protection*, *3*(5), pp.275-282. https://www.sciencepublishinggroup.com/article/10.11648/j.ajep.20140305.21

Conclusion

LGNSW values the opportunity to contribute to the *Discussion Paper - Management of asbestos in recovered fines and recovered materials for beneficial reuse in NSW*. The need for collaboration among all spheres of government is paramount. Asbestos that is well managed through identification, management, removal and disposal significantly reduces any risks from the material. Any change to thresholds or screening levels for asbestos in recovered materials needs to ensure that the community and workers are protected from airborne asbestos fibres.

For further information or to discuss this submission, please contact Daniel Adler, Asbestos Policy LGNSW.