

Attachment: Environmental Management System Actions

Action No.	Description	GeoLINK Review - March 2021	Rous Staff comment - January 2022	Rous Staff comment - November 2023
C1	<p>Review process allowing wash down of lime to the environment at both Nightcap WTP and Emigrant Creek WTP and identify options for eliminating/addressing the hazard.</p> <p>Prepare a SWMS for wash down of lime handling equipment. Train relevant staff in execution of SWMS.</p>	<p>Status: Active</p> <p>A review of lime washdown procedures has been undertaken.</p> <p>At Nightcap WTP - the lime slurry system is cleaned by either of two methods: a) removal and washing out of slurry hoses along roadway with lime discharging to drains through litter baskets. It is noted that litter baskets are not designed to capture lime; b) recirculation of citric acid through lime slurry delivery system for approximately 1 hour with lime/acid solution dumped to wastewater system. Operators advise the acid wash is quite effective, however not all operators trained in this operation yet and occasional hose washout is still required.</p> <p>At Emigrant WTP - the lime slurry system is cleaned by either of two methods. a) as per above. c) circulation of air/water through lime slurry delivery system to dislodge lime which is discharged to drains (no litter basket). drains head to dam.</p> <p>Measures to complete action:</p> <p>Implement method b) - recirculation of citric acid through lime slurry system with lime waste discharged to wastewater treatment system. Where occasional hose washout required, discharge to be captured and directed to wastewater treatment.</p> <p>Also see comments relating to C2 - upgrade to bulk storage facility, below.</p>	<p>Recirculation of citric acid is now the adopted practice of cleaning lime lines at Nightcap WTP with all operators trained and instructed to use this method. A permanent solution for storage and dosing of citric acid will be included in the bulk chemical storage upgrade.</p> <p>At Emigrant Creek Dam WTP, lime hoses are hosed out, however the slurry and solids are captured and directed to the drying beds which eliminates the hazard of these waste materials ending up in the dam.</p> <p>Operating Procedures will be finalised for the lime cleaning operations once a permanent solution has been implemented at Nightcap WTP in 2023/2024.</p>	<p>Water treatment staff are cleaning lime dosing systems at Nightcap WTP and Emigrant Creek WTP using citric acid. At Emigrant WTP lime solids are captured in the drying beds for offsite disposal. These practices have eliminated the wash down of lime to the environment.</p> <p>Standard Operating Procedures (SOPs) have been developed for these operations and applicable staff have been trained.</p> <p style="color: green;">Recommend this action be marked COMPLETE.</p>

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C2	Establish appropriate bunding for all chemical storages. Establish and implement procedures for the management of chemical storage areas, including the delivery of chemicals at both Nightcap WTP and Emigrant Creek WTP (and specifically the management of the driveway valve system). Train relevant staff in execution of procedures.	<p>Status: Active Bunded delivery bay and bulk storage facility is still an outstanding item and is currently with planning and delivery for implementation. The upgrade will address bunding of chemical storage tanks and tanker unloading areas. Upgrade of bulk chemical storage to address environmental risks is on hold pending the completion of a current review of treatment chemicals to address finished water pH issues. Chemical types and storage volumes may change because of the review. In April 2020, a 13kL self-bunded tank was installed at Nightcap WTP to store Caustic Soda. This replaces a 5kL un-bunded tank and reduces the risk of major chemical spill from tank rupture.</p>	<p>The project team for the Nightcap WTP Strategic Review is progressing the Nightcap WTP bulk chemical storage upgrade. A preferred location has been determined for the new facility and further investigations are being undertaken to determine the preferred long term chemical option for disinfection. Once this has been completed, preliminary design of the bulk chemical storage upgrade can proceed. The upgrade will include appropriate bunding in accordance with modern standards.</p> <p>Two 21,000L self-bunded tanks have been purchased and installed for storage of Aluminium Hydro-Chlorate (ACH). A temporary pallet bund is being used for the citric acid. The chlorine tanks are bunded however the bunding is in fair to poor condition and is proposed to be tested and if required, remediated.</p> <p>Recommend this action remain on the list until the Nightcap WTP Chemical Storage Upgrade works are completed in 2023/2024.</p>	<p>Investigations into the preferred location, chemical options and storage requirements have been completed. Preliminary design of the bulk chemical storage area is expected to be completed in early 2024 with construction of the new facility to commence in winter of 2024. The procurement and construction works may take 12-24 months to complete.</p> <p>Testing of the Nightcap WTP chlorine bund has been completed with minor deficiencies found and being rectified.</p> <p>Recommend this action remain on the list until the Nightcap WTP Chemical Storage Upgrade works are completed.</p>
C3	Design and implement a stormwater management system to collect and treat runoff from the internal and external areas (incl. chemical storage areas) at Nightcap WTP. To include sealing all drains in bunded areas and removal of all penetrations and valves in bund walls.	<p>Status: Active Stormwater treatment basins have been installed at Nightcap WTP and are designed to stop pollutants in stormwater from entering the dam. Litter baskets have been installed, though it is noted that they were not in place in all drains at the time of site visit.</p> <p>Measures to complete action: Note that litter baskets should be re-installed immediately after being cleaned.</p>	<p>The Nightcap WTP lime dosing hoses are now being cleaned using citric acid re-circulation which eliminates the need for litter baskets and point of discharge collection. Bunds and bund drains, and valves will be addressed as part of the bulk chemical storage upgrade.</p> <p>Recommend this action remain on the list until the Nightcap WTP Chemical Storage Upgrade works are completed in 2023/2024.</p>	<p>Refer updated for Action C2 above.</p> <p>Recommend this action remain on the list until the Nightcap WTP Chemical Storage Upgrade works are completed.</p>

