

Corporate - Memorandum

To	Matthew McCahon, Manager Technical Support and Improvement
From	Elyse Harding, Lead Water Quality – Manufactured Water
Date	17 December 2020
Subject	Regular Review of WCRWS Recycled Water Management Plan (RWMP)

Recommendation:

To endorse and approve the amended Western Corridor Recycled Water Scheme (WCRWS) Recycled Water Management Plan (RWMP), specifically Seqwater's Scheme Manager Plan and Scheme Provider Plan following the 2020 review.

Seqwater's Scheme Manager Plan (SMP) and Scheme Provider Plan (SPP) have been updated, the amended plans reviewed and where relevant endorsed by functions and responsible leaders.

Background:

Seqwater currently manages recycled water quality under the WCRWS (or Scheme) Recycled Water Management Plan. On 23 February 2018, Seqwater applied to the Regulator (DNRME's Water Supply Regulation) to approve the resumption of recycled water supply under the RWMP from the Scheme for electricity generation. This application was approved by the Regulator on 28 May 2018, to the extent it related to the supply of recycled water from the Scheme for electricity generation.

Condition 5.5 of the Revised Information Notice of the Decision dated 17 December 2013, regarding the Recycled Water Management Plan for the Western Corridor Recycled Water Scheme requires the Scheme Manager (Seqwater) to undertake a regular review of the RWMP to reflect current operations, water quality criteria and best practice by 20 December 2020.

In accordance with condition 5.5 of the Revised Information Notice and section 258 of the Water Supply (Safety and Reliability) Act 2008 (Qld) (The Act), Seqwater completed its Regular Review of the RWMP on 26 November 2020.

The RWMP consists of three separate plans as outlined below. It should be noted that the revision dates of the current approved RWMP are:

- Seqwater Scheme Manager Plan – December 2012
- Seqwater Scheme Provider Plan – April 2012
- Urban Utilities Scheme Provider Plan – October 2010

Findings of the Review and the RWMP Amendment Application

The review of the RWMP was completed by the Lead Water Quality – Manufactured Water (Elyse Harding), supported by the Principal Product Quality (Duncan Middleton).

Document and Information Currency Review

The 2020 review of the RWMP identified that significant updates to the RWMP and appendices were required due to:

- The age of the approved RWMP (revision dates ranging from October 2010 to April 2012).
- Regulation changes introduced with the Public Health Regulation (PHR) 2018.
- Changes associated with the updated Validation Program approved in 2019.
- Developing a consistent risk methodology across the Scheme in line with the Regulator's *Recycled Water Management Plan and Validation Guidelines* (November 2008). This ensures consistency in risk scoring and risk transfer between entities (i.e. between Urban Utilities as a Scheme Provider, Seqwater's recycled water management system (RWMP) as Scheme Manager and a Scheme Provider and Seqwater's drinking water management system (Drinking Water Quality Management Plan).
- Additional treated wastewater data obtained since the last WCRWS water quality risk assessment review.
- Additional ongoing Purified Recycled Water (PRW) verification monitoring, commissioning verification and commissioning validation data obtained since resumption of supply in July 2018 to Swanbank power station from the single process train at Luggage Point Advanced Water Treatment Plant (AWTP).
- Operational experience and operational monitoring data obtained at Luggage Point AWTP since the resumption of supply.

The required changes of note to Seqwater's SMP and SPP are as follows:

- include Scheme Manager and Scheme Provider nominees and contact details
- update internal team structure and names following internal restructuring at Seqwater
- include references to Seqwater's new Water Quality Policy Statement
- update the Scheme infrastructure descriptions and schematics to align with current operations
- update the PRW verification monitoring summary to incorporate new water quality results and demonstrate how the results meet the water quality criteria
- update the end uses for the Scheme to align with potential future supply customers
- reflect the Scheme current operating environment, i.e. current water industry model and current contractual relationships (Bulk Water Supply Agreements and Operating Protocols)
- reflect the Water Security Program, 'Water for Life South East Queensland's Water Security Program 2016-2046' and subsequent WCRWS restart triggers
- update the Schemes' risk assessments including changes to:
 - the risk methodology including consistency in risk scoring
 - the way risks and risk treatments are transferred between the Scheme Manager and Scheme Providers
 - the risk assessment methodology to conduct separate risk assessments for individual assets (Sewage Treatment Plant (STP), AWTPs and transport network)
 - include additional treated wastewater data, ongoing PRW verification monitoring, commissioning verification and commissioning validation data obtained since the last risk review. This includes review and analysis of data to inform the risk assessments
 - Incorporate changes to the water quality criteria for augmentation of drinking water supply introduced with the PHR 2018
 - include Critical Control Points (CCP) and Quality Control Points (QCP) assessment for each hazardous event associated with a process.

