



# Drinking Water Audit Report

<b>County:</b>	Longford	<b>Date of Audit:</b>	29 <sup>th</sup> April 2019
<b>Plant visited:</b>	Ballymahon PWS (Abbeyshrule WTP)	<b>Date of issue of Audit Report:</b>	30 <sup>th</sup> April 2019
		<b>File Reference:</b>	DW2019/81
		<b>Auditors:</b>	Aoife Loughnane Daryl Gunning
<b>Audit Criteria:</b>	<ul style="list-style-type: none"> <li>• The <i>European Union (Drinking Water) Regulations 2014 (S.I. 122 of 2014), as amended.</i></li> <li>• <i>The EPA Handbook on the Implementation of the Regulations for Water Services Authorities for Public Water Supplies (ISBN: 978-1-84095-349-7)</i></li> <li>• The recommendations in the report of the previous audit carried out on 16<sup>th</sup> April 2019.</li> </ul>		

## MAIN FINDINGS

- i. **A new programmable logic controller (PLC) system was installed at Abbeyshrule water treatment plant on 24<sup>th</sup> April 2019 following three recent PLC failure incidents. The audit found that the new PLC was fully operational, the plant alarms and shutdowns were demonstrated to be operating satisfactorily, and a new procedure is in place to ensure the PLC inhibits and fail-safes are verified after any works have been carried out.**

## 1. INTRODUCTION

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 verify that the plant alarms and shutdowns are operating satisfactorily at Abbeyshrule water treatment plant.

The opening meeting commenced at 10:30 at Abbeyshrule water treatment plant. The scope and purpose of the audit were outlined at the opening meeting. The following were in attendance during the audit.

### Representing Irish Water:

Andrew Boylan - Compliance Specialist  
Aodhnait Ní Chathasaigh – Compliance Analyst  
Ian Walsh – Capital Programmes

### Representing Longford County Council:

John Byrne – Waterworks Caretaker  
Barry Lennon – Senior Executive Engineer  
Tom Murtagh – Senior Engineer  
Angela Brady – Scientific Officer  
Karina O’Grady – Technician

**Representing EPS:**

Colm Moran – Project Engineer  
Sean O’Brien – PLC programmer  
Martin Hunt – Project Engineer

**Representing the Health Service Executive:**

Una Fallon - Acting Director of Public Health Medicine  
Ina Kelly - Consultant in Public Health Medicine  
Deirdre O’Shea - Principal Environmental Health Officer  
Enda Coffey - Senior Environmental Health Officer  
Patricia Doonan - Senior Environmental Health Officer  
Siobhan Callaghan - Environmental Health Officer

**Representing the Environmental Protection Agency:**

Aoife Loughnane – Inspector  
Daryl Gunning - Inspector

**2. AUDIT OBSERVATIONS**

*The audit process is a random sample on a particular day of a facility's operation. Where an observation or recommendation against a particular issue has not been reported, this should not be construed to mean that this issue is fully addressed.*

**1. Programmable Logic Controller (PLC) System**

- a. A new PLC was installed at Abbeyshrule water treatment plant on 24th April 2019 following three recent PLC failure incidents at the plant. There have been no further incidents since the new PLC was installed.
- b. During the audit, three tests were carried out to demonstrate that the PLC was working correctly:
  - (i) simulation of high clarifier turbidity;
  - (ii) simulation of high final water turbidity;
  - (iii) simulation of loss of communication between the main plant PLC and the disinfection system PLC.During each test, the plant alarms and automatic shutdowns were demonstrated to be operating satisfactorily.
- c. In the event of a critical plant alarm, the PLC sends a text message to the plant caretaker (the first receiver). If the first receiver fails to acknowledge receipt of the alarm by return text message, the PLC sends a text message to the second receiver. There are 4 Longford County Council staff in the alarm response cascade system.
- d. A new procedure has been put in place to ensure the PLC inhibits and fail-safes are verified after any works have been carried out. This procedure requires contractors working on site to sign the tag-in/tag-out form, to confirm the PLC is in proper working order.

**3. AUDITORS COMMENTS**

The audit found that Irish Water has taken appropriate action to ensure the reliability of the PLC system at Abbeyshrule water treatment plant.

During the audit Irish Water representatives were advised of the audit findings. This report has been reviewed and approved by Michelle Minihan, Senior Inspector, Drinking Water Team.

**Report prepared by:** Aoife Loughnane **Date:** 30<sup>th</sup> April 2019

Inspector