

Remediation, Operation & Monitoring, Community Working Group Meeting Minutes – meeting 3 6 September 2022



Project	Remediation, operation and monitoring, Community Working Group (CWG)	Date	6 September 2022
Venue	Ampol Fuel Terminal, 2 Solander Street, Kurnell Training Facility – SOB meeting room 7	Time	6.30pm-8.00pm
Purpose	Meeting 3 CWG: Odour (part 1) - Broad Study		
Attendees	<i>Isabelle Moss, Chair (WSP)</i> <i>Robyn Heagney, resident</i> <i>Brett Lobwein, resident</i> <i>Sarah-Jo Lobwein, resident</i> <i>Joanne Oldfield, resident</i> <i>Rob Stanley-Jones, resident & President, Kurnell Progress and Precinct Residents' Association- arrived late, only present for the last 10 minutes</i> <i>David Zaharija, resident</i> <i>Cr Leanne Farmer, Sutherland Shire Council</i> <i>Damien Davidson, Remediation Specialist, Ampol</i> <i>James Farhart, Project Manager, Ampol</i> <i>Ella Burgess, CWG secretariat (WSP)</i>	Apologies	<i>Dr Nivari Jayasinghe, Principal Environment Scientist, Contaminated Land Management (WSP)</i> <i>David Peninton, National Operations Manager, Ampol</i> <i>Helen Stanley, Community Relations – Ampol</i>
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Item	Notes/actions
<p>Welcome</p> <ul style="list-style-type: none"> - The meeting commenced at 6:35pm. - The Chair welcomed all and gave an Acknowledgement of Country. - The Chair noted apologies from Dr Nivari Jayasinghe, Helen Stanley and David Peninton. - The Chair introduced Terry Schulz, Michael Assal and Isaac Farrugia from the Odour Unit who specialise in odour assessment. - Terry is the owner and Principal Consultant for the Odour Unit. Terry noted that the Odour Unit is the only specialist odour consultancy in Australia. The Odour Unit has done many studies similar to what they are conducting at Kurnell across the country. - Michael is the Operations Manager and the Odour Unit’s Project Manager for the Ampol Kurnell project. - Isaac was in attendance as an observer. - The Chair outlined the agenda for the meeting. - The Chair gave a high-level recap of the last two meeting topics, managing water at Kurnell, the role of the landfarm as well as the actions that Ampol has taken to date. - Damien addressed a request made at the last Remediation CCG for a recent aerial image of the landfarm and showed the CCG. - Damien gave an overview of how the two odour CCG meetings would work: - CWG 3 Odour (Part 1): Broad Study, Odour Unit. Investigations into the sources of Ampol related odour on and off the Ampol site <ul style="list-style-type: none"> o Methods and why it takes time o Practical exercise in identifying odours 	

- CWG 4 Odour (Part 2): Wharf Drain Study
 - o Explanation of findings to date and outcomes of 'Wharf Drain' study investigation
 - o Stormwater
 - o What can be done to improve the situation and next steps.
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Odour (part 1): Broad Study

- Damien gave an overview of the two Kurnell Odour Investigations
 1. Sitewide Investigation
 2. Wharf Drain Investigation (next CWG meeting).
- Both investigations have to be done over a period of time to give an understanding of all factors that play into the odour issue in Kurnell.
- Ampol is committed to building a detailed understanding of the odours to come up with effective and meaningful solutions. Where possible, Ampol will apply interim solutions, however they are interested in addressing the bigger picture concerns as well.

Damien gave an overview of the fundamentals of odour

Perceptions of Odour

- Humans are very good at detecting odours, better than many instruments.
- People have different senses of smells.
- Different chemicals can have different effects for example:
 - o additive agents
 - o neutralising agents or counteractants
 - o masking agents
 - o synergistic agents
- How each odour is perceived can be done independently.
- There is no real difference to odour perception due to gender.
- It is possible to become desensitised to smells when you have been able to adapt to it.
- The ability to detect odours becomes worse with age.
- Smokers have a poor ability to detect odour.

ACTION: Ampol to investigate complaint template used in Lytton.

ACTION: Ampol to consider hard copy versions of the information, making the next CWG meeting longer and supplying pre-reading material.

Characterisations of Odour

Odour is characterised by:

- Intensity (how strong the odour is)
- Character (what it smells like)
- Hedonic tone (how offensive it is)

Odour is measured in odour units (OU) where 1 OU represents the perception threshold, where odour is just detected.