- reflect the current risk assessment team members and qualifications/experience
- update the risk assessment outcomes/findings to align with the outcomes of the revised risk assessments
- update the validated pathogen log reductions and chemical removal efficiencies to align with the Validation Program
- update the CCP and QCP monitoring parameters and setpoints to align with the Validation Program
- include new CCP corrective actions work instructions
- include commissioning validation and commissioning verification findings following reinstatement of the single process train at Luggage Point AWTP and development of associated report (appendix to the RWMP)
- update the Improvement Plan to incorporate risk opportunities identified through the risk assessment process
- update the revalidation process and Regulator notification timeframes to account for periods when the Scheme is not augmenting supply
- update the Scheme water quality monitoring methodology to align with the Validation Program
- update the frequency of monitoring program reviews to account for periods when the Scheme is not augmenting supply
- update the Scheme's verification monitoring program and development of associated report (appendix to the RWMP)
- include provisions to allow for supply to Tarong to cease for a period after completing commissioning verification without requiring it to be repeated
- update the laboratory quality assurance programs to consider proficiency testing
- update the nonconformances and incident classifications, notifications and responses to align with Seqwater's Bulk Authority Emergency Response Plan and Emergency Management Manual
- update the health risk assessment processes to align with changes introduced with the PHR 2018
- update record keeping and document control sections to align with current Seqwater systems, processes and procedures
- include a process to allow minor changes to the RWMP and appendices without applying for an amendment to the Regulator. A definition and examples of minor changes to be included in addition to a process to assess changes are minor and communication of these minor changes to the regulator. This process will ensure the RWMP becomes a 'living document' to maintain currency and manage risk, while complying with the requirements of the Act
- update the community engagement supporting programs in line with Seqwater's Water Future Program
- incorporate changes to the contracted operator's Scheme monitoring, auditing, training, chemical quality control, asset management, maintenance and calibration systems, processes, procedures.
- update the naming of state and federal government departments, regulators, utilities and bulk supply customers and abbreviations
- update the Scheme Manager supporting procedures: Incident Procedure (PRO-01490), Communications Procedure (PRO-01377) and Water Quality Reporting Procedure (PRO-00665).

Following the incorporation of the above review findings as updates and changes to Seqwater's Scheme Manager Plan and Scheme Provider Plan, these plans have been reviewed as outlined in the table below. All comments have been reviewed and actioned as required.

Plan	Description	Name	Date
Scheme Manager Plan	Document prepared	Elyse Harding	4 November 2020
	Peer technical review	Cameron Veal	5 November 2020
	Level 4 technical review	Annalie Roux	7 November 2020
	Level 4 technical review and endorse	Duncan Middleton	21 November 2020
	First communications review	Susan Woodford	10 November 2020
	Review against the Regulator's Recycled Water Management Plan and Validation Guidelines (November 2008)	Elyse Harding Duncan Middleton	26 November 2020
	Legal review and endorse	Alison Gordon	1 December 2020
	Final communications review and endorse	Susan Woodford	2 December 2020
Scheme Provider Plan	Document prepared	Elyse Harding	5 November 2020
	Peer technical review	Cameron Veal	6 November 2020
	Level 4 technical review	Annalie Roux	11 November 2020
	Level 4 technical review and endorse	Duncan Middleton	19 November 2020
	First communications review	Susan Woodford	13 November 2020
	Review against the Regulator's Recycled Water Management Plan and Validation Guidelines (November 2008)	Elyse Harding Duncan Middleton	26 November 2020
	Legal review and endorse	Alison Gordon	1 December 2020
	Final communications review and endorse	Susan Woodford	2 December 2020

Address Internal Audit Findings

In June 2020, an Internal Audit of the WCRWS Recycled Water Management Plan was undertaken by Seqwater, as Scheme Manager, in accordance with Seqwater's Regulatory obligations. The purpose of the internal audit is to assess compliance with the approved RWMP and Regulator applied conditions.

