

## NSW ACCREDITED SITE AUDITOR SCHEME

### Minutes for the Site Auditor Meeting – Friday 3 April 2020

#### Present

##### **Auditors:**

Adrian Hall  
Alyson Macdonald  
Amanda Lee  
Andre Smit  
Andrew Kohlrusch  
Andrew Lau  
Anthony Scott  
Anthony Lane  
Ben Wackett  
Brad Eismen  
Brad May  
Caroline Vernon  
Charlie Barber  
Chris Jewell  
David Gregory  
Fiona Robinson  
Frank Mohen  
Graeme Miller  
Ian Gregson  
Ian Hosking  
Ian Swane  
James Davis  
Jason Clay  
Julie Evans  
Kylie Lloyd  
Lange Jorstad  
Louise Walkden  
Marc Salmon  
Mark Stuckey

Melissa Porter  
Michael Dunbavan  
Mike Nash  
Paul Moritz  
Peter Beck  
Peter Lavelle  
Peter Ramsay  
Philip Mulvey  
Rebeka Hall  
Robin Wagland  
Ross McFarland  
Rowena Salmon  
Sophie Wood  
Tim Chambers  
Tom Onus  
Tony Scott  
Colin McKay

##### **NSW EPA:**

Anthea White  
Rose Cocks Helen  
Prifti Asela  
Atapattu Joanne  
Stuart Elizabeth  
Watson Olivia  
Patterson Victoria  
Lee  
Ben Livissianis  
Christina Low  
Arminda Ryan  
Naomi Lee

Carolina Olmos  
Christina Low  
Naomi Lee  
Marina Leung  
Kate Sargent

##### **Presenters (Affiliation):**

Anthea White (EPA)  
Jo Graham (EPA)  
Asela Atapattu (EPA)  
Joanne Stuart (EPA)  
Michael Dunbavan  
(Coffey)  
Helen Prifti (EPA)

##### **Apologies (Proxies):**

Rod Harwood (Toby  
Scrivener)  
Paul Steinwede  
(Jonathan Ho)

##### **Audit Panel:**

Damien Davidson  
Don White  
Graeme Batley  
Greg Davis (apology)  
Paul Newell (apology)

**This is a record of the meeting. Any directions or policy guidelines made as a result of these discussions will be formally released under a sperate cover.**

## **1. Welcome and Meeting Objectives**

**Anthea White, NSW EPA**

Anthea White (Unit Head of Contaminated Land Advice and Audit) welcomed all attendees and gave an acknowledgement of country.

Anthea also acknowledged the restrictions on movement due to Covid-19 and gave an overview of who is online, given that all attendees are dialling in remotely, being auditors (or their proxies) members of the auditor accreditation panel and EPA officers.

Anthea outlined the agenda, noting that with the restructure of the EPA, Arminda Ryan is no longer directly involved in the audit scheme and thanked Arminda for her extremely valuable contribution to the audit scheme over the years, noting that she brought many improvements to the scheme.

## **2. Audit Unit**

**Jo Graham, NSW EPA**

Refer to presentation attached.

The conflict of interest declaration form will be sent out after this meeting for auditors to start completing. From now on, for any statutory audits, the declaration form should be completed and sent to the EPA with the site audit notification form. For non-statutory audits, the form should be completed and kept as a record by the auditor.

Consultation with auditors for issues relating to potential alleged wrongdoing will be included in the feedback questionnaire, but auditors can contact the EPA directly to discuss if preferred.

### **Discussion**

- Clarification was sought on whether "above criteria" when considering groundwater concentrations included background or regional concentrations (e.g. metals)?
  - We would look at this on a case by case basis (but auditors should consider the requirements of the Duty to Report Guidelines and use their professional judgement). But if in doubt please come and talk to the EPA and we can confirm if we consider whether it is an issue.
- There was a query regarding notification of off-site groundwater contamination, and whether the EPA will indicate a period in which a response will be provided? Noting that developments can move fast.
  - Whilst an actual response time can't be specified, as it will depend on workload of the officers involved, we do try to be very responsive as we are aware of the time pressure put on auditors. (We encourage auditors to inform us as soon as possible to minimise the chance of delays.)
- In response to the request for suggestions for topics for future meetings, there was a request whether the EPA could ask Dr Craig Dalton (lead task force, New England Health) to discuss the NHMRC changes to blood lead levels.
  - Taken on notice.

