

Site Visit Report

Under the European Union (Drinking Water) Regulations 2014 as amended, the Environmental Protection Agency is the supervisory authority in relation to Irish Water and its role in the provision of public water supplies. This Audit was carried out to assess the performance of Irish Water in providing clean and wholesome water to the visited public supply.

The audit process is a sample on a given date of the facility's operation. Where a finding against a particular issue has been reported this should not be construed to mean that this issue is fully addressed.

Water Supply Zone	
Name of Installation	Achill RWSS
Organisation	Irish Water
Scheme Code	2200PUB1001
County	Mayo
Site Visit Reference No.	SV22299

Report Detail	
Issue Date	12/04/2021
Prepared By	Michelle Roche

Site Visit Detail			
Date Of Inspection	30/03/2021	Announced	Yes
Time In	11:00	Time Out	12:00
EPA Inspector(s)	Michelle Roche		
Additional Visitors			
Company Personnel	Irish Water: Thomas Gibbons Pat Collins Tommy Kearney Flint Walter Mayo County Council: Ronan McDonnell Colette Scahill Eileen Cavanagh Patsy McNulty Eithne McGuire		

> Summary of Key Findings

1. Irish Water have implemented a Drinking Water Safety Plan approach, which includes an Asset Management Improvement Plan, to improve the resilience of Achill water treatment plant against seasonal increases in water demand. Improving the resilience of Achill water treatment plant was a key recommendation of the previous EPA audit report issued on 16/09/20.
2. Irish Water issued a precautionary Boil Water Notice to all consumers served by Achill PWS from 01/02/21 to 26/03/21 in order to safeguard public health while upgrade works were being carried out at Achill water treatment plant.
3. Phase 1 of Irish Water's Asset Management Improvement Plan (AMIP) is complete at Achill water treatment plant. Phase 1 included installation of tube settlers in both clarifiers and upsizing of clarifier pipework, to increase throughput capacity. Throughput capacity has increased from 90m³/hr to approximately 140m³/hr.
4. Phase 2 of the AMIP will address the remaining EPA audit recommendations. Irish Water are finalising the scope of works for phase 2 of the AMIP and will provide an update to the EPA by the end of April 2021.

> Introduction

Achill public water supply serves a population of 2,373 people on the island of Achill, and Achill Sound, Polranny, and Corraun on Achill mainland. The public supply also provides treated water to approximately 440 people served by 10 public group water schemes on the island.

The audit was carried out to investigate the progress Irish Water have made in addressing the recommendations outlined in the previous EPA audit report issued on 16/09/20. Irish Water have completed a Drinking Water Safety Plan risk assessment of the Achill public water supply and are implementing an Asset Management Improvement Plan (AMIP) to address the high risks identified. The audit assessed the upgrade works carried out under phase 1 of the Achill AMIP, and investigated what further upgrade works are planned under phase 2 of the AMIP.

> Supply Zones Areas Inspected

The audit comprised of a video conference meeting on 30/03/21. A site visit was not undertaken due to Covid-19 restrictions.



