

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	Lettermacaward
Organisation	Uisce Éireann
Scheme Code	0600PUB1069
County	Donegal
Site Visit Reference No.	SV32498

Report Detail	
Issue Date	22/08/2025
Prepared By	Veronica Boland

Site Visit Detail			
Date Of Inspection	11/06/2025	Announced	Yes
Time In	10:35	Time Out	15:40
EPA Inspector(s)	Veronica Boland Donal Howley		
Additional Visitors			
Company Personnel	Uisce Éireann: Geraldine Friel, Fionnuala Dunbar, Adrian Gillespie, Tom Doherty, John McElwane, Aisling Callaghan. Donegal County Council (working in partnership with Uisce Éireann): Frankie Rodgers. EPS (operating under DBO contract to Uisce Éireann): Cathal Hurley, Wojciech Jurasz. Jennings O'Donovan: Joe Healy, John Boyce, Ronan Duffy.		

> Summary of Key Findings

1. Uisce Éireann's action programme for Lettermacaward public water supply (PWS) to reduce the risk of elevated Trihalomethanes (THMs) and aluminium in the treated water involved the completion of civil works at the raw water source - Lough Derkmores impoundment, and construction of a new water treatment plant (WTP).
2. Uisce Éireann have completed the upgrade works at Lough Derkmores impoundment and construction of the new Lettermacaward WTP. The commissioning phase of the upgrade has also been completed and verification monitoring results obtained were compliant.
3. The EPA will have regard to the findings of this audit report and monitoring data submitted by Uisce Éireann in its next review of the EPA Remedial Action List (RAL).

> Introduction

The Lettermacaward PWS was placed on the EPA's RAL in Q3 2022 due to elevated levels of Trihalomethanes (THMs) above the standard set in the Drinking Water Regulations and excessive levels of aluminium in the treated water.

The Lettermacaward PWS serves a population of 2,371 with an average output of 1,269 m³/day.

Raw water is obtained from Lough Derkmores impoundment. Treatment consists of pre-treatment pH correction, coagulation, flocculation, dissolved air flotation, rapid gravity filtration, chlorination, post-treatment pH correction and fluoridation.

The main purpose of the audit was to verify completion of the RAL action programme works as part of the EPA's assessment of suitability of the supply for removal from the RAL.

> Supply Zones Areas Inspected

The raw water source - Lough Derkmores impoundment and the new Lettermacaward water treatment plant processes, equipment and controls were inspected as part of the audit.



1. Source Protection

1.1

		Answer
Is the abstraction source(s) adequately protected against contamination?		Yes
Comment		
<p>1. Lough Derkmere impoundment is the abstraction source for the Lettermacaward PWS. <i>Cryptosporidium</i> monitoring was undertaken prior to the upgrade of the Lough Derkmere impoundment and construction of the new WTP. A source and sanitary survey was completed and a Log 3 requirement confirmed for Lettermacaward WTP.</p> <p>2. The following works have been completed at the Lough Derkmere impoundment:</p> <ul style="list-style-type: none">• Construction of a new concrete gravity dam on the north bank of Lough Derkmere, increasing the top water level of the Lough by approximately 1.5 metres to address organics at source. The volume of the new dam is 370,000m³ compared to the old dam which had a capacity of 230,000m³ (demolished as part of the construction of the new dam).• Deepening of the linkage channel between the upper and lower Derkmere loughs.• Construction of a new raw water pipeline (with a scour valve to allow cleanout of the inlet) between the impoundment and Lettermacaward WTP. The raw water pipeline includes 3 screens: a primary trash screen, a coarse screen of 600 mm and a fine screen of 300 mm.• Construction of a penstock pipeline of 600 mm to control dam height.• Construction of a 15 metre spillway to cater for 1 in 10,000 storm event.• Stockproof fencing (approximately 5.5 km) was erected around the surrounds of the Derkmere impoundment. <p>3. There is commercial forestry upland of the Derkmere impoundment. Uisce Éireann advised that they have an agreement that the forestry will advise the WTP operators prior to any forestry operations being undertaken.</p>		



2. Reservoirs and Distribution Networks

2.1

Are reservoirs adequately inspected and maintained?