## **3. Restructure of the EPA**

**Asela Atapattu, NSW EPA**

Refer to presentation attached.

Asela Atapattu is the director of the new Environmental Solutions - Chemicals, Land and Radiation, which now includes the Contaminated Land Advice and Audit team.

Asela provided a brief summary of his background in technical risk assessment and risk-based regulation. Most recently he was director for the EPA's regulation of dangerous goods, pesticides, chemicals and radiation.

Asela discussed the drivers of the EPA realignment and the new structure based on functions.

Asela mentioned how he previously worked alongside the Contaminated Land Management team and is aware of the challenges in regulation.

Asela recognises the importance of the audit scheme and how he considers that there are lots of opportunities to expand similar thinking into hazardous waste and radiation spaces.

**Discussion:**

- It was asked where the management of PFAS fits into the new structure?
  - There is now no specialised area for PFAS. The assessment of PFAS will now be done in the respective operational teams just like any other contaminant.

**4. Policy**

**Joanne Stuart, NSW EPA**

Refer to presentation attached.

Joanne Stuart formerly the Manager of the Policy section of the Contaminated Land Management team advised her new title following the restructure is the Manager of Land and Resources Policy.

**Discussion:**

- It was asked what the EPA's expectations are in relation to site auditors in terms of the review and possible endorsement of the draft financial assurance guidance? Are they considered the "independent assessment" provider? Has the EPA considered the Victorian approach where auditors with relevant skill are accredited to conduct financial assurance calculations?
  - No, site auditors won't be considered independent assessors for financial assurance, that will need to be done by a financial adviser. Site auditors may get involved in working out the first part of the assessment – i.e. what actions would be required to remediate the site and undertaking a technical review of the estimated remediation/management actions and provision of cost based on their experience and industry guidance. The NSW EPA hasn't considered the Victorian approach as it is based on requirements under the POEO Act. Financial advisors focus on accounting standards.
- There was a question regarding the draft EMP practice note, and how many site auditor representatives will be consulted and how will they be selected?
  - It is likely that the EMP practice note will be sent to auditors that responded previously specifically about this issue during consultation on the reporting guidelines and the hazardous ground gas guidelines. However, if any auditors are interested in commenting, please send an email to the auditor's mailbox.
- There was a question in regard to the updated guidelines for the "*Consultants Reporting on Contaminated Land*" which are due to be published today, and what happens if reports in current audits have been reviewed but now do not meet an aspect of the requirements of the updated consultants reporting guidelines?
  - If reports have already been substantially completed under the previous guidelines, then finish them as per the previous guidelines. But any new

reports should be completed taking into account the requirements in the new guidelines.

## 5. Coal Washery Rejects

**Michael Dunbavan, Coffey**

Refer to presentation attached.

Michael Dunbavan provided a brief summary of his background, noting he has worked extensively with Coal Washery Rejects (CWR), including starting in the geotechnical area, in construction of coal tailings dams in late 80s. Later work has included environmental monitoring at the Wongawilli coal mine over several years and he has a current audit in the Illawarra that has some CWR material on site.

Michael noted that there is a lot of CWR material produced in the Sydney Basin and used in construction in the Illawarra and in Newcastle. Two main sources for CWR material are the coal washeries at the steel works in Newcastle and Wollongong.

NSW EPA has issued a waste exemption order for CWR if it meets certain criteria. Michael noted that auditors need to know what to look for in CWR including:

- Trace metals (heavy metals and Se)
- EC
- pH (indicator of sulphur) (8 to 11)
- Combustible content (btw 30-40%)
- Sulphur

CWR are also called 'Chitter' in Newcastle and 'Rejects' in Wollongong.

