Introduction

My original submission was going to simply comment on the proposed Reverse Osmosis Plant (ROP). Veolia have clearly lost control of leachate management at the Woodlawn facility and it is only a matter of time before they significantly pollute the environment. The ROP (if implemented and managed competently) represents an opportunity to significantly improve leachate management on site.

However, as with all aspects of Veolia's proposals, operations and statements, the more you validate the information presented by Veolia, the more inaccuracies become apparent. As such I oppose the ROP for the following reasons:

- Veolia are a known high risk operator;
- Veolia continue to mislead the local community;
- There has been no assessment of the Greenhouse Gas Impact;
- The proposal is unclear about future plans and cumulative effects; and
- The Air Quality Impact Assessment is significantly flawed and emissions modelling is based on an assumption and not the conditions of consent and EPL.

Veolia – A High Risk Operator

Veolia are a known high risk operator at the Woodlawn facilities. The EPA currently assesses the risks associated with the related licenses as per Table 1.

EPL / License Number	Facility	EPA Risk Rating
11436	Woodlawn Bioreactor	3
20476	Woodlawn MBT	1[1]
11455	Crisps Creek Intermodal	3

Table 1 *Risk ratings for Woodlawn related facilities.*

In the last 24 months, multiple notices and pollution reduction programs have been issued to Veolia for these facilities (see Table 2).

Notice Number	Date Issued	Facility	Description
3509614	16 Jul 2024	Woodlawn MBT	Contravention of License
3509784	19 Jul 2024	Woodlawn Bioreactor	Veolia expect the freeboard limits to be exceeded between August and October 2024
3505858	04 Oct 2023	Woodlawn Bioreactor	Failures to address odour and implement recommendations of the Independent Odour Report
3503885	24 Oct 2022	Woodlawn Bioreactor	Multiple issues with leachate storage and dam liners. Pumping of leachate into ED1.
1628724	04 May 2023	Woodlawn Bioreactor	Contravention of License
1628723	04 May 2023	Woodlawn Bioreactor	Contravention of License

1 Note: Given the recent penalty notice 3509614, it would not be surprising if the Environmental Risk Level for the MBT is raised when next assessed.

1624406	28 Nov 2022	Woodlawn Bioreactor	Contravention of License
3505089	09 May 2023	Crisps Creek	Leaking shipping containers
1631748	07 Aug 2023	Crisps Creek	Contravention of License
1631747	07 Aug 2023	Crisps Creek	Contravention of License

Table 2 *List of notices issued to Veolia's facilities at Woodlawn in the last 24 months.*

In addition to these local failures, Veolia Australia demonstrates what appears to be a more systemic organisational culture of environmental harm. The following are examples from Victoria demonstrating this culture:

- On 14 September 2023, the Dandenong Star reported[2] Victoria's EPA had fined Veolia for failing to provide reporting on time. The EPA is quoted as stating "Poor administrative management is no excuse and a fine will help ensure Veolia improves the management of its environmental obligations".
- According to the Victorian Waste Management Association[3], Veolia entered a guilty plea in the Echuca Magistrates' Court to charges laid by the Victorian EPA. Between 5 and 13 January 2023, Veolia failed to cover waste, failed to implement litter controls, failing to cover waste at the end of each day and failing to limit the size of the tipping face.
- In June 2024, Veolia was issued three improvement notices by the Victorian EPA. The Victorian EPA was quoted as stating Veolia "must manage leachate in a way that minimises the risk of harm to human health and the environment". Veolia was also directed to more effectively manage the landfill gas and prevent dust being discharged beyond the site.

> ***Issue 1:*** *Given the history of operations at Woodlawn, and the apparent systemic issues with Veolia Australia's operations, Veolia is a very high risk of causing harm to the environment. As such conditions should be extensive and must include substantive monitoring.*

CLC meetings held with the local community have multiple occasions where Veolia has presented one thing, and then weeks later we identify Veolia has not informed the community of the fact the opposite occurred. The most recent example of this is the 30 May 2024 CLC meeting[4]. Veolia presented the dam levels and gave no indication there were any issues. In July, the EPA released Prevention Notice 3509784[5], identifying that Veolia had reported to the EPA on 24 May 2024 (a week prior to the CLC meeting) that Veolia expects the leachate levels to breach the freeboard limit between August and October 2024.

Veolia clearly lied at the CLC meeting. Veolia claim to be transparent and share information willingly. However the fact is they continually fail to share relevant information, including lying to the local community.

