



## STATEMENT FROM THE CHIEF EXECUTIVE

**TOPIC:** Recent incidents at Leixlip Water Treatment Plant

**DATE:** November 11, 2019

Issues at the Leixlip Water Treatment Plant in recent weeks have led to the issuing of Boil Water Notices across Fingal which has caused considerable disruption to citizens and businesses. I apologise to all those affected and I want to assure them that we are working with Irish Water, the Environmental Protection Agency and the Health Service Executive to resolve the issues that have emerged at the Plant.

The original Plant in Leixlip was commissioned in 1967 and was under the control of Dublin County Council until 1994 when Fingal County Council assumed responsibility for it. Since 2014 Fingal County Council has operated Leixlip Water Treatment Plant under a Service Level Agreement with Irish Water.

Under the Agreement, Fingal County Council's Water Services Department provides staffing on a 24-hour basis, Irish Water is responsible for all costs incurred. Any decisions regarding capital refurbishment and replacement at the Plant are made by Irish Water and paid for by Irish Water.

The Treatment Plant in Leixlip is a conventional plant for the treatment of river water with Coagulation, Settlement, Filtration, Chlorination and Fluoridation. It is made up of two sections which are referred to as the old and the new.

Leixlip supplies 30% of the water supply for the Greater Dublin Region including most of the 300,000 citizens living in Fingal. Around one-third of the water it produces comes from the new plant, which was constructed in 2014, with the remaining two-thirds of the supply being produced by the older plant.

The issues which have occurred in recent weeks and caused the two Boil Water Notices to be issued were in the older plant so we welcome Irish Water's planned upgrade of the older plant and will give them every support to ensure the works are completed as soon as possible. These works will assist in minimising future disruptions to the treated water supply.

The most recent Boil Water Notice was issued on Monday, November 4<sup>th</sup>, following heavy rainfall that led to high levels of turbidity in the River Liffey which the old treatment plant struggled to treat.

Our staff on duty reacted quickly when turbidities in the final treated water exceeded targets and shut down the old part of the water treatment plant on Sunday, November 3<sup>rd</sup>, as it was not able to achieve satisfactory treatment.

The filters were extensively backwashed to bring the plant back into compliance. When the plant was restarted on Monday morning it still was not possible to achieve satisfactory treatment standards. As the levels of treated water in the reservoir at Ballycoolin were reaching critical levels, a decision had to be made to either leave large areas without supply or to initiate a Boil Water Notice. So, in conjunction with the EPA and the HSE, Irish Water announced a Boil Water Notice which came into effect that evening.

The EPA carried out an audit of the incident on Friday, November 8,

The EPA inspectors found that

- High turbidity levels in the raw water for a sustained period led to operational difficulties in the 'old' plant at Leixlip. This resulted in high levels of turbidity in the treated water, which meant there was a risk of breakthrough of microscopic parasites, *Cryptosporidium* and *Giardia*, into the water supply.
- The treatment plant has been operating satisfactorily with respect to final water turbidities since Wednesday evening, 6<sup>th</sup> November. In addition to compliant final water turbidity testing for *Giardia* and *Cryptosporidium* testing is ongoing to verify that the treatment barriers at the plant are fully effective.
- Irish Water are undertaking filter upgrade works to address the immediate treatment deficit at the plant. However, an additional treatment barrier may be required, such as ultraviolet disinfection as recommended in the EPA's previous audit. The EPA awaits Irish Water's report on this matter which is due by November 30<sup>th</sup>.
- As an immediate mitigation measure, Irish Water has reduced the throughput at the 'old' plant to provide a higher level of control over the quality of the treated water and to allow for faster upgrading of the filters at the Leixlip plant. To facilitate this, production levels have been increased at Ballymore Eustace Water Treatment Plant.
- There will be increased monitoring for *Cryptosporidium* and *Giardia* until the old plant is upgraded.

- The ability of the Leixlip plant to maintain an appropriate level of performance remains a concern. Irish Water must notify the EPA and the HSE if the plant does not meet the level of performance required to ensure adequate treatment to ensure safe water.

The test results of three water samples taken throughout last week were found to be satisfactory and these results formed part of the audit process.