Answer

Yes

Comment

1. There is an on site treated water reservoir (1,136m³ capacity). Treated water leaves the onsite reservoir via gravity and supplies 3 treated water reservoirs in the Lettermacaward distribution network (Rosbeg, Portnoo, Drumlacorid).
2. Uisce Éireann could not confirm if the reservoirs were included on the Uisce Éireann's Cleaning and Inspection Programme.



3. Supply on the Remedial Action List

3.1

	Answer
Do the audit findings support progress made with the Remedial Action List upgrades?	Yes
Comment	
<p>1. Uisce Éireann have completed the construction of a new raw water impoundment and a new WTP. The main works completed at the new WTP can be summarised as follows:</p> <ul style="list-style-type: none">• Raw water conditioning to maintain the optimum coagulation pH• Coagulation, flocculation and clarification using a Dissolved Air Flotation (DAF) process. There are 2 no. DAF units at the plant.• Filtration in 4 rapid gravity filters containing dual media (sand & anthracite)• Clear Water Tank• Chlorine disinfection to provide primary disinfection using sodium hypochlorite 10%• Chlorine Contact Tank• Treated water pH correction to achieve the target final water pH• Fluoridation of the water supply• Chemical storage tanks and housing• Sludge treatment facilities. <p>2. The new Lettermacaward WTP started supplying treated water to the network on 20/03/25 following a period of testing and ramping up production. At the time of the audit, the plant was producing approximately 100m³/hr over a 24 hour period. The design capacity of the new plant is 153m³/hr³ over an 18 hour operating period.</p> <p>3. The RAL action programme to upgrade Lettermacaward WTP is now complete. To date, in 2025 Uisce Éireann has submitted compliant THM monitoring data for the supply for Jan, Feb, March (pre new WTP coming into full production) and April, May, June, July and August (during the time the new WTP was supplying the Lettermacaward PWS). The last reported exceedance for THM in the Lettermacaward supply was 10/10/2023 of 113ug/l.</p> <p>4. The last reported aluminium exceedances reported to the EPA were on 03/06/2024 due to increased flow through the old WTP to meet demand and 28/07/2023 due to a soda ash dosing pump failure. Previous aluminium exceedances reported were related to inadequate flocculation time for the coagulant on-site, which led to inadequately treated water going into supply and the subsequent detection of exceedances. Similarly, the design capacity on-site was insufficient during periods of high flow. The upgrade has provided greater resilience at the WTP both in terms of the treatment process and ability to operate at both higher and lower flows to match demand. On the day of the audit, there was a temporary insulated container housing the soda ash storage and dosing infrastructure and with further improvements in place to prevent blockage of soda ash during cold weather conditions. At the audit, EPA inspectors were advised that the soda ash storage and dosing infrastructure would be moved into one of the existing buildings onsite.</p> <p>5. The EPA will have regard to the findings of this audit report and monitoring data submitted by Uisce Éireann in its next review of the Remedial Action List.</p>	



4. Site Specific Issues

4.1

Has training been provided to Uisce Éireann and operational staff to facilitate handover of the operation of the new water treatment plant?

Answer

Yes

Comment

1. The WTP is currently being operated by contractor EPS as part of a 12 month operation and maintenance period that commenced on 20/03/2025. The provision of adequate training for all operational staff involved in the day to day operation of the WTP is critical prior to the handover of the operation of the water treatment plant from the Contractor to Uisce Éireann.

4.2

Is trend data available on both the local and countywide SCADA?

Answer

No

Comment

1. WTP performance trend and alarm data is available on the local SCADA at the Lettermacaward WTP and was viewed on the day of the audit. Uisce Éireann advised that the Lettermacaward WTP is connected to their National Operations Management Centre (NOMC) for critical plant alarms. However, Uisce Éireann had not yet connected the local SCADA to the countywide SCADA. This would allow supervisory oversight and access to SCADA data regarding the operational performance and critical alarms at the WTP.

Recommendations

Subject	EPA RAL Removal audit 2025 - Recommendations	Due Date	25/09/2025
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. Ensure that all monitors are trending on the countywide SCADA system and that all associated alarms and inhibits are available for review on the system.2. Permanent housing of soda ash storage and dosing infrastructure to be provided.3. Ensure all staff involved in the operation of the Lettermacaward WTP are adequately trained prior to the handover of the operation of the water treatment plant from the Contractor to Uisce Eireann operational staff.4. Prepare and implement a reservoir cleaning programme for all treated water reservoirs in the Lettermacaward distribution network. <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 25/09/2025 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>		