1. Site Specific Issues

1.1

	Answer
Have Irish Water made progress to address the recommendations made in the previous EPA audit report issued on 16/09/2020?	Yes
Comment	
<p>The text below outlines the progress Irish Water have made to address the recommendations in the previous EPA audit report issued on 16/09/2020.</p>	
<p>1. Irish Water should take action to improve the resilience of the Achill public water supply, by ensuring the water treatment plant has sufficient capacity to meet seasonal increases in water demand.</p>	
<p>Irish Water have completed a Drinking Water Safety Plan risk assessment at Achill public water supply and are implementing an Asset Management Improvement Plan (AMIP) to address the high risks identified and improve the resilience of the Achill public water supply.</p>	
<p>Phase 1 of the AMIP has focused on upgrading the coagulation, flocculation, clarification treatment infrastructure. Both the hopper bottom and flat bottom clarifiers have been fitted with tube settlers to improve sludge blanket settlement and increase the volume of water that can pass through the clarifiers. The flow throughput capacity of the clarifiers has been increased from 90m³/hour to 140m³/hour. The pipework into and out of the clarifiers has also been upsized to facilitate the increase in flow throughput. Irish Water issued a precautionary Boil Water Notice to all consumers served by Achill PWS from 01/02/21 to 26/03/21 in order to safeguard public health while these upgrade works were being carried out at Achill water treatment plant.</p>	
<p>The post clarification turbidity monitor remains in place to verify that clarification is working effectively and to provide an early warning alarm in the event that clarifiers are not operating effectively.</p>	
<p>Aluminium and final water turbidity verification data was assessed as part of the audit and results were within the relevant drinking water quality limits.</p>	
<p>2. Irish Water should relocate the flow meter control for the flow proportional coagulant dose to a location upgradient of the coagulant dosing point.</p>	
<p>The flow meter to control the flow proportional coagulant dose has been moved from downstream of the dosing point to upstream of the dosing point, providing a more accurate reading of water treatment plant flow before the coagulant is dosed.</p>	
<p>3. Irish Water should examine the filter backwash process to ensure that filters are brought back into service after an adequate run to waste period. Irish Water should examine and implement the most appropriate method of controlling the run to waste duration, whether that be based on filter turbidity or time.</p>	
<p>The rapid gravity filters will be upgraded under phase 2 of Irish Water's AMIP and this will include the filter backwash process. The scope of works are currently being finalised for phase 2 of the AIMP, and are expected to be approved and submitted to the EPA by the end of April 2021.</p>	
<p>4. Irish Water should install a stopcock on the clearwater tank to prevent treated water backflowing into the overflow chamber within the water treatment plant, where the automatic flow meter is located. The automatic flow meter controls the flow proportional dose for disinfection and raised water level interference with the meter is currently causing the disinfection treatment to shut-down.</p>	
<p>The automatic flow meter has been raised to prevent the backflow water level interfering with the flow meter. Level sensors have also been installed in the clearwater tank under the AMIP, and these sensors are linked to a flow regulator which will decrease flow through the water treatment plant in response to treated water levels rising in the clearwater tank. This system also serves to improve the energy and resource efficiency of the water treatment plant.</p>	
<p>5. Irish Water should establish an appropriate low and high level alarm set-point on the chlorine residual monitors at the Bunacurry and Pollany booster stations. The alarms should be linked to SCADA and call out to plant alarm response cascade system in the event of activation.</p>	

Chlorine residual monitors have been installed at the Bunacurry and Pollany booster stations and Mayo County Council are awaiting delivery of SIM cards to link the monitors to the SCADA and cascade call out system.

6. Irish Water should review the network chlorine residual monitoring programme to ensure that the frequency and sample locations are sufficient to verify that at least 0.1mg/l free residual chlorine is present at the extremities of the distribution network, for adequate disinfection of the water supply. Irish Water should aim to monitor network chlorine residuals every 2-3 days.

The frequency of the network chlorine residual monitoring programme has been increased.

Recommendations

Subject	Achill Audit Recommendations	Due Date	30/04/2021
Action Text	<p>Recommendation(s)</p> <p>1. Irish Water should continue to implement phase 2 of the Asset Management Improvement Plan at Achill water treatment plant to improve the resilience of the Achill public water supply during seasonal increases in water demand.</p> <p>Follow-Up Actions required by Irish Water</p> <p>During the audit, Irish Water representatives were advised of the audit findings and that action must be taken as a priority by Irish Water to address the issues raised.</p> <p>This report has been reviewed and approved by Aoife Loughnane, Drinking Water Team Leader.</p> <p>Irish Water should submit a response to the Agency on or before 30th April 2021 detailing how phase 2 of Irish Water's Asset Management Improvement Plan will be implemented at Achill public water supply.</p> <p>The EPA also advises that the findings and recommendations from this audit report should, where relevant, be addressed at all other treatment plants operated and managed by Irish Water.</p> <p>Please quote the Action Reference Number DW20200072 in any future correspondence in relation to this Report.</p>		