The HSE has determined that three satisfactory consecutive samples are required after last Wednesday evening, when the old plant came back into full compliance, before the Boil Water Notice can be lifted. Work will continue over the weekend to complete the testing. The final test will be processed and analysed and results should be available tomorrow.

The EPA audit report on October 28<sup>th</sup> describes the causes of the incident which occurred on October 21<sup>st</sup>.

From the analysis, the accumulation of debris would have commenced at approximately 15:00. Early indications of deterioration in water quality was identifiable between 17:00 and 17:30. By 18:15 the water quality was outside the normal operating limits for acceptable water quality and reached a critical level by 19:50. When the incident was identified at 21:00, prompt action was taken and the repair was effected by 23:30.

The EPA requirement for an automatic shutdown of the plant and/or individual elements of the plant was in place in the new section of the facility before the incident on October 21<sup>st</sup> and was planned for the old section.

Automatic shutdown has now been implemented throughout both treatment plants. This is a significant intervention which will assist greatly in preventing any such future incidents.

In addition to the automation, Fingal County Council has, since the incident occurred, begun strengthening the monitoring and control at the Plant pending implementation of Irish Water's national control centre.

- The SCADA computerised control system was upgraded last week to require regular activation of operational controls by the duty operator to demonstrate response to all alarms.
- The critical alarms system will be upgraded to provide for automatic alerts so that the on-call duty manager is notified quickly.

- The introduction of additional systematic monitoring and review of the SCADA system over the 24-hour period is being implemented.
- Enhanced arrangements for plant supervision by the on-call duty manager are being implemented to support operations over the 24-hour period.
- Critical incidents will be notified to Irish Water immediately and, in this regard, the out of hours protocol with Irish Water has been reviewed which will enhance the communications of incidents.
- The additional requirement to investigate the lining of the alum tank which was the initial cause of the incident on October 21<sup>st</sup> will be carried out by Fingal County Council as soon as possible and within a 6-week period from the date of the incident. This requires the tanks to be drawn down in sequence and examined. Following assessment any capital investment will be identified to Irish Water for action.
- The matter of the failure to respond to alarms is the subject of an ongoing internal investigation.

The completion of the new plant facilitated the implementation of a range of refurbishments and improvements to the older plant, which could not be progressed until the new plant was commissioned.

A number of works were identified and Irish Water has already completed the following:

- Upgrade of controls, and a new SCADA system
- Rehabilitation of the Filter Channel
- Automated Chlorine Dosing
- Automated Back Wash Sequencing
- The replacement of valves and deep pipework.

The repairs and replacement of electrical equipment has commenced and is ongoing while PH Correction is currently in design phase.

The works also include the rehabilitation of sand filters and 4 of the 15 filters have been refurbished to date. In addition to the refurbishment of the sand filters, the replacement of equipment in the settlement tanks in the old plant is required to ensure that turbidity targets are met more reliably.

Progress on these items is jointly monitored by Irish Water and Fingal County Council staff. The EPA recommended a system-wide risk assessment of the Plant and Fingal County Council are assisting Irish Water in a rapid review and the identification and implementation of any necessary works. This has commenced.

The recent Boil Water Notices were the first that have had to be issued for the treated water produced at the Leixlip Water Treatment Plant and it is a source of great disappointment to me and our staff that this happened. Our priority is, and always will be, the provision of safe drinking water for the people of Fingal and we are fully committed to doing everything we can to restore a proper service from the Leixlip Treatment Plant.

However, the recent incidents, have brought into focus the absolute need to implement some of the recommendations to improve the Leixlip Plant that we have suggested over the years to Irish Water. We hope that these will now be acted upon. We also welcome the EPA recommendation that Leixlip is connected to the Irish Water National Control Centre without delay as this will also enhance the monitoring and control of the Plant.

I want to finish by thanking the staff of our Water Services Department for their efforts over the past three weeks. It has been a tough time for them but they have worked tirelessly to resolve the various issues at the Leixlip Plant. I would also like to thank staff from Irish Water, the HSE, EPA and the Department who visited the Plant and provided assistance.

Hopefully, by this time tomorrow, the Boil Notice currently in place will be lifted and normal service will be resumed to the citizens and businesses of Fingal.

ENDS