The overall audit finding was that all Parties were complying with the overall intent on the RWMP and that the risks associated with the Scheme are being appropriately managed. The non-conformances identified were mostly due to the current RWMP being outdated and systems and processes changing significantly since the plans were developed and approved.

The table below outlines how the review of Seqwater's SMP and SPP has addressed these non-conformances. Additionally, Urban Utilities SPP review addressed the other non-conformances (NCR1, mNCR1 and mNCR2) from the internal audit, as outlined in the section below.

Plan	Non-conformance Description	ID	Progress Against Planned Action
Seqwater SMP & SPP	Veolia JSEAs do not consider PRW quality – PRW quality is not given explicit consideration in the works process (JSEAs, permit to work, etc).	NCR2	<p>Veolia permit to work documentation updated to capture the requirement to consider PRW quality when undertaking works. Supporting plan has been developed to outline specific risks to PRW quality and associated mitigations.</p> <p>Seqwater Scheme Provider Plan has been updated to align documentation with the above process.</p> <p>Complete</p>

Plan	Non-conformance Description	ID	Progress Against Planned Action
Seqwater SMP & SPP	Non-conformances and Incident response: The incident Classification levels specified in the SPP and SMP are inconsistent with those detailed in the Seqwater Incident & Emergency Response Plan. These should be consistent. It is noted that a draft update to the SMP is proposed to correct these differences.	mNCR3	<p>Scheme Manager Plan has been updated to reflect current Bulk Authority Emergency Response Plan and Emergency Management Manual classifications.</p> <p>Complete</p>
	Non-conformance response: Exceedances of Action and Critical Limits are not recorded in Seqwater's incident management system. However, the data is recorded in the monthly Operations Performance Report for each AWTP that are available. (NB this nonconformance carries over from the previous audit).	mNCR4	<p>There have been no events where Critical Limits have been exceeded. These events would be declared as incidents (as per the SPP) and the information captured in Risk Wizard.</p> <p>It is not practical to capture the information around Action Limit exceedances as incidents in Risk Wizard (as by definition they are not non-conformances). Details around Action Limit exceedances are recorded in the monthly Operations Performance Report.</p> <p>The Scheme Manager Plan and Scheme Provider Plan has been updated to address this discrepancy between the documented and implemented process.</p> <p>Complete</p>
	Laboratory Quality Assurance: The process in Figure 7-5 (Laboratory Review Process) is yet to be implemented. Carried over from previous audit, with no evidence of purposeful improvement, but some comparison studies have been carried out (not to the extent of the requirements under the plan)).	mNCR5	<p>Actions against this non-conformance are occurring in two stages:</p> <p>Stage 1 – Quality assurance programs appropriate for the Scheme have been identified and incorporated into the Scheme Manager Plan and Scheme Provider Plan.</p> <p>Stage 2 – Implement quality assurance program.</p> <p>Due: Stage 1 – Complete Stage 2 – from FY 2021/2022</p>

Urban Utilities Scheme Provider Plan Review and Internal Audit Non-conformances

Seqwater have engaged with and actively supported Urban Utilities to action the internal audit non-conformances and update their risk assessments to align with the consistent Scheme risk methodology (as discussed above). Upon receipt of Urban Utilities Scheme Provider Plan, Seqwater will undertake a review to ensure alignment with Seqwater's SMP and SPP. Seqwater, intends to submit all three plans to the Regulator at the same time.