### **Discussion:**

- There was a question asked about the presence of polycyclic aromatic hydrocarbons (PAHs) and total recoverable hydrocarbons (TRHs) in CWR. Are these likely to turn up in standard analyses at concentrations exceeding investigation levels? Also, what about heavy metals?
  - PAHs do occur naturally in coal, usually at low levels. Usually at higher concentrations in burnt coal or ash. TRHs can turn up at high concentrations, but unlikely to have the lighter fraction of TRHs, this is more of a problem with carbonaceous shales (e.g. Ashfield Shale can have this).
  - Heavy metals are not present in huge concentrations but vary from seam to seam.
- There was a query regarding how to know whether combustibility will be an issue? Another auditor noted that they had known CWR to burn underground in the UK.
  - Phil Mulvey provided some of his experience in response to these questions, noting coal needs over 1% sulphur to be combustible (e.g. Greta Coal Measures, Newcastle mines, Wallsend mines, Muswellbrook 1 and 2 and Singleton area). Chitter (CWR) from these seams was often used in the Muswellbrook area and in the Newcastle area.

Combustion has occurred in the Muswellbrook mines with CWR from the Greta coal deposit. Many Permian coal measures have sulphur concentrations over 1%. When in the presence of air, it oxidises and produces sulfuric acid. It appears black with yellow/orange stripes, which is Jarosite, and the pH will sit below 4. One

chitter dump site from the Greta Coal Measures had pH <2 water coming from it. The chitter was ~3.5 pH, which is consistent with Jarosite being present. The main dump for CWR near Newcastle is Kooragang island and in the Wollongong area is Dump/Area 21.

The chitter/CWR has been widely used within 10km of the coal washeries. The greatest problems with chitter are seen in the Lower Hunter and the Greta Coal Seams and in Lithgow seams. For example, the Wallerawang measures are well known for acid mine drainage. Fewer problems were found from the coals of the Narrabri area, the Upper Hunter and the Illawarra area.

- There was another query as to whether the CWR may be beneficially reused if mixed with topsoil for agriculture or gardening purposes, or if heavy metals, sulphur etc are too high for this?
  - Phil Mulvey noted that when assessing for impact from CWR, the key things to look for are oxidisation between 6-9 months of placement and then for up to 30 years. If the pH of the CWR is <7 then acidic reactions are likely to have occurred, if the pH of the CWR is <4 the acidic reactions may be severe. The pH can be stabilised or neutralised (usually with carbonate material). The volume of carbonate required to buffer the acid reactions needs to be determined in a laboratory.
- There was a view expressed that the combustion risk could be considered geotechnical, and not a contaminated land issue so should the auditor's perspective be just focused on chemicals?
  - It is generally viewed as a contamination issue and it is considered to be an audit issue, for example the remediation of combusting chitter (adjacent to a school), or the generation of hazardous ground gases including carbon monoxide and carbon dioxide.
  - It was noted that the current CWR Order can be achieved with current washery practices, but they are seeing old CWR sources being reused in the Illawarra with combustible content being some 60%.
- There was a query that the understanding is that the EPA consider CWR as a contaminant and therefore is to be considered by auditors if retained onsite or brought onto site.
  - It was noted that the EPA waste perspective will be covered in the following waste update.
  - It was also noted that a number of queries relating to CWR have been raised and it is something the EPA has identified as requiring further guidance/advice.
- There was a query with regards to experience with groundwater impact associated with the reuse of CWR?
  - The impact on groundwater generally only occurs when there is too much sulphur and the material oxidises (pH decreases and this then impacts groundwater), but not if the material remains unoxidized and remains neutral.
- An auditor noted that an environmental aspect of coal rejects not often considered are residuals of chemical amendments used in the washing process: flocculants, coagulants, frothers, and chemical constituents thereof.

- It was noted that these chemicals are added to the main coal product in the later end of the process of coal washing, the CWRs are gravity separated before that point. Because of this, they are less likely to have these chemicals.

## 6. Waste Update

**Helen Prifti, NSW EPA**

Helen advised following the restructure her team has moved to Environmental Solutions under Asela Atapattu. The new realignment means that Helen's team will now work even closer with the Contaminated Land Advice and Audit team and the Hazardous Chemicals team.

