Terms of Reference

Advice on the management of asbestos in recovered fines and recovered materials for beneficial reuse in NSW

The Minister for Environment and Heritage requests the Office of the Chief Scientist & Engineer (OCSE) to provide advice on the management of asbestos in recovered fines.

Background

Asbestos regulation in NSW

Since 2003, the use or sale of asbestos has been banned in Australia.

Consistent with the national ban on asbestos, section 144AAB of the *Protection of the Environment Operations Act 1997* (POEO Act) makes it an offence to cause or permit asbestos waste in any form to be re-used or recycled. The prohibition applies to all wastes containing any form of asbestos at any concentration. Also, it means asbestos waste cannot be processed, screened or segregated. Therefore, asbestos cement material, for instance, cannot be removed from the waste and all asbestos containing waste must be disposed of to a landfill licensed to receive the waste.

It should be noted that asbestos containing materials managed at the site of their occurrence may not be defined as waste, and different rules can apply to their management and re-use. For example, asbestos-contaminated soil that needs to be processed (generally by excavating the soil and removing the asbestos from it) prior to reuse is considered waste, even if it remains on the same site. If the soil does not need to be processed prior to on-site reuse (generally because contamination levels are extremely low), then it may not be waste, if certain pre-conditions are met.

There will generally be a practical level of exposure below which it is impossible to detect increased risk of asbestos related diseases. This is reflected in the *National Environment Protection (Assessment of Site Contamination) Measure 1999*, which regards levels of asbestos cement material below 0.01% w/w as safe. A more stringent level of 0.001% w/w is applied to fibrous asbestos and asbestos fines due to their greater risk of air borne fibres.

Unlike the national approach for managing asbestos contaminated land, inconsistent approaches exist across jurisdictions in managing asbestos contaminated waste. For instance, in Western Australia where significant efforts are taken to keep asbestos contaminated materials out of construction & demolition waste recycling facilities, it is acceptable to screen and remove asbestos cement material at recycling facilities if it cannot be avoided. Also, the WA guidance on managing asbestos in construction and demolition waste recycling facilities states that to ensure the health of those using or coming into contact with recycled C&D products is protected, the asbestos content (in any form) in any recycled products must not exceed 0.001 % w/w. More information is available on the EPA website.

There is considerable industry confusion around the overlap between the requirements of the contaminated land and waste regulatory frameworks in relation to on-site reuse of asbestos-contaminated soils. The EPA is currently working with industry and other authorities to develop policy and guidance to help clarify this issue, but further advice from the OCSE would be beneficial.

Recovered fines

Recovered fines are the residues remaining after all recyclable construction and demolition waste material has been removed from skip bins. They are reused as a sand/soil substitute in landscaping materials such as turf underlays or construction fill.

Compliance testing by the EPA in 2019 found that around half of all recovered fines produced is high quality clean soils which is of benefit to reuse. However, the other half contained contaminants including asbestos,

that may have human health or environmental risks. Other key contaminants were synthetic mineral fibres and plastics and micro-plastics.

Earlier in the year, the EPA commenced consultation with industry and other stakeholders on a proposal to change the rules that apply to the production of recovered fines. This included sampling requirements and the intention to revoke the generic or 'batch' resource recovery orders and exemptions that apply to recovered fines. Skip bin fines would only be able to be reused on a site-by-site basis where high-quality produce could be demonstrated.

The industry raised significant concerns with the proposed changes, as they considered the standards set would be challenging to comply with and could impose significant cost to industry that would be passed onto skip bin customers. They further suggested the proposed changes would see recycling and recovery rates drop significantly and increased illegal dumping.

Industry have separately raised concerns over many years suggesting there is a need for a threshold quantity of asbestos in waste before it is treated as asbestos waste, with the need for a more proportionate approach to risk when dealing with small amounts of bonded asbestos. Concerns have also been raised relating to the remediation of contaminated sites, with site auditors seeking greater clarity on what can be done on and off site with soils containing asbestos

Improving the management and beneficial reuse of waste in NSW

The EPA is currently reviewing its approach to the management of asbestos in the context of reuse/recycling and resource recovery to support both a circular waste economy, resource recovery and reuse and explore options for greater consistency between jurisdictions.

The NACC consider there needs to be an improved evidence base on the risk tolerance, health and environmental impacts, technologies and cost-effective methods to inform any future improvements to the safe and effective management of asbestos in recovered fines and in relation to recovered materials / waste intended to be beneficially reused.

Scope of advice

The OCSE will convene a technical panel with relevant experts to address the following:

1. Undertake a review of national and international jurisdictions standards and guidelines to determine if asbestos threshold levels (in waste) in an environmental context have been set; where threshold levels exist and what they are; report on the basis (environmental, human health) for determining thresholds and how compliance with those thresholds is achieved.
2. Can a tolerable threshold level be set for asbestos in waste intended for beneficial reuse irrespective of its end use? In answering this question, consideration should be given to:
    a. What would be a scientifically robust basis for determining the threshold level?
    b. Are there controls that could be applied to mitigate environmental and human health risks (including education, regulation, monitoring, reporting etc) to a level where the recovered material could be used in a limited set of circumstances?
    c. In what circumstances would it be possible to land apply recovered materials with minimal or controllable/manageable risk (i.e. under infrastructure if capped and sealed), and what would appropriate methods look like? What are the risks of creating legacy issues and how could this be managed?
    d. Where should the application of recovered materials be restricted?

e. If no acceptable threshold could be set, what is the scientific basis for maintaining a zero tolerance?

3. What is the most appropriate sampling and analytical approach for asbestos in recovered material? In answering this question, consideration should be given to:

    a. How many samples to collect and test for a given volume to be fair, cost-effective and representative

    b. What test methods would represent best practice, for example, AS4964-2004, NEPM gravimetric and AF/FA sampling or other test methods

    c. The technology available in the context of the recommended acceptable thresholds and its accessibility.

4. Should a tolerable threshold level for historically asbestos-contaminated soils be different to a tolerable threshold level for asbestos in waste? Is it safe and practical to process asbestos-contaminated soils to reach a threshold level and reuse them on-site.

5. Are setting threshold levels the best way to manage asbestos in recovered materials? Or are there better risk-based approaches to achieve these outcomes?

6. Is there scientific and risk assessment principles that the EPA should consider when setting threshold levels for asbestos?

Final advice

The OCSE will produce a report to the Minister and the NACC setting out their advice and recommendations on the questions above within 12 months of receiving this terms of reference. The Minister may request that the final report be publicly released. The report and inputs into this review by the OCSE should be treated confidentially in the meantime.