2 https://dandenong.starcommunity.com.au/news/2023-09-14/toxic-waste-operator-fined/

3 https://www.vwma.com.au/veolia-environmental-services-australia-pty-ltd-guilty-of-breaching-licence-conditions-under-the-environment-protection-act-2017/

4 https://www.anz.veolia.com/sites/g/files/dvc2011/files/document/2024/06/20240530%20Veolia%20CLC%20Meeting%20%2317%20Presentation.pdf

5 https://apps.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=11436&id=3509784&option=notice&range=POEO%20licence&noticetype=

Issue 2: *Veolia are a high risk operator. Substantive conditions must be in place with clear repercussions when conditions are breached.*

Issue 3: *Continual real-time monitoring of the ROP should be accessible by the general public and the EPA. The monitoring should include at a minimum:*
** Leachate inflows, returns to the dams and output to the irrigation system (updated each minute);*
** Soil moisture levels from multiple locations and depths of the irrigation field (updated hourly);*
** Water quality of the water being sent for irrigation including pollutants (updated hourly);*
** Electricity consumption (updated daily) and CO2 equivalent emissions of the plant; and*
** Video cameras at all water egress locations (real-time).*

Issue 4: *In addition to monitoring the ROP, Veolia must also implement real-time monitoring of fluid levels in all storage dams on site. This data should be accessible by the general public and the EPA. It should be updated hourly and include graphs and the delta changes over the last hour, day, week and 4 weeks. Details should include the freeboard limits and maximum levels.*

Issue 5: *Veolia have continually demonstrated incompetence in the management and operations of the Woodlawn Bioreactor. A independent third party (selected by the Department and the EPA) must be paid by Veolia to operate the ROP. Reporting from the third party should be independent of Veolia, with no management or input from Veolia in the operations of the ROP.*

Energy Consumption and Greenhouse Gasses

Reverse osmosis is and inherently energy intensive process – Research from 2023 on treating leachate from landfill[6] indicates 35.3kWh per m3 treated leachate. At the proposed rate of 4L/s (250s to process 1m3) this would equate to 8.472kW/hr. Assuming 99% uptime, this equates to 73.472MWh a year in energy consumption. Veolia's submission provides no detail on the power consumption or the related greenhouse gas emissions. Veolia's submission also includes references to a second ROP.

Issue 6: *Veolia must update the proposed modification to indicate the expected power consumption and greenhouse gas impact. The modification should also include details of the second ROP and potential cumulative impact of both ROP plants.*

Issue 7: *Veolia's recently proposed incinerator (SSD 21184278) also includes a greenhouse gas assessment. The incinerator proposal does not take into account the greenhouse gas emissions of the proposed two ROPs.*

6 https://www.mdpi.com/1996-1073/16/19/6872

> *Veolia must update the proposed incinerator EIS to include updated assessments based on the two ROPs being put forward in this modification.*

Further, to demonstrate Veolia is serious about climate change, they must be able to demonstrate the emissions generated as a result of the two ROPs are offset by construction of additional renewable infrastructure such as a solar array.

> ***Issue 8:*** *Veolia must include in the proposal a solar array to offset the additional energy consumption of the ROPs. The solar array must be sufficient to cover all power requirements of both proposed ROPs plus 50%. This will provide assurance Veolia are serious about addressing climate change.*

One or Two ROPs? And Another Coffer Dam?

Appendix J of the modification indicates Veolia are planning two ROPs and a third coffer dam. The proposed modification does not contain where these will be located, or where the processed water will be released. Given the large area for the first ROP, it would be more appropriate if Veolia can include where these later modifications are going to be proposed.

> ***Issue 9:*** *Veolia must include maps to provide indicative placement of the second (future) ROP, the indicative area where processed water will be released, and the estimated location of the (future) proposed third coffer dam.*

Section 3.4.1 (and Table 3.6) o f Appendix J indicates one ROP will come online on 1 January 2025 and the ED1 ROP to come online 1 April 2025. Given these short timeframes, it is unclear if the proposed modification is for a single ROP or two ROPs – despite all mapping and other documentation indicating this modification is for a single ROP.

> ***Issue 10:*** *Veolia must clarify if this modification is for one or two ROPs. The current submission appears to be for a single ROP, however Appendix J is referencing two ROPS to come online in early 2025.*

This matter is further confused by Appendix I (Sustainable Irrigation Management Plan). It states Veolia will apply up to 8L per second to the paddocks. Yet other parts of Veolia's submission indicate permeate rate of 4L per second.