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		<p>Train staff in procedure and update relevant SWMS.</p> <p>Sealing of all drains in bunded areas and removal of all penetrations and valves in bund walls is outstanding and will be addressed as part of bulk chemical storage upgrade. See comments relating to C2.</p>		
C6	<p>Review the approved contractors pack with view to the inclusion of the Rous Water Environmental policy and associated procedures into the specification. The purpose of this review is to ensure that any approved contractor has in place an appropriate methodology for addressing the environmental impacts of their activities they are performing on behalf of Rous Water.</p>	<p>Status: Semi-Complete</p> <p>Contractors' Handbook final is dated June 2014. Note however this information is not routinely provided to contractors. Ensure that contractor's handbook is provided to all contractors</p>	<p>Contractors' Handbook currently being reviewed for currency and whether a handbook is the best form for delivery of this information.</p> <p>Recommend this action remain on the list until a position is adopted on its need and value.</p>	<p>Not a current priority of Council.</p> <p>Recommend this action remain on the list until a position is adopted on its need and value.</p>
LM2	<p>Develop written procedure for the recording of catchment inspections.</p>	<p>Status: Semi-Complete</p> <p>Refer to guide entitled <i>Catchment Surveillance Inspections Program</i> that has been established and is stored in hard copy on technical library at depot in sealed box. Inspection program entered into CONFIRM until 2016. Since 2016 catchment inspections have not been recorded through CONFIRM and have only been occurring on ad hoc basis. A suitable inspection frequency should be implemented, and all future inspections recorded through CONFIRM.</p>	<p>Catchment Inspection program and resourcing will be reviewed.</p> <p>Recommend this action remain on the list until a position is adopted.</p>	<p>No further progress.</p> <p>Recommend this action remain on the list until a position is adopted.</p>

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LM8	<p>(i) Ensure that spill control equipment is available at all locations where hazardous chemicals/fuels are stored, and for all vehicles that transport and/or use chemicals/fuels.</p> <p>(ii) Keep a register of spill control equipment.</p> <p>(iii) Conduct a regular inspection of all spill control equipment and ensure that all requirements are kept up to date.</p> <p>Ensure that all staff that use and/or transport chemicals/fuels have received training in the use of spill control equipment.</p>	<p>Status: Semi-Complete</p> <p>Spill control equipment inspections are recorded in CONFIRM (spill control checks undertaken as part of safety shower monthly checks).</p> <p>Note: all staff identified as handling chemicals have been trained in SWMS 79 and training recorded in PayGlobal HR system. Outstanding items - spill control equipment register, spill kit in all WTPO and WO utes that carry chlorine on a regular basis.</p>	<p>Outstanding items from this action - spill control equipment register, spill kit in all WTP Office and Water Operations vehicles that carry chlorine on a regular basis. This action has been tasked to the Dams and Treatment team to complete.</p> <p>Recommend this action remain on the list until it is completed.</p>	<p>A spill control equipment register has been created. All staff carrying chemicals have appropriate spill control equipment in the vehicles.</p> <p>Recommend this action be marked COMPLETE.</p>