

# 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	
<b>Name of Installation</b>	Kealkill
<b>Organisation</b>	Irish Water
<b>Scheme Code</b>	0500PUB4105
<b>County</b>	Cork
<b>Site Visit Reference No.</b>	SV20451

Report Detail	
<b>Issue Date</b>	14/08/2020
<b>Prepared By</b>	Criona Doyle

Site Visit Detail			
<b>Date Of Inspection</b>	17/07/2020	<b>Announced</b>	Yes
<b>Time In</b>	12:20	<b>Time Out</b>	13:20
<b>EPA Inspector(s)</b>	Criona Doyle		
<b>Additional Visitors</b>			

<b>Company Personnel</b>	<p>Irish Water: Deirdre O'Loughlin*** Oliver Harney*** Tommy Roche*</p> <p>Cork County Council: Micheal Russell*** Seamus Sutton*** Ger Mc Sweeney**</p> <p>EPS: David Cotter*** Teddy Fitzgerald** Ollie Blake**</p> <p>*Attended pre-site meeting on 15/07/20 **Attended site visit on 17/07/20 ***Attended pre-site meeting on 15/07/20 and site visit on 17/07/20</p>
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## > Summary of Key Findings

1. The audit confirmed the treatment plant upgrades have been completed at the Kealkill Water Treatment Plant to reduce the potential for the formation of trihalomethanes in the supply.
2. Irish Water has completed a programme of verification monitoring to demonstrate that the actions undertaken have been adequate. 3 no. consecutive compliant samples for trihalomethanes have been provided from the network.
3. The completion of the works and the submission of verification data has allowed the Kealkill Public Water Supply (PWS) to be removed from the EPA's Remedial Action List in the Quarter 2 2020 review.

## > Introduction

The Kealkill Public Water Supply (PWS) was added to the EPA's Remedial Action List in Quarter 3 2014 due to persistent trihalomethanes failures in the supply. The source of the supply is the Owengar River and the population served by the supply is 701.

Upgrade works have been completed at the water treatment plant which reduce the potential for the formation of trihalomethanes. The slow sand filters have been decommissioned and the treatment plant upgraded to include dissolved air flotation (DAF), rapid gravity filtration and UV disinfection. A new chlorination disinfection system has also been installed.

## > Supply Zones Areas Inspected

The purpose of the audit was to verify if the Kealkill Public Water Supply can be removed from the EPA's Remedial Action List following the treatment plant upgrades to address the formation of trihalomethanes in the supply. The treatment plant process was audited to determine progress with the remedial works.



## 1. Supply on the Remedial Action List

	Answer	
1.1	Do the audit findings support progress made with the Remedial Action List upgrades?	Yes
<b>Comment</b>		
<p>The audit confirmed the following upgrade works have been completed at the Kealkill water treatment plant:</p> <ul style="list-style-type: none"><li>• Old slow sand filter decommissioned and converted to raw water storage tank;</li><li>• DAF unit installed;</li><li>• pH correction installed (sodium hydroxide) to achieve optimum coagulation;</li><li>• Coagulation system installed using aluminium sulphate as coagulant;</li><li>• 2 no. rapid gravity filters installed;</li><li>• 2 no. UV reactors (duty / standby) installed;</li><li>• Final water pH correction installed;</li><li>• Chlorine dosing system has been upgraded.</li></ul> <p>The audit confirmed the treatment infrastructure has been commissioned and all elements were operational on the day of the audit.</p> <p>The upgrade works have reduced the risk of THM formation in the Kealkill public water supply. Irish Water has undertaken a programme of verification monitoring and submitted 3 no. rounds of compliant THM results in the distribution network.</p>		

	Answer	
1.2	Is further information needed to assess completion of the Remedial Action List upgrade?	No
<b>Comment</b>		
<p>Verification data has been provided to demonstrate the actions undertaken have been adequate to achieve compliance with the trihalomethanes parametric value.</p>		



## 2. Site Specific Issues

	Answer
2.1 Has training been provided to site staff following the upgrade of the Kealkill water treatment plant ?	No
<b>Comment</b>	
<p>At the audit it was outlined that the Kealkill water treatment plant will continue to be operated by the contractor (EPS) for a period of several months (estimated end 2020). On the day of the audit the contractor was in the process of compiling the operational manual for the plant. Documented operational procedures had yet to be developed for the operation of the upgraded water treatment plant and training of local authority operational staff had not been completed.</p>	

## Recommendations

<b>Subject</b>	Kealkill RAL removal audit	<b>Due Date</b>	14/09/2020
<b>Action Text</b>	<p><b>Recommendation(s)</b></p> <p>1. <i>Irish Water should prepare documented procedures for the operation of the upgraded Kealkill water treatment plant and ensure training is provided to Cork County Council operational site staff and relief staff prior to the handover of the operation of the WTP to the local authority.</i></p> <p><b>Follow-Up Actions required by Irish Water</b></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 report to the Agency on or before 14/09/20 detailing how it has dealt with the issues of concern identified during this audit.</p> <p>The report should include details on the action taken and planned to address the various recommendations, including time frame for commencement and completion of any planned work.</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 DW2009/355 in any future correspondence in relation to this Report.</p>		