Appendix I – Sustainable Irrigation Management Plan

Veolia has constantly undertaken modelling proven to be incorrect time and again. Current odour modelling insists there will be no odour issues – FALSE. The leachate modelling has been proven to be incorrect despite predictions on the "worst case" scenario.

Modelling in Appendix I is based on 43 years of the most recent data from 1980 to 2023. This includes the footnote stating "expected to increase potential evapotransporation and to reduce rainfall". Veolia has also clearly stated three years of La Nina has resulted in excessive water causing their failure to manage leachate at the site.

Veolia have failed to model the current known worse case scenario – such as three years of La Nina and the impact on the soil. The modelling assumes an average annual rainfall of 703mm.

> ***Issue 11:*** *Modelling of the Irrigation Management Plan must be updated to reflect a worst case scenario (three years of excessive rainfall). Veolia has extensive meteorological data collected from EPA Point 9 including temperature, humidity and rainfall. This data should be used to demonstrate the effectiveness of the ROP(s) during high rainfall periods (such as the three years of La Nina).*

It is unclear in Appendix I or the other documents how the pasture will be maintained (there are recommendations, but no actual statements from Veolia). There are suggestions in Appendix I, however Veolia has not stated how it will actually maintain the pasture. For instance, if grazing is to be undertaking, what type of animal will they be using? And what contingency plans do they have to manage the pasture in the event the primary method is not possible.

> ***Issue 12:*** *The proposal must be updated to ensure it is explicit which pasture management technique(s) will be used. It should also contain contingencies should the primary pasture management technique not be available for one reason or another.*

Appendix E – Traffic Impact Assessment

The Irrigation Management Plan and other documentation for the proposed modification clearly indicates the need for gypsum and/or lime to help maintain soil stability. While it is understandable the rates of application will vary based on soil properties at any point in time, the traffic impact assessment only mentions the use of one heavy vehicle per month – with no reference to the purpose of that vehicle. It is hard to believe that application of large volumes of gypsum and/or lime to such a large paddock area would only require at most 12 trucks per year.

> ***Issue 13:*** *The Traffic Impact Assessment must be updated to indicate worst case scenario of the application of gypsum and/or lime once a year to the entire paddock area.*

Veolia's Traffic Impact Assessment relies heavily on data collected and prepared for the proposed incinerator (conducted by EMM, 2022). Extensive feedback from the community and organisations was provided on the data collected by EMM. One critical factor was the data was collected during a reduced period of activity (during the Covid health crisis) – thus understating the level of vehicles on the roads.

> ***Issue 14:*** *Veolia's Traffic Impact Assessment must be updated to reflect more accurate road usage data, rather than that collected during a known reduced level of activity on the roads. Feedback on Veolia's proposed incinerator for the Traffic Impact Assessment should be carefully revised and taken into account for the updated impact for this proposed modification.*

> ***Issue 15:*** *The proposed ROP modification should be rejected. While the ROP is required, Veolia clearly demonstrate they are not listening to feedback on their projects. Veolia has clearly not read the feedback on the*

proposed incinerator in relation to the Traffic Impact Assessment. This demonstrates a complete disregard for the community and a disregard of planning processes.

Appendix G – Biodiversity Assessment

As has been raised previously (and Veolia continue to demonstrate a will-full ignorance of), the area near Woodlawn is well known for the Large Bent-Wing Bat, with a known Roosting Cave approximately 14.3km to the south of the Woodlawn facility. Multiple bat species have been identified in previous field studies conducted at appropriate times of the year.

Issue 16: *Veolia must include an up-to-date bat survey of the proposed site. Multiple species have been identified in multiple surveys conducted as a part of previously proposed SSDs.*

Modelling Inventory Volumes from October 2023

Appendix J section 4 indicates an assumption of starting volumes based on a date of 26 October 2023. There is no justification for WHY this date was selected. Was it based on the maximum level of the current dams? What was the actual reason?

Issue 17: *Veolia should model the WORST CASE scenario, where all storage dams are at or above the freeboard limits.*

Operational Constraints

According to Appendix J, Veolia are proposing the ROP operates only on days when there is less than 8mm of rainfall. However this does not take into account the moisture content in the soil (which is contradictory with Appendix I, which indicates soil moisture content will also play an important role). For example if there has been four days of steady rainfall, the upper levels of soil will be saturated well beyond capacity. Based on the operational constraints proposed, the next day without rainfall Veolia are proposing to dispose of the treated water into saturated soil. This would likely result in run-off from the soil.