The required changes of note to Urban Utilities' SPP are as follows:

- add a list of referenced documents
- update references to current legislation, guidelines and standards
- updated Scheme Manager and Scheme Provider nominees and contact details
- add a diagram showing how the relevant plans for the Scheme relate.
- Removal of wording in the Plan, where that wording appears in a referenced document (i.e. Trade Waste Policy is referenced but the content is not duplicated within the Plan). Undertaken to ensure relevancy of information
- Update Scheme infrastructure descriptions and schematics to align with current operations
- Update end uses for the Scheme to align with potential future supply customers
- Reflect the Scheme current operating environment, i.e. current water industry model and current contractual relationships (Bulk Water Supply Agreements and Operating Protocols)
- Update to reflect the current operating environment at Urban Utilities
- Include average flows and trade waste volumes per STP
- update the Schemes' risk assessments including changes to:
 - the risk methodology including consistency in risk scoring
 - the way risks and risk treatments are transferred between the Scheme Manager and Scheme Providers
 - the risk assessment methodology to conduct separate risk assessments for individual assets (STP, AWTPs and transport network)
 - include additional treated wastewater data, ongoing PRW verification monitoring, commissioning verification and commissioning validation data obtained since the last risk review. This includes review and analysis of data to inform the risk assessments
 - Incorporate changes to the water quality criteria for augmentation of drinking water supply introduced with the PHR 2018
 - include Critical Control Points (CCP) and Quality Control Points (QCP) assessment for each hazardous event associated with a process.
- reflect the current risk assessment team members and qualifications/experience
- update the risk assessment outcomes/findings to align with the outcomes of the revised risk assessments.
- update the Improvement Plan to incorporate risk opportunities identified through the risk assessment process
- include a process to allow minor changes to the RWMP and appendices without applying for an amendment to the Regulator. A definition and examples of minor changes to be included in addition to a process to assess changes are minor and communication of these minor changes to the regulator. This

process will ensure the RWMP becomes a 'living document' to maintain currency and manage risk, while complying with the requirements of the Act

- include Scientific Analytical Services (SAS) Laboratory and Trade Waste procedures
- update quality assurance and quality control activities
- update Urban Utilities emergency management plan details and references
- update of documentation management and reporting in line with current Urban Utilities practices and procedures
- update to training sections to reflect current practices
- update to reflect current monitoring programs
- update the naming of state and federal government departments, regulators, utilities and bulk supply customers and abbreviations.

The table below outlines how the review of Urban Utilities' SPP has addressed the internal audit non-conformances.

Plan	Non-conformance description	ID	Progress Against Planned Action
Urban Utilities Scheme Provider Plan	<p>Benchmarking: External certification that is specified in the SPP (ISO9001) is no longer maintained by UU. (NB this finding carries over from the previous audit.)</p> <p>Further to this, there was no evidence presented of auditing or assurance programs under any relevant scope.</p>	NCR1	<p>Urban Utilities no longer has a certified Quality Management System. However, Urban Utilities does operate under a quality system that meets the requirements of ISO9001. This information has been updated in Urban Utilities' Scheme Provider Plan with references to the Quality Management Policy and Manual.</p> <p>Complete</p>
Urban Utilities Scheme Provider Plan	<p>Verification Monitoring: UU's monitoring did not comply with the monitoring requirements of the UU SPP, both in frequency and analyte. (NB This finding carries over from the previous audit.)</p>	mNCR 1	<p>Urban Utilities' Scheme Provider Plan has been updated to reflect that sampling is conducted as per the sewage treatment plant monitoring program (required to fulfil environmental authority obligations and additional sampling undertaking for process purposes). These documents are not Western Corridor specific but where an analyte is required solely for Western Corridor purposes, it will be identified in the monitoring plan as such.</p> <p>Complete</p>
	<p>Revalidation triggers: potential revalidation triggers have not been communicated effectively (for example reduction of stage 2 sludge age).</p>	mNCR2	<p>Action taken to include in regular WCRWS Scheme Manager and Provider Meeting (between Seqwater and UU).</p> <p>Complete</p>

Next Steps

The updated RWMP will be submitted through an amendment application to the Regulator within 60 business days of review completion as required under section 259 of the Act, this will need to occur by 24 February 2021 (inclusive). A copy of the revised RWMP, its appendices and relevant supporting documentation will be provided with this amendment application.

Kind regards

Elyse Harding

Lead Water Quality – Manufactured Water

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Date: 17 December 2020

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