Helen provided an overview of the legislative requirements for Coal Washery Rejects (CWR):

Following on from Michael's presentation, there is a huge amount of CWR material generated in NSW. Often the rejects are stored on the site with the overburden and used as backfill material. Not many coal mines have the washery on site. On these sites, the coal is sent to the washeries and the CWR are sent back to the mine site for backfilling. With off-site washeries, the transportation of CWR then becomes a waste issue.

The EPA developed the Coal Washery Rejects (Mine Void) Order and Exemption 2014 for this waste generated by washeries to allow the CWR to go back into mine sites.

In the Wollongong area, BHP mines do land emplacement with CWR under the other CWR Order and Exemption 2014. It is also used in road making.

Helen noted that in NSW coal generally has low metal contamination. Combustible content is important, so the sulphur content must be at safe levels. There have been stockpiles that ignited. One example is a stockpile under a primary school that caught fire in Wollongong area.

The limit that the EPA used in their order is based on data from Councils in the Wollongong area. It was needed in this area for planning consent because it was being commonly used for fill. That limit is still used in the EPA order and the EPA haven't had a problem since adopting this limit 10 years ago.

An improvement in quality was seen in meeting the limits when more coal product was able to be extracted from the waste residue. More recently the EPA had no trouble from licensees or regulated community in meeting these limits, but there can still be issues with historic fill. The EPA needs to consider if material needs to be removed and the safety issues surrounding that.

Discussion was then opened up for general waste questions.

### **Discussion:**

- It was asked whether the new structure presents an opportunity to discuss a threshold for asbestos in waste?
  - The EPA is working on an asbestos strategy from the generation of the waste to all the way through to asbestos in soils and to education.
  - It was advised that the Asbestos team and Asbestos Waste Strategy is now with the new EPA Education Program Team and the asbestos strategy is currently being developed.
- It was asked if there has been any progress on getting consistency about waste to energy across the states?

- It was not known how it aligns with the other states. There is work happening around waste to energy in the EPA's policy, air technical and the resource recovery teams. The policy is currently being reviewed and how it sets up expectations around energy and waste to be protective of human health, whilst also allowing for innovation and new technologies to emerge. Generally, the strictness of protection of the community can mean that innovative solutions are not considered, so a good balance must be considered.
- In regard to the recovered aggregate order, it doesn't have a specific testing requirement for asbestos, but it also can't contain asbestos. Is this likely to be updated?
  - The recovered fines order is currently under review. The EPA are looking at the compliance data generated over the last few years and reviewing the conditions, including asbestos testing, to understand the material being generated. We are working with industry and intend to review the conditions in that order. Formalised asbestos testing is considered essential as a condition to be inserted into some of these orders going forward, targeting construction and demolition material. The EPA are aiming to ensure that the industry testing isn't overlooked because it wasn't required.
  - Lots of work is being done in relation to an appropriate method; the Australian Standard method or NEPM method (the NEPM refers to the Australian Standard, but goes further, it breaks it down into friable or bonded, which is important). If remediation is considered, then we need to know how much asbestos is there. Unfortunately, this analysis is currently not fully NATA accredited because laboratories need to make assumptions during the testing. So, we need to ensure consistency across laboratories. NATA is currently considering this at the moment.
- There was a general consensus that NATA needs to support this and that larger sample sizes for asbestos are better (included in the NEPM method for analysis and assessment).
- In regard to PFAS contamination are the EPA aligning waste considerations (referring to the disposal and the reuse criteria) and the NEMP?
  - With regards to disposal criteria the waste team is reviewing this. The issue with the NEMP is that landfills in NSW are designed a little bit differently to the way they are described in the NEMP. The NEMP also considers the most conservative type of an unlined landfill. Because of this, the criteria are very low. This may lead to a lot of fill ending up in landfill (or at a higher grade classification of waste). Lots of soil with PFAS might become hazardous waste, which may not be appropriate.
- There was a request from an auditor to confirm PFAS criteria at the next auditor's meeting.
- There was a query noting that as the EPA's Sampling Design Guidelines are under review, will the EPA's Waste guidance for sampling also be reviewed?
  - Yes, the EPA will be pursuing that. We are keen to update some of the standard clauses and standards in the waste industry and stockpile sampling. The aim is to also increase the standards for quality control and quality assurance including chains of custody, correct sample sizes etc.
- There was a query concerning the soil recycling facilities that are licensed to accept soils that aren't VENM or ENM, and whether consignment authorisations should be used more widely to make sure they are only getting what they are licensed to take?