Issue 18: *Veolia should include an operational constraint based on soil moisture content (as recommended in Appendix I). This should include continuous monitoring of soil moisture content at multiple locations and multiple depths. This should allow better distribution of water to less saturated locations.*

Additional water distributed over a large area will invariably lead to more growth of vegetation. Veolia's proposal does not include any content related to how it will manage the additional growth (Appendix I recommends grazing with sheep, and also discusses cropping for pasture/hay, however these are only recommendations). The proposal appears focused on the short term need to dispose of water – regardless of the consequences.

Issue 19: *The proposed modification must be updated to include how the additional growth of vegetation will be managed. For example, will grassy areas be mowed to manage long grass? Will dead trees be removed and new trees planted?*

> ***Issue 20:*** *Given Veolia's inability to model and consider future scenarios, the proposed modification must be updated to include bushfire related issues in the scenario of large amounts of un-managed growth in the irrigation zone, followed by a prolonged period of no irrigation. This would lead to the generation of a bushfire risk that has not been considered.*

The soils and vegetation in this region are sensitive to salinity changes. Given Veolia's many failures to model accurately, their proposal should include what actions they will take for even remotely possible scenarios.

> ***Issue 21:*** *Annual monitoring of soil nutrients from multiple locations in the irrigation must be included in Veolia's proposal.*

> ***Issue 22:*** *The proposed modification must be updated to include what actions Veolia will undertake in the event of scenarios such as increased salinity levels leading to vegetation loss and damage of soil continuity.*

Appendix F – Air Quality Impact Assessment

Veolia has continually claimed in multiple assessments (not just this case) of an approved 6 OU criteria (see Figure 1).

> ...the odour concentrations were compliant with the 6 OU criteria at all sensitive receptor locations. This report has been assumed to represent the current approved operations.
>
> The results show that the odour associated with the storage of concentrated stream from the ROP has a negligible effect at the applicable sensitive receptor locations and would continue to be below the applicable air quality impact criteria of 6 OU.
>
> The air dispersion modelling results indicate that the predicted cumulative odour levels across the site operations would remain compliant with the applicable assessment criteria of 6 OU at the sensitive receptor locations and that the Project is estimated to generate minimal additional odour relative to the approved modelling results presented in TOU (2016).
>
> Overall, the proposed operation for the Project is not predicted to result in any exceedance of the site-specific odour performance goal of 6 OU at any receptor locations.

Figure 1 *Quotes from Appendix F of the proposed modification*

The 6 OU criteria claimed by Veolia is based on an assumption contained in their MP10_0012 Environmental Assessment[7]. Figure 2 contains an extract from the EA Part 1.

7 https://www.planningportal.nsw.gov.au/major-projects/projects/woodlawn-bioreactor-expansion

9.5.1 Conclusions

Atmospheric dispersion modelling of odour has indicated that at all surrounding residences, odour is predicted to be at concentrations less than 4.1 OU as a 99th percentile, 1 second average. The Project specific odour performance goal was assumed to be 6 OU. Comparison with a 'base case' scenario designed to reflect current operating conditions at the site has shown no increase in odour impact at surrounding receptors resulting from the increase in surface area of waste.

Figure 2 *Quote from MP10_0012, EA Part 1.*

However this limit was never approved or agreed by the Department or the EPA. The Conditions of Consent and the EPL for the Woodlawn Bioreactor are both explicit in relation to the odour emissions from Woodlawn. Figure 3 and Figure 4 contain the approved limits.

Odour

Discharge Limits

6. The Proponent shall not cause or permit the emission of offensive odours from the site, as defined under Section 129 of the POEO Act.

Figure 3 *Extract from Conditions of Consent for MP10_0012 up to Modification 4.*

L6 Potentially offensive odour

L6.1 There must be no offensive odour emitted from the premises, in accordance with Section 129 of the Protection of the Environment Operations Act 1997, nor emissions to the atmosphere from the landfill that may adversely affect the health or amenity of the community.

L6.2 No condition of this licence identifies a potentially offensive odour for the purposes of Section 129 of the Protection of the Environment Operations Act 1997.

