



Wastewater Management Procedure

Environment

1 Purpose and Scope

This procedure specifies the operational environmental requirements relating to the management of wastewater and the operation and maintenance of Roy Hill wastewater treatment plants (WWTPs) at the Roy Hill Project. This procedure applies to all personnel involved in activities at the Mine, Rail and Port operations that affect wastewater management.

2 Procedure

2.1 Wastewater Management

2.1.1 Wastewater Treatment Plants (WWTPs)

1. Operate and maintain WWTPs and irrigation areas in accordance with all approval requirements and the Manufacturer's Operating Manual.
2. Manage all controlled wastes such as sludge in accordance with the *Environmental Protection (Controlled Waste) Regulations 2004* and ensure all controlled waste is removed offsite by a controlled waste licenced carrier.
3. Maintain a copy of the relevant current Operating Licence and Manufacturer's Operating Manual onsite for access by personnel working on or associated with the WWTP at all times.
4. Ensure that all personnel who have contact with wastewater have been immunised for Hepatitis A, Hepatitis B and Tetanus.
5. Ensure that no odour is emitted from any WWTP or its associated infrastructure that unreasonably interferes with the health, welfare, convenience, comfort or amenity of any person who is outside of the WWTP area.
6. Ensure that only wastewater from an approved WWTP is discharged to an approved irrigation area
7. Ensure that no wastewater from other sources (e.g. Reverse Osmosis Plant reject water) is discharged to any irrigation area without prior written approval from the Manager Environment and Approvals.
8. Maintain the appropriate calibration of cumulative flow meters and record monthly cumulative volumes for all effluent discharged to an irrigation area. Unless otherwise approved by the Manager Environment and Approvals, the Contractor or Operations team who operate the WWTP is responsible for the maintenance of flow meters and recording cumulative volume discharged.
9. Maintain visible and audible high level alarms for WWTP tanks, pump pit alarms and overflow prevention devices, and regularly test to ensure that they are working correctly.
10. Maintain perimeter irrigation area fencing and warning signs so that cattle and native fauna are prevented from accessing the irrigation area.

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11. Manage the WWTP such that unauthorised personnel do not interfere with the WWTP or enter the irrigation area.
12. Maintain and operate the WWTP such that the quality of the effluent discharged from the WWTP is in accordance with approval requirements.

2.1.2 Temporary Ablutions

1. Ensure that any temporary abluion blocks that are mobilised to site are of a model that is approved by the Department of Health (DoH) in accordance with the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974*.
2. Fit visible and audible high level alarms to all demountable toilet blocks to indicate when the facility is nearing capacity.
3. Develop and implement a schedule for emptying temporary abluion block tanks that takes into consideration capacity of the system, the daily / weekly usage and allows an appropriate freeboard so that the tank will be emptied prior to reaching full capacity.
4. Manage all controlled wastes such as sewage in accordance with the *Environmental Protection (Controlled Waste) Regulations 2004* and ensure all controlled waste is removed offsite by a controlled waste licenced carrier.
5. Ensure temporary abluion blocks are not used onsite for greater than 12 months. If an abluion blocks is needed for greater than 12 months, an approved permanent WWTP is required.

2.1.3 Oily Water Management

1. Manage oily water from bunds, sumps and washdowns in accordance with the Bunds, Sumps, Washdowns and Oily Water Separators Management Procedure (OP-PRO-00178).

2.2 Training and Awareness

1. Familiarise all personnel associated with wastewater management activities with the requirements of this procedure.
2. Include information on wastewater management requirements in site inductions or site communications where relevant.
3. Conduct toolbox talks and develop environmental site notices and environmental awareness posters periodically highlighting wastewater management requirements – this is the responsibility of the Superintendent Environment Mine or Port and Rail (or delegate where required).
4. Display relevant environmental site notices and environmental awareness posters at prominent workplace locations.
5. Update the training records of personnel in the Learning Management System once registered training has been completed (with the exception of toolbox talks).
6. Maintain records of toolbox training attendance onsite for audit and inspection purposes.
7. Ensure that all personnel involved in WWTP operations, maintenance or treated effluent sampling are suitably qualified and trained to undertake the task.

2.3 Monitoring Actions

1. Undertake monitoring in accordance with approval conditions and commitments, and ensure that all data required for regulatory reporting is captured.
2. Store all monitoring records within the Roy Hill Document Management System.

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3. Conduct water quality samples from the WWTP outlet pipe weekly to check field measurements for pH, total dissolved solids and chlorine levels against the WWTP effluent quality limits. Unless otherwise approved by the Manager Environment and Approvals, the Contractor or Operations team who operate the WWTP is responsible for the field testing.
4. Conduct regulatory wastewater quality sampling for NATA laboratory analysis in accordance with approval requirements, the Wastewater and Sewage Sampling Work Instruction (OP-WIN-01246) and the Mine Environmental Monitoring Manual (OP-MAN-00007) or the Port and Rail Environmental Monitoring Manual (OP-MAN-00011). Unless otherwise approved by the Manager Environment and Approvals, the site Environmental team will undertake all required regulatory WWTP sampling.

