

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 | Glengar |
| Organisation | Uisce Éireann |
| Scheme Code | 2900PUB0202 |
| County | Tipperary |
| Site Visit Reference No. | SV27600 |

| Report Detail | |
|--------------------|--------------|
| Issue Date | 03/04/2023 |
| Prepared By | Criona Doyle |

| Site Visit Detail | | | |
|----------------------------|--|------------------|-------|
| Date Of Inspection | 15/03/2023 | Announced | Yes |
| Time In | 10:50 | Time Out | 12:20 |
| EPA Inspector(s) | Criona Doyle | | |
| Additional Visitors | | | |
| Company Personnel | Uisce Éireann: Pat Duggan; Colin Cunningham. Tipperary County Council (working in partnership with Uisce Éireann): Joe Bourke; Brid O'Hehir; Franny Quin; Cyril Ryan. | | |

> Summary of Key Findings

1. A Boil Water Notice was placed on the Glengar Public Water Supply on 03/02/23 following the detection of *Cryptosporidium*. The Boil Water Notice remained in place on the day of the audit.
2. There is no treatment barrier to *Cryptosporidium* entering the water supply from the spring source serving the Glengar Public Water Supply.
3. Uisce Éireann advised at the audit that the supply is to be rationalised and linked to the Ironmills Public Water Supply. The expected completion date for rationalisation of the supply could not be confirmed at the audit.

> Introduction

The audit consisted of an inspection of the treatment plant and the spring source.

> Supply Zones Areas Inspected

The Glengar Public Water Supply (PWS) serves a population of 470 (EDEN figure) and produces approximately 270m³/d. Raw water is sourced from a spring adjacent to the water treatment plant (WTP) building. Treatment consists of chlorination. The treated water supplies two off site reservoirs.

The audit was undertaken to assess the performance of Uisce Éireann in providing clean and wholesome drinking water following the detection of *Cryptosporidium* in the PWS on the 22/02/2023 and the placing of a Boil Water Notice (BWN) on the supply on 03/02/2023. The audit found that the detection of *Cryptosporidium* was suitably alerted and escalated by Tipperary County Council and Uisce Éireann. Follow up monitoring prior to the audit has found a total of five detections of *Cryptosporidium* and 2 no. detections of *Giardia*.



1. Source Protection

| | Answer |
|-----|--|
| 1.1 | Is the abstraction source(s) adequately protected against contamination? Comment <p>The spring is uncovered and is located within a fenced compound. The landuse in the area is agricultural. At the audit, Tipperary County Council could not confirm when the landowners within the zone of contribution were written to in relation to the presence of a drinking water supply in proximity to their lands and their obligations under the European Union (Good Agricultural Practice for the Protection of Waters) Regulations 2022 (S.I. No. 113 of 2022).</p> <p>There is continuous monitoring of turbidity and flow. The turbidity was 0.01 NTU on the day of the audit. There is a turbidity alarm set point of 0.81 NTU which generates a text alert. There is no automatic shutdown of the supply linked to the turbidity alarm. The turbidity trend data provided prior to the audit indicated low and stable turbidity.</p> <p>Water from the spring is collected in a clear water tank adjacent to the treatment plant building from where the flow is split into a gravity feed to the low level reservoir (4 to 6m³/hr) and a pumped feed to the high level reservoir (9 to 10m³/hr).</p> |



2. Disinfection

| | | Answer |
|---|---|--------|
| 2.1 | Are duty and standby chlorine pumps/ UV units in operation? | No |
| Comment | | |
| <p>A set of duty and standby (boost) chlorine dosing pumps were in operation for both the high level reservoir and low level reservoir treatment streams.</p> <p>Routine scheduled switchover between the duty and standby (boost) chlorine dosing pumps is not taking place. Uisce Éireann confirmed that both pumps can pump the same volume but there is no regular routine switchover between the duty and standby (boost) pumps to ensure both pumps are primed. The standby (boost) dosing pump is only being used once every few days to provide the boost dose linked to the residual chlorine monitor.</p> | | |

| | | Answer |
|--|---|--------|
| 2.2 | Is the residual chlorine monitored at a suitable sample location after contact time has been completed? | No |
| Comment | | |
| <p>There are two separate chlorination treatment systems at the Glengar WTP for the supply to the high level reservoir and the low level reservoir. There is no residual chlorine monitor located after contact time has been achieved at either the high level reservoir or low level reservoir. Uisce Éireann advised that the Glengar WTP has not been upgraded under the Uisce Éireann Disinfection Programme as the Glengar WTP is to be rationalised.</p> <p>There is a chlorine monitor after each dose point on each supply to monitor dosing.</p> | | |