Figure 4 *Extract from EPL 11436 Conditions.*

Veolia has continually assumed in all odour assessments that 6 OU was the acceptable and approved limit. However the approved limit is for ZERO odour emissions. As such any increase in odour emissions is indicative of further breaches of the Conditions of Consent and the EPL.

> ***Issue 23:*** *Veolia must update the Air Quality Impact Assessment to remove references to the 6 OU limit. The assessment must also clearly indicate the approved odour emissions limit is ZERO.*

The odour assessment is written in the context of a 6 OU limit, and limits the data to the immediate receivers. In fact Veolia claim there is no odour detectable in Tarago Villiage (see Figure 5).

Based on the model's predictions for the nearby receptor locations in **Table 5**, the predicted odour level at Tarago Village (located approximately 9km away) due to the Project can be inferred as <0 OU and deemed undetectable.

Figure 5 *Veolia's claim from Appendix F of the proposed modification.*

During the current reporting period there have already been approximately 293 odour complaints[8] related to Veolia's Woodlawn facilities. In just this last week, there have been at least 22 reports of

8 https://www.anz.veolia.com/sites/g/files/dvc2011/files/document/2024/08/Eco-Precinct%20Complaints%20Register%20%20-%208%20August%2024.pdf

major odour issues (Veolia's Woodlawn Odour Complaints Report up to 7 August 2024[9]). Some of these complaints are up to 20kms from the site. Table 3 contains the number of odour complaints over the last three years.

Report Date	Number of Odour Complaints
(Current Period to date)	293
November 2023 AEPR	339
November 2022 AEPR	292
November 2021 AEPR	302
November 2020 AEPR	20

Table 3 *Number of odour complaints reported by Veolia by reporting year.*

Appendix F is clearly a work of fiction – Veolia's odour modelling claims odour will be "undetectable" in Tarago Village. The odour modelling is based on an **assumed** limit proposed by Veolia and not based on the **approved** limits in the Conditions of Consent or the EPL. It completely denies the existing odour issue, and goes so far as to claim the odour modelling demonstrates there will be no odour detected in the Tarago Village.

> ***Issue 24:*** *Veolia must update the Air Quality Impact Assessment to ensure it represents factual information including the current (and long running) odour issues being experienced up to 20kms from the Woodlawn site.*
>
> ***Issue 25:*** *The modelling used by Veolia for air quality is incorrect (large numbers of odour complaints are detected in the Tarago Village). Modelling used in the Air Quality Impact Assessment must be updated to ensure it accurately represents the fact that there are significant odour reports in specific conditions. If the modelling does not align with the real world conditions, then it must be dismissed and the modification must be rejected.*
>
> ***Issue 26:*** *Veolia's proposed ROP fails to conclusively demonstrate a net-positive improvement in odour as a result of the modification. This modification should be rejected until accurate modelling can demonstrate a net-positive improvement.*

Long term plans in Appendix J (Water and Leachate Management Strategy) indicate the intent to re-line some of the other dams on site. It is not clear if these dams will then be used for more leachate storage, potentially increasing air quality issues yet again. Given odour issues with Woodlawn have been extensive and Veolia's inability to control odour emissions (despite years of failed attempts), Veolia must be able to demonstrate the long term impact of odour on the local community will be neutral or a positive improvement.

9 https://www.anz.veolia.com/sites/g/files/dvc2011/files/document/2024/08/Odour%20Complaint%20Report%20%20-%208%20August%2024.pdf

Issue 27: *Veolia's Air Quality Impact Assessment must be updated to demonstrate the longer term cumulative impact on the community. The currently modification could be one of many instances where the air quality is incrementally affected – each modification may in of itself be "negligible", however the sum total could be even more significant odour issues.*

Conclusion

Veolia's continual failure to correctly model leachate and water processing, along with failed odour modelling is symptomatic of a company that has failed, and continues to fail to manage the Woodlawn facilities in the longer term.

While we agree at a high level a Reverse Osmosis Plan is a good idea, Veolia does not inspire confidence in it's current operations and is clearly ignoring the local community in relation to traffic and odour impacts.

Issue 28: *In the event the reverse osmosis plant is approved, extensive real-time monitoring is required to ensure Veolia is not covering up continual failures. This proposed modification is unclear on several aspects relating to operational impact, and if there is more than one ROP being proposed. Failure to include extensive real-time monitoring will lead to the EPA and Department continually playing "catch-up" on the next failure of Veolia at the Woodlawn facilities.*