Finding Odour Sources

- Staff from the Odour Unit have calibrated noses. Calibration teaches people to detect odour intensity, not the type of odour. The Odour Unit staff have experience in both identifying odour intensity and character.
 - Sampling locations vary depending on the prevailing weather conditions. The Odour Unit team have a lot of experience detecting odours.
 - The presence of odours can be influenced by a number of factors including:
 - o Past and current weather conditions (temperature, pressure, atmospheric stability)
 - o Climate/season
 - o Tide
 - o Onsite activities/sources
 - o Offsite activities/sources.
 - The significance of an odour source depends on the odour intensity and the size of the odour source.
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Methodology

- Two key areas:
 1. Field surveys, off site
- Consultants from the Odour Unit spend time in Kurnell conducting surveys. Surveys are completed at multiple locations at 5 minutes per location; consultants take a sniff every 10 seconds over this time period.
- 6 surveys have been conducted to date, covering both wet and dry weather.
- the consultants walk downwind of the odour sources in a strategically mapped pattern, assessing the presence, character and intensity of any odours encountered. Observations are recorded along with the wind speed and direction.
- Multiple surveys have to be conducted to account for different meteorological conditions and time of day.
 2. Source assessment, on site
- This sampling is conducted on site at potential sources.
- Samples are collected in sample bags for lab analysis. A panel of 4 to 6 assessors from the Odour Unit are presented with the sample that goes through a repeated process of dilution steps until a particular threshold where the person can detect and recognise the odour is reached.
- The results obtained give an odour measurement in odour units.
- A CWG member asked if the Odour Unit always rely on the human nose.
- Terry confirmed that they do, as there is no other method as sensitive or accurate.
- Terry noted that it is the mass of the odour that determines how far an odour travels. With an area the size of the landfarm, the mass emission rate of any odours would be relatively high. This technique is used for industrial sites across Australia to develop mitigation techniques.

Timeframe

- Initially a three-month sampling timeframe was planned, however conditions such as wind direction and climate have not been favourable, so the timeframe is being extended. It has been noted that many odour complaints occur during periods of wet weather, so the Odour Unit is waiting for significant wet weather conditions.
- Conditions resulting in odour can be complex and result from a combination of environmental, seasonal, operational and spatial factors.
- Assessment of background odour is important as it can impact observations.
- Conditions conducive to odour include low wind and temperature inversion.
- Terry noted that the Odour Unit has identified some sources that emit odour on site. The sources are dynamic and not static which is why Ampol is committed to understanding the system and variables that may contribute to odour.
- A CWG member asked what is dynamic on the Ampol site.
- Damien responded the dynamic elements are the environmental dynamics such as tide, wind and temperature.
- The aim of the study is to understand locations and conditions that create significant odour in order to resolve the issue.

Source Sampling

- Samples have been collected from 7 onsite locations including the landfarm, Stormwater Pit MH407, Gate 5 Separators, Aeration Tank, Stormwater Basin, Separator Vents and the Stormwater Outlet.
- Samples have been collected in a sample bag and sent to the Odour Unit laboratory for analysis.

- A CWG member asked what sites are linked to the Stormwater Outlet.
- Damien noted that locations MH407 and Gate 5 Separators were the locations which discharge to the wharf drain.
- Damien noted that the study the Odour Unit is conducting is in conjunction to the Wharf Drain study that WSP is conducting.
- A CWG member asked if the sampling includes the stormwater retention basin outlet.
- Damien noted that the water from the retention basin goes straight to the outlet, so sampling the water in the retention basin is the same as sampling at the outlet.
- Damien commented that the sampling locations may be varied based on odour observations. If other locations are identified, they will be investigated. If locations are deemed to not be a source they will be discounted. Ampol is aware of the complaints around odour and is working towards a resolution.
- A CWG member asked if the conditions reported when a complaint is made are being recorded and added to the database.
- Terry noted that to identify sources, the team has to review operations across the entire site and work through the function of each source. The Odour Unit has developed an inventory of the site for source targeting. The team estimate they have captured approximately 90% of the sources onsite.
- A CWG member commented that there is potential for the issue to be occurring further upstream and possible leaking, why would Ampol not try and rid the water of the oil before it reaches the separators.
- Damien noted standard operation (such as water drawing tanks) can result in oily waste water and that is why the separators are present. The separators are doing what they were designed to do.
- For the Gate 5 Stormwater issue, the WSP study is focused on understanding potential sources upstream of the stormwater separator at Gate 5 to resolve the issue at the source.
- Terry noted that regarding stormwater, the Odour Unit picked up a smell and identified the source on the same day.







Odour definitions

VDI 3882 (Part 1) Odour Intensity Categories		
Odour Strength	Intensity Rank (code)	TOU Interpretation (meaning)
Not detectable	0	No odour detected
Very Weak	1	Odour is barely recognisable by someone specifically looking for the odour and unlikely to be detected at other time
Weak	2	Odour is weak with character able to be determined with some effort
Distinct	3	Odour is clearly evident and its character easily identified
Strong	4	Strong odour detectable. It is rare but possible to encounter odour this strong in the community
Very Strong	5	Very strong odour detectable.
Extremely Strong	6	Extremely strong odour detectable. This level of odour is more likely to be encountered at its source and not in the community.

- Terry noted that levels 5 and 6 are almost never detected in the community. For this particular study, the main focus is on Levels 0 – 4.
- A CWG member noted that on the previous Saturday night there was a strong smell of diesel and thought it would have been a 4. There have always been odours in Kurnell and now they are realising it is not acceptable.

- Terry responded that the number is irrelevant. If the odour was even a 3, there would have been multiple complaints made. The EPA has attempted to regulate odour levels but it is very complicated. Odours detected in communities are usually present a level of 1 or 2. There are some communities that are particularly sensitive.

