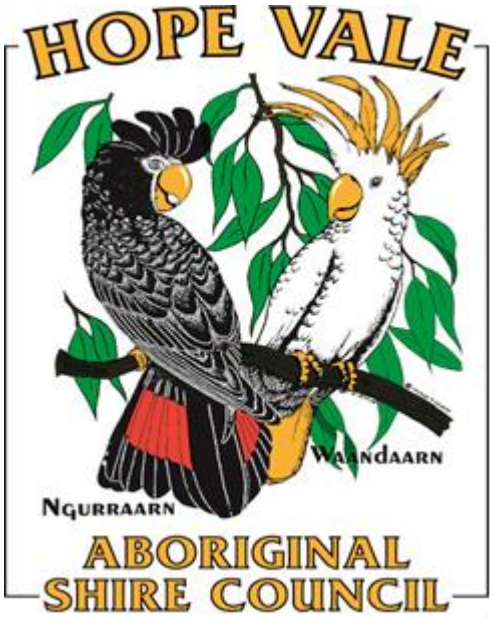

Drinking Water Quality Management Plan Report

Hope Vale Aboriginal Shire Council

SPID: 513

2018-2019 Financial Year

This report has been prepared in accordance with the Drinking Water Quality Management Plan Report Guidance Note.

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1 Introduction

This is the Drinking Water Quality Management Plan (DWQMP) report for Hope Vale Aboriginal Shire Council (HVASC) for the financial year 2018–19.

HVASC is a registered service provider with identification (SPID) number 513. HVASC is operating under an approved DWQMP to ensure consistent supply of safe quality drinking water in order to protect public health. This is done through proactive identification and minimisation of public health related risks associated with drinking water.

This DWQMP report includes:

- the activities undertaken over the financial year in operating our drinking water service
- drinking water quality summary
- summary of our performance in implementing our approved DWQMP

This report is submitted to the Regulator to fulfil our regulatory requirement, and is also made available to our customers through our website or for inspection upon request at council office.

2 Summary of scheme/s operated

Table 1 – Summary of schemes

Scheme	*Water Source*	*Treatment processes*	*Treatment capacity*	*Towns supplied*
Hope Vale Water Supply	Old Town Bore Field - Bores 4,6 & 8	Chlorination	0.75 ML/day approx.	Hope Vale Township
Hope Vale Water Supply	Eastern Bore Field Bores - GA1, GA2, PB1, PB6	Aeration and Chlorination	1.9 ML/day	Hope Vale Township

3 DWQMP implementation

The actions undertaken to implement the DWQMP are summarised below.

- HVASC water and sewerage staff meet every weekday morning to discuss essential service delivery issues, review SCADA trends, and allocated maintenance and repair tasks. The Water and Wastewater Manager takes this opportunity to provide updates and reviews on scheduled monthly/quarterly water analysis results and pending sample collection and shipment dates/timelines in accordance with the DWQMP.
- The Verification monitoring used by Hope Vale Aboriginal Shire Council is to confirm that safe drinking water is delivered to customers and consumers in compliance with the Australian Drinking Water Guidelines and the Public Health Act. The verification monitoring also verifies that preventative measures stated in the Hope Vale Aboriginal Shire Council's Drinking Water Quality Management Plan are functioning effectively. The drinking water supply verification process includes, daily free chlorine testing at four sites in and around the community, weekly potable water sampling at four sites for bacteria analysis and quarterly treated water sampling at four sites for full analysis at the Cairns Water Laboratory.

- The actions undertaken to implement the risk management improvement program are discussed in Table 2.

Table 2 – Risk management improvement program implementation status

Scheme name	Ref	Component	Improvement actions	Target date	Actions taken to date	Status and revised target date	Responsible Officer / Position
Hope Vale Water Supply	CS02	Catchment and Source Infrastructure	Implement the monitoring of turbidity at inlet to treatment plant	December 2017	Monitoring program now incorporates turbidity readings at aerator (inlet to plant	Completed	
Hope Vale Water Supply	TR02	Treatment Process	Develop relevant SOP for iron (aesthetic) aeration	December 2017	Tom is developing	Jan 2020 (Tom has commenced)	Tom
Hope Vale Water Supply	TR03	Treatment Process	Optimal pH - Develop SOP	December 2017	Not required – no pH correction is not required for treatment as monitoring results confirm	Completed	
Hope Vale Water Supply	DI01	Disinfection	Chlorine overdose	December 2018	Develop relevant SOP for chlorine overdose (noted that recent SCADA installation now monitors chlorine levels in real-time	Jan 2020 (SCADA procedure needs to be incorporated.	Tom
Hope Vale Water Supply	ST01	Storage	Storage and balance tank turbidity - Investigate cleaning program for reservoirs		Now routinely undertaken	Completed	
Hope Vale Water Supply	WS02 and WS05	Whole of Service	Investigate possible opportunity for formal training for existing staff.	Ongoing	Staff training developed in line with staff appraisals	ongoing	Tom
Hope Vale Water Supply	WS03	Whole of Service	Develop SOPs for all relevant procedures and operational philosophy	Dec 2017	Tom is developing	Jan 2020	Tom
Hope Vale Water Supply	WS06	Whole of Service	Develop community notification / messaging e.g. boil water alert template	Dec 2017	completed		

4 Verification monitoring - water quality information and summary

This section discusses the compliance with the water quality criteria.

