Woodlawn Eco-Precinct Independent Odour Audit (IOA) 2021 Recommendation Responses

Table 1: **Mandatory Recommendations**

No.	Recommendation	Action	Timeline
1	<u>Odour Mitigation from the Void - Fugitive landfill gas emissions</u> Veolia should continue to manage fugitive landfill gas pathways from the surface using the existing toolkit such as biocover material and should enhance and accelerate its improvement to landfill gas capture from the Bioreactor as reasonably practicable. This continuation is apparent in the WIP 2020, which outlines a comprehensive plan that is being implemented to increase gas capture. The Audit endorses this strategy as the primary measure to reduce odour emissions from the Void and recommends that Veolia continues the implementation of the gas systems detailed in the WIP 2020, including: ▪ The augmentation of additional pipe work and booster/flare/engine to the current capacity at the Site. In principle, the addition of the power station engines will increase landfill gas usage capacity, further facilitate in the optimisation and minimisation of fugitive landfill gas release from the Void surface; ▪ the planned infrastructure instalments within each waste lift; ▪ the continuous improvement to leachate extraction, treatment performance, capacity and efficiency. This supported by the implementation of the long-term leachate solution in the form of the LTP that is the process-proving phase of operation;	Veolia will continue to optimize landfill gas (LFG) extraction and leachate management according to the strategies stated in the WIP 2020 to minimize the fugitive gas/odour emission. On-going optimization of LFG extraction includes: ▪ Expansion of the LFG extraction system within the void as the landfill tipping progresses. • Increase the LFG extraction and conveying capacity from the void to the on-site power station. • Continue to extend LFG extraction wells with perforated pipe sections to enable extraction of LFG from different lifts. • Monitoring the LFG extraction system flow rate, suction pressure and composition, to achieve quicker response to any system defect/failure. Continuous improvement on odour management includes; • Installation of biocover material to identified areas of fugitive gas emissions to minimise odour. • Develop the Odour Management Plan in line with licence conditions by the end of 2021. • Monthly surface gas monitoring for methane and hydrogen sulphide.	Ongoing

Woodlawn Eco-Precinct
619 Collector Road, Tarago NSW 2580
tel. +61 (02) 8588 136
0 • email. woodlawn@veolia.com
https://www.veolia.com/anz/

	▪ the continuous improvement in the waste tipping profile, covering and expansion and optimisation of the landfill gas infrastructure; ▪ the continuous monitoring of leachate and gas extraction; ▪ Remediation actions in the event of equipment failure and process upset in the Void; ▪ The implementation of operational management programs, including: o Leachate management; o Pumps and pumping solutions; and o The expansion of wells in the Void for improved/minimisation of leachate recirculation and landfill gas extraction. ▪ application of biocover material to manage fugitive landfill gas emissions, as outlined in the WIP 2020.		
2	<u>Leachate Management System</u> Continue to adequately maintain and manage the upgraded LMS to ensure it is operating in an optimum state and meeting the leachate quality monitoring targets as outlined in the Leachate Treatment Operation Manual and recommended by Veolia Water and continue the implementations planned in the WIP 2020. The Audit finds that the LTP has provided additional leachate treatment capacity at the Site. Moreover, the treated leachate flowing to ED1 coffer dam from the LTP is of a very high quality, as supported by the LOM results. The inclusion of additional leachate treatment capacity will have a significant effect on the minimisation of odour from the Void and LMS in the medium to long-term. In collaboration with Veolia, the next Audit will make provisions for safe access to enable sampling of the ED1 coffer dam. Moreover, Veolia should closely monitor the following aspects of the LMS, including: ▪ COD and nitrate loading into the LTD and ED3S-S; and	Continuous improvement on leachate management includes: • Optimizing leachate extraction and transfer infrastructure to provide more options and contingency for leachate management. • Request contingency storage for contaminated stormwaters. • Install additional UF train at the LTP to optimise the throughput of the plant with expected completion by July 2022. • Review strategies and storage capacity for leachate. • Continuous improvement of evaporation systems. • Continued regular monitoring of the water quality in LTD, ED3S-S, and ED3N from an odour perspective.	Dec 2021

