

Site Visit Report



Under the *European Union (Drinking Water) Regulations 2023*, the Environmental Protection Agency (EPA) is the supervisory authority in relation to Uisce Éireann and its role in the provision of public drinking water supplies. This audit was carried out to assess the performance of Uisce Éireann in providing clean and wholesome water to the public water supply named below.

The audit process is a sample of the performance of a water treatment plant and public water supply on a given date.

Water Supply Zone

Name of Installation	Hollyford
Organisation	Uisce Éireann
Scheme Code	2900PUB0143
County	Tipperary
Site Visit Reference No.	SV30726

Report Detail

Issue Date	21/01/2025
Prepared By	Noel Cosgrove

Site Visit Detail

Date Of Inspection	04/12/2024	Announced	Yes
Time In	10:30	Time Out	11:35
EPA Inspector(s)	Lorcan Farrell Noel Cosgrove		
Additional Visitors			
Company Personnel	Uisce Éireann: Melissa Devane, Noel Maher, Denis McGrath Tipperary County Council (working in partnership with Uisce Éireann): John Lonergan, Cyril Ryan		



Summary of Key Findings

1. There is no chlorine residual monitor in place at Hollyford Water Treatment Plant (WTP) to provide chlorine contact time verification.
2. Operational staff at the treatment plant have no access to trended data on-site to help inform treatment plant operations.



Introduction

Hollyford Public Water Supply serves a population of 241 people (EDEN figure) and is supplied by Hollyford WTP. The treatment plant produces approximately 190 m³/day (EDEN figures) and sources its water from a single borehole located near the treatment plant. Treatment consists of chlorination only.



Supply Zones Areas Inspected

The audit included a site tour of Hollyford WTP.



1. Alarms, Inhibits & Oversight Audits 2024

1.1

Is there a documented site specific incident response and incident escalation process?

Answer

No

Comment

1. The Uisce Éireann Incident Communications and Response Guidance Form in place at Hollyford WTP did not contain site-specific alarm/shutdown set-points, and the contact details for Uisce Éireann and Tipperary County Council required updating.

1.2

Is there a chlorine residual monitor located after contact time for verification of primary disinfection?

Answer

No

Comment

1. The chlorine contact time validation calculation for the treatment plant identifies the outlet of Hollyford Reservoir as the point of chlorine contact time validation. There is no residual chlorine monitor located on the outlet of the reservoir to provide verification of chlorine contact time. Uisce Éireann confirmed that an alarm-and-inhibit review took place on 14/02/2023 and that installation of a chlorine residual monitor on the outlet of the reservoir was a recommendation arising from the review. Uisce Éireann also confirmed that this monitor is due to be installed under plant upgrade works due for completion in Q4 2029.

1.3

Are suitable alarm settings in place to alert operators to deteriorating water quality or the failure of a critical treatment process?

Answer

No

Comment

1. There is no high turbidity warning alarm setpoint in place at the treatment plant to alert operators of deteriorating water quality before a plant shutdown occurs. A high turbidity shutdown setpoint of 1 NTU is in place at the treatment plant.

1.4

Were all findings of the UÉ alarm and inhibit review implemented?

Answer

No

Comment

1. Uisce Éireann confirmed that an alarm and inhibit review was carried out on 14/2/2023. A number of recommendations remain outstanding for completion and include the provision of chlorine contact time verification, pH monitoring, reservoir low-level alarm and post-dosing high chlorine plant shutdown setpoint. Uisce Éireann confirmed that these recommendations would be closed out under upgrade works due for completion at the treatment plant by Q4 2029.

		Answer
1.5	Are suitable plant shutdowns/inhibits in place to prevent the entry of inadequately treated water entering the distribution network?	No
Comment		
1. There is no high shutdown setpoint based on the output of the post-dosing chlorine residual monitor in place at the treatment plant to protect against a failure of the sodium hypochlorite dosing system. Uisce Éireann confirmed that this shutdown setpoint would be included in plant upgrade works due for completion by Q4 2029.		

		Answer
1.6	Are plant performance trends accessible by operational staff at the water treatment plant?	No
Comment		
1. Operational staff at the treatment plant have no access to trended data on-site to help inform treatment plant operations. Supervisory staff have access to trended data via the PMAC system. However, this facility is not available to operational staff.		

		Answer
1.7	Is there a documented alarm response procedure?	No
Comment		
1. While there were informal procedures covering the response to alarms at the treatment plant, there was no documented site specific alarm response procedure in place at the treatment plant.		

		Answer
1.8	Are there appropriate procedures covering verification of alarms and inhibits status following maintenance or other work on site?	No
Comment		
1. There are informal procedures covering verification of alarms and inhibits status following works carried out at the treatment plant. However, there is no formal procedure or system in place such as a tag in/tag out system or alarm/shutdown testing following completion of works on-site.		



2. Site Specific Issues

2.1

Are reservoirs adequately inspected and maintained?

Answer

No

Comment

1. Uisce Éireann confirmed after the audit that Hollyford reservoir is on the Uisce Éireann Reservoir Cleaning Programme. It was also confirmed that the reservoir was last cleaned in March 2018.

2.2

Are network chlorine residuals being taken at sufficient frequencies within the supply network?

Answer

No

Comment

1. Tipperary County Council confirmed that network chlorine residuals are taken once per week at the end of the network which is not of a sufficient frequency.

2.3

Are treatment process chemical bunds clean and free of water/chemical residue?

Answer

No

Comment

1. The bund containing the sodium hypochlorite day tank contained liquid pooled at the bottom of the bund. Bunds should be kept clean to allow for detection of leaks from the day tank.

Recommendations

Subject	Hollyford Audit (2024) Recommendations	Due Date	21/02/2025
Action Text	<p>Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendations without delay.</p> <ol style="list-style-type: none"> 1. Install a chlorine residual monitor including appropriate warning alarms and plant shutdown setpoints to ensure target chlorine contact time is achieved and verified at all times. 2. Provide a suitable means for operational staff to access trended data at the treatment plant and provide training to all staff for the system provided. 3. Complete recommendations arising from the alarm and inhibit review carried out at the treatment plant. 4. Update the Uisce Éireann Incident Communications Response Guidance Form with site-specific information including contacts for escalation and relevant trigger levels protecting critical processes at the treatment plant. 5. Install an appropriate high turbidity warning alarm to alert operators of deteriorating water quality before plant shutdown occurs. 6. Develop a procedure and deliver appropriate training (i) covering the verification of alarms/shutdowns status following maintenance or other works completed at the treatment plant, and (ii) for responding to and escalating all alarms generated at the water treatment plant. Both procedures should clearly document the corrective actions and set out delegation of responsibilities. 7. Prioritise the cleaning of Hollyford Reservoir under the Uisce Éireann Reservoir Cleaning Programme. 8. Ensure that residual chlorine levels are monitored within the supply network, including extremities, several times per week to ensure a minimum residual chlorine of 0.1 mg/l is maintained. 9. Ensure chemical storage bunds at the treatment plant are kept clean and free of water/chemical residue. <p>Actions required by Uisce Éireann</p> <p>During the audit, Uisce Éireann representatives were advised of the audit findings and that action must be taken by Uisce Éireann to address the issues raised.</p> <p>Uisce Éireann should submit a report to the EPA on or before 21/02/2025 detailing the actions taken and planned, with timescales, to close out the above recommendations.</p> <p>The EPA advises that the findings and recommendations from this audit report should, where relevant, be addressed at other public water supplies.</p>		