Table 3 – Drinking water quality performance - verification monitoring

Scheme name	Parameter	No. of samples required to be collected (as per the approved DWQMP)	No. of samples actually collected and tested	Water quality criteria (i.e ADWG health guideline value)	No. of non compliant samples	Comments
Hope Vale Water Supply	E. Coli	Quarterly (at 4 sites)	16	< 1 CFU/100mL	0	Results from Cairns Regional Council Water Laboratory
Hope Vale Water Supply	Total Coliforms	Quarterly (at 4 sites)	16	<1 CFU/100mL	0	Results from Cairns Regional Council Water Laboratory
Hope Vale Water Supply	Heterotrophic Plate Counts	Quarterly (at 4 sites)	16	<10 CFU/mL	0	Results from Cairns Regional Council Water Laboratory
Hope Vale Water Supply	E. Coli	Weekly (at 4 sites)	208	0 MPN/100ml	0	Results from in-house lab sampling
Hope Vale Water Supply	Free Chlorine	Daily (at 4 sites)	1,532	>0.2 mg/L, <5mg/L	14	Results from in-house lab sampling. Some samples <0.2 mg/L but all were > 0.1 mg/L

Table 4. E. coli compliance with annual value

Drinking water scheme: Hope Vale Water Supply

Year	**2018– 2019**											
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
No. of samples collected	16	20	16	16	16	16	20	16	20	16	20	16
No. of samples collected in which E. coli is detected (i.e. a failure)	0	0	0	0	0	0	0	0	0	0	0	0
No. of samples collected in previous 12 month period	208	208	208	208	208	208	208	208	208	208	208	208
No. of failures for previous 12 month period	0	0	0	0	0	0	0	0	0	0	0	0
% of samples that comply	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Compliance with 98% annual value	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

5 Incidents reported to the regulator

The incidents reported to the regulator and management actions undertaken over the financial year are provided in this section.

Table 5 – Incidents reported to the regulator

Incident date	Scheme / location	Parameter / issue	Preventive actions
Nil incidents 2018/2019			

6 Customer complaints

This section discusses details of any complaints received about the drinking water service

Refer to section 2.3.6 in the Guidance Note.

Table 6 – Example: customer complaints about water quality

Scheme	Health concern	Dirty water	Taste and odour	Other
Hope Vale Water Supply	Nil complaints 2018-2019			
Total				

7 DWQMP review outcomes

A summary of the outcomes of the review and how issues/changes raised in the review, were actioned is provided in this section.

A review of the 2018 DWQMP was undertaken 22 November 2019. Minor updates to the DWQMP were identified to better reflect the current Hope Vale water supply system and the corresponding operations as a result of this review.

Table 7 – DWQMP review outcomes

Review Date: 22/11/19

Hope Vale Aboriginal Shire Council – DWQMP Review

Review date or period	22 November 2019
Team members/positions	Tom Jones - Water and Wastewater Supervisor, Gene Brookes - Operations Manager, Brad Pinches - Contract Engineer

Areas to consider	Yes or No	Type of change positive/ negative/ neutral	Action required (consider changes to risk assessment, DWQMP document, monitoring etc.)	Who will action?	Time-frame
3.6 Service description					
• Have any of the service provider contact details changed? • Do the scheme details still apply? • Have the number of communities serviced changed? • Has the population size changed? • Have the number of connections changed? • Is the design capacity sufficient for population projections?	No Yes No No No Yes				

3.6 Details of infrastructure used for providing the service					
• Do the schematics accurately reflect all the components, processes and linkages, from catchment to consumer?	No	Positive	SCADA overview schematics require update in DWQMP Section 2.1	BP	Jan-20
• Do any of the system description details require updating?	Yes	Positive	Water Supply Description (DWQMP 2.2) requires update to include detail on automatic SCADA chlorine dosing	BP	Jan-20
• Have new chemicals been introduced into the treatment process or the dosing points re-located?	Yes	Positive	Redundant chlorine injection point removed at reservoir outlet, DWQMP to be updated	BP	Jan-20
• Have monitoring and telemetry systems been checked and/or changed?	Yes	Positive	Upgraded SCADA installed		
• Have low pressure areas in the distribution system changed?	No				
• Has a reservoir undergone refurbishment?	No				
• Have there been changes in the key stakeholders or engagement process?	No				
• Have there been any problems with infrastructure or equipment breakdown or deterioration?	No				
3.7.1 Information gathering on water quality and catchment characteristics					
Water quality data should be collated, analysed and trended, including for source water, treatment process steps and distribution.					
• Have there been changes to the source water quality or characteristics?	No				
• Have there been any changes to the output quality?	No				
• Does water quality data indicate that the level of risk has changed for certain hazards?	No				
• Has operational monitoring data identified any poorly functioning treatment processes?	No				