It was noted that waste to be transported that exhibits any of the hazardous characteristics specified in Part 3 of Schedule 1 of the Protection of the Environment (Waste) Regulation 2014 (also listed in Table 3 of the EPA webpage 'Waste that needs to be tracked') is 'trackable' waste. There are no thresholds available to use to determine if a waste must be tracked, i.e. is 'trackable' waste.

Due to the potential complexity and/or expense associated with waste Dangerous Goods classification, it is recommended waste is tracked where there is any uncertainty whether the waste is trackable or not. Tracking waste is simple and straight forward, and provides a potentially much less onerous process to address this legislative requirement, than a detailed assessment of the waste.

- It was noted that 'by consignment' they mean the EPA waste tracking system. There is material that is required to be tracked under the POEO regulations. There are 2 tables of wastes that must be tracked in NSW, Tables 1 and 3 list the types of waste. This tracking is managed by the Hazardous Chemicals and Dangerous Goods part of the Environmental Solutions branch. This material is tracked because there would be problems with any of that material being re-used in the environment. For that reason, much of this material would not be considered appropriate for re-use due to its characteristics. Even if there is not a legal requirement to do so, this information can be entered into tracking system.
- There was a query as to whether an exemption for blended topsoil mixes will be developed?
  - The EPA are not considering this specifically, but the EPA is looking at the blending of resource recovery waste, once validated and ready for re-use e.g. slag, coal ash and recovered aggregates can be used for road base.
  - At the moment for organics e.g. compost and mulch, it is not clear in the soil amendment if it is okay to blend. Soil amendments for agriculture need to consider appropriateness, which is often more risky than blending for engineering purposes. The EPA needs more clarity about what compost and mulch can be mixed with. We are working with the Legal team to avoid having to list everything in every document. The EPA is planning to work on this this year.
  - The EPA is still working on the Mixed Waste Organic Outputs (MWOO), looking at alternative technologies and consultation work and funding grants for managing organics.
- It was noted that *The Australian Textbook on Artificial Soils and Topsoil Mixes* (Hendrick and Black) covers what can be technically added for optimum soil growth. This is usually the text used for basis of legal guidelines for artificial topsoils from an RRE aspect.
- There was a query regarding soil recycling facilities licenced to process material that meets CT1. There are no CT1 criteria for PFAS so does this mean any material with detectable PFAS would not be able to be processed by those facilities – regardless of the concentration? And further to this, what is the status of the PFAS October 2018 amendment?
  - The first question was taken on notice.
  - With regards to the 2018 amendment, this is still in force. The addendum considers the numbers based on the NEMP classifying landfills differently to the way the EPA usually classifies landfills.



- There was a query in relation to an earlier presentation that mentioned changes / clarifications to the auditor guidelines; it would be good to be more proactive in confirming appropriate waste disposal, for example, if the guidelines required prior nomination of the disposal facility (particularly for any recycling facilities) at the time of waste classification, e.g. for site remediation. A consent condition that requires this has not been seen before (only for the NSW EPA for TBT) but sometimes after the audit has taken place it is found that what has been done didn't meet the requirements under the environment protection licence (EPL).
  - This question was taken on notice.

## **7. Other business**

**Jo Graham, NSW EPA**

- There was a query on whether the EPA could comment on the draft WA asbestos guidelines (Nov 2019)?
  - The EPA did receive a request to consider this and following internal consultation the advice given was that the NSW EPA is not planning to provide comment on this draft guidance as it was guidance from another jurisdiction. But we may discuss further at a future meeting.
- No other business items were raised.
- The presenters and everyone attending were thanked and the meeting was closed.
- The next meeting has been provisionally scheduled for **Friday 23 October 2020**.