Odour character

<u>Odour Character</u>	
 A – Oily	motor oil, vehicle workshop
 B – Heavy Hydrocarbons	diesel
 C – Light Hydrocarbons	petrol
 D – Chimney Smoke	burning wood
 E – Compost	earthy, musty
 F – Land Farm	bitumen, freshly laid road
 G – H₂S	rotten egg
 H – Muddy, Vegetative, Cabbage	

- A CWG member commented that there is a new community coming into Kurnell who are not used to the smell. The member asked if there is license for what is considered acceptable.
- Terry noted that the above tool is what is used for identification, however regulations do not reference an unacceptable odour intensity value.

Field Survey findings

Michael gave a summary of the field survey findings

- Repeat rounds of investigation and sampling are needed to build a detailed understanding of odour under various conditions. Each survey lasts for 5 minutes, the odour consultants sniff every 10 seconds.
- The first round of surveys occurred on 27 June and the last survey conducted (as at the time of the CCG meeting) was 24 August. The surveys are dependent on the wind direction. Two surveys were completed when the wind was blowing in the opposite direction to pick up any background odours.
- The aim of the surveys is to identify the presence of odour and characterise it so the consultants can develop a good understanding of what type of source would emit that odour.
- During survey 5, there was a major maintenance activity occurring on the Ampol site where the separators were being cleaned.
- The consultants were unaware this cleaning was occurring on site, however noted the smell and were able to link it to the source on site.
- A CWG member asked if Ampol notified the community that the separators were being cleaned.
- Damien confirmed that Ampol did not notify the community.
- Terry noted that the intent of the surveys is to understand where the odour is coming from. Once that information is determined, they can deduce how far it is travelling.

- A CWG member commented that the human nose is a powerful thing and there are a couple of thousand in Kurnell. Could it be possible to geo-tag the odours noted by the community in an app. It may not be 100% useful data but you would get mass numbers 24/7.
- Terry noted that approach has been tried in the past. The data generates a lot of noise where extreme reactions are recorded and not accurate of the general data. Odour surveys completed in diaries can be more accurate. It is a good concept but generally you have to be confident in the abilities of the people recording the data, however the Odour Unit would not recommend it.
- Terry noted that the Odour Unit are still actively doing the study. At this point in time, they do not have enough data to give a definitive outcome. Wet conditions still need to be surveyed.

Source Sampling Key Findings

- The most significant odours were found at the separators' vent and landfarm.
- It was noted the separators are being cleaned, and odour assessment of the separator vents would be conducted again following the cleaning.
- The two phases of the landfarm: treated and untreated. The dry treated material has significantly less odour than the material that is still wet.
- On the day the wharf drain was tested the conditions were not ample, hence no impactful smell was noted. This area will be retested.
- Damien confirmed that the landfarm is not connected to the wharf drain.
- A CWG member commented that the landfarm is an obvious source of odour, at what point is the landfarm opened discharge water held in the farm?
- Damien noted that the solid material in the landfarm was tested for odour. Water in the landfarm is collected rainwater and this gets held inside the landfarm and is not frequently discharged. When draining occurs, there is a process to mitigate sediment entering the drain as it can clog the drainage.
- A CWG member asked if Ampol has done tests for odour post the release of water from the landfarm.
- Damien noted that draining from the landfarm is not significant in comparison with other areas of the site. The water was not considered a significant source, it is the solid material that is odorous.
- Terry noted that it is the wet material that produces the odour, not as much the water which has less of an odour because of its liquid state.
- A CWG member noted that liquid has the ability to transport the material carrying the odour.
- A CWG member asked if Ampol employees are trained in odour detection.
- Damien responded that they are not.
- A CWG member asked if the Odour Unit had been given the community complaints from Ampol.
- Terry responded that they began the study wanting no preconceptions to be totally independent of the situation. Now, having collected sufficient independent data, the team may be in the position to interpret the data of the complaints and filter out the irrelevant data.
- A CWG member asked what the next steps are.
- Damien noted that the landfarm is in the process of being shut down, the separators are being cleaned and wet weather is the next big item to understand.
- A CWG member asked if an action plan post the findings of the study can be presented.
- Damien noted that when the study has been completed, and Ampol have a deeper understanding of the odour source, they will communicate with the local community.
- Terry responded that the Odour Unit is at the mercy of the weather.
- A CWG member asked if the presentation can be distributed.

- The Chair noted that Ampol's position is that when you are here in the room the context can be explained, without having the team available to explain what is being presented there is a great risk of the data being shared with the public and being misunderstood.
- A CWG member asked if the presentation can be available during the meeting in hard copy as well as create more time for the CWG to ask questions and understand the material.
- ACTION: Ampol to consider hard copy versions of the information, making the next CWG meeting longer and supplying pre-reading material.
- A CWG member commented that the process for recording data from community complaints needs to be more sophisticated via a document management system.
- ACTION: Ampol to investigate complaint template used in Lytton.

Close

- The Chair noted the next meeting will begin with the odour practical.
 - The next meeting will be lengthened in time by 30 minutes.
 - The next meeting is proposed for 4 October 2022.
 - The meeting closed at 8:20pm.
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