2.4 Incidents, Audits and Inspections

1. Undertake regular inspections of the active work area against the requirements of this procedure.
2. Undertake regular compliance audits against the requirements of this procedure in accordance with the 'Environmental Audit Procedure' (OP-PRO-00018).
3. Schedule inspections and audits against the requirements of this procedure in accordance with the approved HSE Integrated Inspection and Audit Schedule.
4. Store copies of all audits and inspections within the Roy Hill Document Management System.
5. Undertake an investigation into the cause(s) of incidents reportable to regulators in accordance with the 'Incident Investigation Specification' (OP-SPC-00156) and develop actions to prevent recurrence of the incident.
6. Enter corrective and preventative actions from incidents, audits and inspections into the Roy Hill Incident Management System.
7. Conduct daily inspections of each WWTP with a design throughput >20 kL/day in accordance with the Supplier's Operating Manual to ensure load capacity and system clean outs are undertaken at appropriate intervals, and weekly inspections of WWTPs with a design throughput <20 kL/day. Unless otherwise approved by the Manager Environment and Approvals, the Contractor or Operations team who operate the WWTP is responsible for completing and maintaining records of the inspections.
8. Include the testing of high level alarms, pump pit alarms and overflow prevention devices in the required inspections.
9. Conduct daily inspections of temporary ablution block tanks to ensure adequate capacity is available for workforce use. The Contractor or Operations team who operate the temporary ablution block is responsible for completing and maintaining records of daily inspections.

2.5 Contingency Actions

1. Implement contingency actions in accordance with this procedure where deficiencies are identified during inspections, audits and incident reporting.
2. Implement the 'Management of External Complaints Procedure' (EA-PRO-00002), where relevant.
3. Conduct a risk assessment to determine the most effective mitigation measures should additional contingency actions be required, and follow the change management process.
4. Contact an appropriately trained and authorised fauna handler to translocate fauna trapped within the irrigation area or WWTP.
5. Undertake remedial or maintenance work as required by the Manufacturer's Operating Manual to improve the wastewater quality if it is identified that wastewater is not meeting the approved quality limits.

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6. Manage spills from the WWTP in accordance with the 'Spill Response Management Procedure' (OP-PRO-00275).

2.6 Reporting Requirements

1. Report all non-compliances with this procedure, all regulatory exceedances and all community complaints as an incident in the Roy Hill Incident Management System.
2. Close out all incidents and corrective actions in accordance with the 'Incident, Non-Conformance and Action Management Procedure' (OP-PRO-00702).
3. Complete all reporting required (e.g. monthly WWTP effluent discharge volumes and any sludge disposal volumes) within the relevant EnviroSys data entry forms or in the 'Contractor Environmental Report' (CER) (OP-FRM-00305) – this is the responsibility of the Contractor or Operations team who operate the WWTP.
4. Submit controlled waste receipts to the relevant site Environment Team as part of environmental reporting – this is the responsibility of the Contractor or Operations team who operate the WWTP.
5. Ensure that results of treated effluent laboratory tests are reviewed for any exceedances, and notify the WWTP operator of the water quality results upon receipt – this is the responsibility of the Environment Team.

3 Accountabilities

Unless otherwise specified, the following roles are accountable or responsible for the activities outlined in this procedure.

Role	Responsibility
General Managers	Accountable for ensuring that resources are available to support the implementation of this procedure where it is relevant to their area of responsibility
Managers	Accountable for the implementation of this procedure where it is relevant to their area of responsibility
Superintendents	Responsible for the implementation of this procedure where it is relevant to their area of responsibility
Environment Team	Responsible for review and update of this procedure

Table 1: Accountabilities

4 Abbreviations

Term	Definition
DoH	Department of Health
WWTP	Wastewater Treatment Plant

Table 2: Abbreviations

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5 Definitions

Term	Definition
Controlled Waste	Wastes that cannot be disposed of at a class I, II or III landfill sites as classified under the <i>Environmental Protection (Controlled Waste) Regulations 2004</i> . Some examples are sewage, clinical waste, hydrocarbon oil and asbestos
Irrigation Area	The approved disposal area for treated effluent from an approved WWTP
Operational Environmental Requirements	A plan, procedure or work instruction that must be complied with.

Table 3: Definitions

6 References

Document Number	Document Name
	Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008 (2004)]
	<i>Environmental Protection (Controlled Waste) Regulations 2004</i>
	<i>Health (Treatment Of Sewage And Disposal Of Effluent And Liquid Waste) Regulations 1974</i> Health Act 1911
OP-PLN-00043	Operational Environmental Management Plan
OP-FRM-00128	Wastewater Treatment Plant Inspection Form
OP-PRO-00018	Environmental Audit Procedure
OP-FRM-00305	Contractor Operations Environmental Report
OP-PRO-00702	Incident, Non-Conformance and Action Management Procedure
OP-MAN-00007	Mine Environmental Monitoring Manual
OP-MAN-00011	Port and Rail Environmental Monitoring Manual
OP-PRO-00275	Spill Response Procedure
OP-WIN-01246	Wastewater and Sewage Sampling Work Instruction

Table 4: References

Note that up-to-date environmental documents should be accessed from the e-Care Roy Hill intranet portal to ensure that the current version is being used.

7 Review

This Procedure is to be reviewed as follows:

- Following the grant of or modification to relevant approvals;
- Annually; or
- As a result of findings or actions identified through inspections, audits and incident reporting.

Reviews are to examine the appropriateness of this Procedure, taking into consideration corporate, system and compliance requirement changes since the last review was undertaken.

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