

## CORRIGENDUM (9 July 2024)

**Water safety plan manual: step-by-step risk management for drinking-water suppliers, second edition**

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**Page 61, case study 6.1**

Replace with the corrected version below.

**CASE STUDY 6.1**

**Experiences from Australia**


To ensure that appropriate corrective action was taken for exceedances relating to suboptimal coagulation, the water supplier established the following escalating limits for control measure functioning:

Deviations from the target value result in operator intervention. The urgency and extent of this intervention depend on the nature and seriousness of the deviation – ranging from optimizing the coagulation process to shutting down the water treatment plant.

The extract below from an operational monitoring plan shows this in practice.

**SETTING LIMITS TO TRIGGER APPROPRIATE CORRECTIVE ACTIONS**

Acceptable



Unacceptable

**Control measure performance**

**A target value (or range):** represents optimal control of the process.

**An adjustment limit (or alert limit):** indicates the point where adjustment is needed to restore control and avoid the alarm limit being reached.

**A critical limit:** indicates control of the process is lost and drinking-water safety is not guaranteed.

POTENTIAL HAZARD		Sub-performance of coagulation process, resulting in potential:			
		<ul style="list-style-type: none"> <li>Reduced effectiveness of other water treatment processes (i.e. clarification, filtration, disinfection) – Health Risk (Regulatory)</li> <li>Elevated Aluminium residual in distribution system – Health Risk (Regulatory)</li> <li>Dirty water (high turbidity and/or colour) in distribution system – Aesthetic Risk</li> </ul>			
KEY CONTROL MEASURE		Alum Dosing System Performance			
		pH (Coagulation) – during plant operation			
MONITORING	What	pH			
	How	pH meter (online)			
	When	Continuous online			
	Where	Clarifier Inlet			
	Who	WTP Operator			
	Records	SCADA			
TARGET		6.0 – 6.5			
ALERT LIMIT		< 5.8 or > 6.8 for 15 minutes			
CRITICAL LIMIT		< 5.5 or > 7.0 for 45 minutes			
CORRECTIVE ACTION CHECKLIST (Undertake these actions as deemed necessary)					
	What	When	Who	Records	
	Automatic plant shutdown	Critical	Automatic	SCADA	
	Check SCADA trends (e.g. coagulant pH, raw water pH, raw water flow rate, raw water turbidity, filtered water turbidity, chemical pre-dosing)	Alert & Critical	WTP Operator	Plant event log	
	Check accuracy of online pH trend and meter using portable pH test kit	Alert & Critical	WTP Operator	Plant event log	
	Calibrate online pH meter (CW-PC-0808)	Alert & Critical	WTP Operator	Plant event log	
	Check / adjust alum dose rate	Alert & Critical	WTP Operator	Plant event log	
	Check / adjust caustic pre-dose rate	Alert & Critical	WTP Operator	Plant event log	
	Visually inspect alum dosing system & clarifier	Alert & Critical	WTP Operator	Plant event log	
	Check chemical quantity available	Alert & Critical	WTP Operator	Plant event log	
	Check chemical quality (CW-PC-0808)	Alert & Critical	WTP Operator	Plant event log	
	Initiate Water Quality Incident Notification (CW-PC-0805)	Alert & Critical	LL WQ Mgr	Incident report	
	Contact Manager / Supervisor for advice	Critical	WTP Operator	Plant event log	
	Manual plant shutdown	Alert	WTP Operator	Plant event log	
	Create Issue Manager incident report	Critical	Manager WQP	Issue Manager	

SCADA: supervisory control and data acquisition (online telemetry system for monitoring and control); WTP: water treatment plant.

Source: Courtesy of Coliban Water, Australia.

These corrections have been incorporated into the electronic file.