3. Reservoirs and Distribution Networks

| | | Answer |
|--|--|--------|
| 3.1 | Is treated water in tanks and reservoirs suitably protected against contamination? | No |
| Comment | | |
| <p>The cover on the access hatch on the clear water tank adjacent to the treatment plant building was not adequately sealed and was not locked.</p> <p>Due to poor weather conditions at the time of the audit it was not possible to access the roof of the two off site reservoirs. New covers were observed on the roof of the low level reservoir. The covers on the roof of the high level reservoir could not be observed.</p> | | |



4. Management and Control

| | | Answer |
|--|---|--------|
| 4.1 | Has the protozoal compliance log treatment requirement been identified for the water treatment plant? | No |
| Comment | | |
| <p>On the 01/03/23 the EPA was notified of the detection of <i>Cryptosporidium</i> (0.015 / 10L) in a sample taken at the Glengar WTP on 22/02/23. A boil water notice was placed on the supply on the 03/03/23 on the advice of the HSE following the detection of <i>Cryptosporidium</i> in the resample taken on 02/03/23. There is no treatment at the WTP to provide a barrier against <i>Cryptosporidium</i>. Uisce Éireann confirmed that the Glengar WTP is to be rationalised and supplied with treated water from the Ironmills PWS. The expected completion date for rationalisation is not currently available.</p> <p>The protozoal log treatment requirement has not been identified for the WTP. Monthly monitoring for <i>Cryptosporidium</i> commenced at the WTP in March 2022. There were no detections in 2022. <i>Cryptosporidium</i> was first detected on 22/02/23. Prior to the audit there had been five detections of <i>Cryptosporidium</i> (22/02/23; 02/03/23; 06/03/23; 08/03/23 & 09/03/23) and two detections of <i>Giardia</i> (06/03/23 & 08/03/23). On the day of the audit Uisce Éireann and Tipperary County Council were awaiting the results of genotyping to assist with the investigations into the source of the <i>Cryptosporidium</i>.</p> <p>The criteria for the future lifting of the Boil Water Notice had not been agreed with the HSE at the time of the audit. The EPA requested that Uisce Éireann keep the EPA informed of any changes to the HSE advice.</p> | | |

| | | Answer |
|--|--|--------|
| 4.2 | Are suitable plant shutdowns/inhibits in place to prevent the entry of inadequately treated water entering the distribution network? | No |
| Comment | | |
| <p>There are high (1.62 mg/l) and low (0.53 mg/l) chlorine warning alarm setpoints. There is automatic plant shutdown linked to the low chlorine alarm inhibit level of 0.50mg/l (15 minute delay) however there is no automatic plant shutdown linked to the high chlorine alarm level.</p> | | |



5. Site Specific Issues

| | Answer |
|--|--------|
| 5.1 Is the data on EPA EDEN Portal correct ? | No |
| Comment | |
| <p>The data on the EPA Eden portal indicates a population of 470 and a volume of 183m³/d. The population at the audit was reported to be < 400 with the daily volume being between 260 and 280m³/d.</p> <p>EDEN indicated treatment as being chlorination and flouridation. There is no flouridation taking place at the Glengar WTP.</p> | |

Recommendations

| Subject | Glengar Audit | Due Date | 03/05/2023 |
|--------------------|--|----------|------------|
| 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. Liaise with Tipperary County Council to ensure that local landowners have been written to in relation to their obligations under the European Union (Good Agricultural Practice for Protection of Waters) Regulations 2022, as amended. 2. Provide a completion date for the rationalisation of the Glengar WTP. 3. Ensure that inspection hatches at the clear water tank at the WTP and both reservoirs are adequately sealed and maintained to prevent surface ingress and all hatches are securely locked. 4. Confirm (i) the protozoal log treatment requirement for the Glengar WTP; (ii) provide details on how any protozoal log treatment deficit will be addressed; (iii) ensure <i>Cryptosporidium</i> monitoring is undertaken as per the <i>Irish Water Rationale for Determining the Frequency of Cryptosporidium Monitoring in Public Supplies</i> until the protozoal log deficit is addressed. 5. Inform the EPA of any changes to the HSE advice. 6. Ensure (i) regular switch over between the duty and standby (boost) chlorine dosing pumps; (ii) install a high level chlorine shutdown linked to the high level chlorine alarm; (iii) install a residual chlorine monitor at the established contact verification point and ensure it is linked to SCADA and alarmed appropriately. The alarm level should reflect the minimum free chlorine concentration required at the Ct validation point as outlined in the site specific contact time calculation. 7. Update EDEN with the correct supply volume, population and treatment provided at the plant. <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 03/05/23 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> | | |