	▪ Effects of the continued volume reduction on ED3N-2, ED3N-3, and ED3N-4 from an odour perspective through regularly field odour spot checks downwind of each pond area.		
3	Active Tipping Face Veolia should continue to develop strategies for the minimising of the exposed active tipping face surface area. It should also proceed and continue with the details in the WIP 2020.	GPS assisted tipping activity will be continuously conducted according to WIP 2020.	Ongoing
4	Refine Investigation of Odour Issues in the Community Given the significant increase in odour complaints documented in the Audit, the Audit recommends that Veolia enhance its community engagement and liaison process. It is understood this has already commenced via the reinstatement of the odour diary program in February 2021. As such, the refinement and enhancement of community engagement is a mandatory recommendation in the Audit. Furthermore, Veolia should consider refining its investigation of odour issues in the community, particularly surrounding the most common complainants, to assess the extent to which odour is present in the community. Such an investigation could include: ▪ potential odour transport pathways; ▪ undertaking of field odour surveys; ▪ assess the topography of surrounding land and analysis of climatic data; and ▪ a detailed review of odour complaint data.	Continuous improvement on odour complaint management includes: • Continue to engage with complainants to better understand potential odour sources through invitations to site and odour identification. • Veolia will continue to periodically visit complainants directly to discuss the events and type of odour. Invitation to the complainants for a Woodlawn site visit is included in this consultation. • Continued community engagement through various groups (i.e. TADPAI, Tarago Times publications & Community Liaison Committee, Open days) • Refine the Odour Management Plan to incorporate defined criteria following an odour complaint. • Veolia will continue to manage the odour complaints in-line with the complaints procedures.	Ongoing

Table 2: **Improvement Opportunities**

No.	Recommendation	Action	Timeline
1	<u>IMF and Waste Transport Activities</u> Based on The Odour Unit observations, the Audit suggests that Veolia continue to review the following aspects relating to the use of the IMF and waste transport activities to further improve its odour performance as a minor and transient source of odour: ▪ The washing practice associated with the sealed containers; and ▪ The maintenance of the sealed containers.	Veolia will continue to monitor the operation of the container and truck wheel washing practices on site. Veolia will continue to monitor and maintain the integrity of the containers on a regular schedule, utilising an automated system to schedule regular maintenance and checks of containers in the fleet.	Ongoing
2	<u>Odour Mitigation from the MBT Facility</u> The Audit recommends a heightened awareness of the operability and maintenance of the biofilter-based odour control system at the MBT Facility, which should be consistent with the Biofilter Manual to ensure optimal and sustained odour removal performance. Given that the MBT Facility operation is a recent addition to the Audit, a benchmark process will be developed and reviewed as part of subsequent IOAs to assess the operability and odour performance of the biofilter-based odour control system with the objective of continuous improvement in odour mitigation and optimisation. It is recommended that the MBT Facility improve its overall management of biofilter bed moisture to ensure optimum odour removal performance. This can be achieved by an intensification of the surface drip irrigation system and/or optimisation of the current spray humidification system. Furthermore, it is understood that the MBT Facility has assigned dedicated personnel to manage and maintain the biofilter system – this will facilitate the effective execution of continuous improvement and optimisation works.	Veolia will continue to inspect the MBT Biofilter System on a regular basis in accordance with the Biofilter Operation and Maintenance manual to maintain suitable moisture, air flow rate and pressure of the air from the buildings for maximum air quality and odour control. Veolia will develop and implement an improved automated asset maintenance system to improve management of the biofilter bed moisture levels and create a benchmark process in consultation with The Odour Unit prior to the next IOA.	Ongoing