• Has there been any significant development or land use changes in the catchment?	No				
• Has the nature or frequency of any water quality complaints changed?	No				
• Has there been any occurrence of suspected illness following a customer complaint about water quality?	No				
3.7.2 Hazard identification					
• Have the personnel (position) responsible for hazard identification and risk assessment changed?	No				
• Have any new or emerging hazards or hazardous events been identified?	No				
3.8 Assessment of risks					
• Is the risk assessment methodology still considered appropriate?	Yes				
• Have new risk management strategies been implemented?	N/A				
• Do any new risk management strategies require new assessment of residual risk?	Yes	Positive	Cyber Security has been identified as a potential risk to supply - an assessment of hazardous events, vulnerabilities, threats and breaches, with regard to water quality needs to be undertaken particularly in relation to the SCADA system. An update to the DWQMP is required	TS/BP/ HASC IT department	Jan-20
• Has an acceptable, residual risk level been clearly defined?	Yes				
3.9.1 Risk management measures					
• Have the existing risk management strategies achieved desired water quality outcomes?	Yes				

• Has the effectiveness of any new risk management strategies or infrastructure upgrades been evaluated?	N/A				
3.9.2 Operation and maintenance procedures					
• Do the procedures and practices reflect current operations? • Is there a need to create new operation and maintenance procedures? • Have records related to associated procedures been kept? • Have training records been maintained? • Is training appropriate to the system, as it currently exists?	yes	positive	new procedure to calibrate new chlorine level sensor to be formalised	TS	Feb-20
3.9.3 Management of incidents and emergencies					
• Is the process for managing drinking water incidents and emergencies still appropriate for the drinking water service? • Do internal and external communication process and protocols work effectively? • Is the list of people to be contacted during emergencies up to date? • Is staff training for incidents and emergencies up to date? • Have incident and excursion records identified changes in risks and hazards?	Yes Yes Yes Yes Yes				
3.9.4 Risk management improvement program (RMIP)					
Review status of actions in the improvement program. • Were actions in the program completed in the timeframe outlined in the RMIP? • Did the program outlined in the DWQMP achieve the intended outcomes? • Does the program require updating to manage risks effectively, including measures for newly identified risks?	No Yes Yes	neutral neutral	Some non-critical Standard Operating Procedures require updating As per note above re SOPs	TS	Feb-20

• Are all unacceptable risks included in the RMIP and do all of these risks have a remedial action item and completion date?	Yes				
3.9.5 Service-wide support information management					
• Are staff using current versions of documents?	Yes				
• Are the information management, record keeping and reporting processes being used appropriately?	Yes				
3.10.1 Operational monitoring					
• Have changes to the infrastructure or process resulted in a need to revise the monitoring program?	yes	positive	reservoir outlet chlorine monitoring now not required as dosing equipment has been removed due to new SCADA controlled automatic sampling and adjustment system		
• Are the range and frequency of parameters being tested appropriate?	Yes				
• Are the established corrective actions and controls actively applied as in the DWQMP and still appropriate?	Yes				
• Have monitoring records been maintained?	Yes				
• Are monitoring equipment being calibrated?	Yes				
3.10.2 Verification monitoring					
• Have changes to the infrastructure resulted in a need to revise the monitoring program?	No				
• Are the range and frequency of parameters being tested appropriate?	Yes				
• Are the established corrective actions and regulator notifications actively applied as described in the DWQMP?	Yes				
• Are the corrective actions and notifications still appropriate?	Yes				

• Have monitoring records been maintained?	Yes				
• Have ADWG health guideline values changed for any parameters?	No		Council is not aware of any changed parameters		
• Have the arrangements for monitoring, transport arrangement for off-site analysis, or testing laboratory changed?	No				
Other areas					
• Have there been any changes in regulations, legislation or formal requirements?	No		Council is not aware of any changes		
• Have there been organisational structure changes that may impact on risk management?	No				
• Are critical personnel appropriately qualified or require additional training?	Yes		No additional training required		
• Do the audit outcomes recommend changes to the DWQMP or related processes?	N/A		No audit since last amendment to DWQMP		

8 DWQMP audit findings

No audits were undertaken during the reporting period 2018/2019.

This report is based on the approved 2018 DWQMP

The actions undertaken to address the audit recommendations are outlined in Table 8.

Table 8 – DWQMP audit findings and status

Item	Recommendation or OFI	Action	Status of actions	Responsible Officer / Position
Nil actions required 2018/2019				