



Drinking Water Audit Report

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| Local Authority: | Meath County Council | Date of Audit: | 18 th October 2013 |
| Plant(s) visited: | Ballinabrackey PWS, Ballinabrackey Co. Meath Scheme Code not assigned | Date of issue of Audit Report: | 14 th November 2013 |
| | | File Reference: | File No. not assigned |
| | | Auditors: | Ms Ruth Barrington |
| Audit Criteria: | <ul style="list-style-type: none"> • The <i>European Communities (Drinking Water) (No. 2) Regulations, 2007</i>. • The <i>EPA Handbook on the Implementation of the Regulations for Water Services Authorities for Public Water Supplies (ISBN: 978-1-84095-349-7)</i> • The recommendations specified in the EPA Report on <i>The Provision and Quality of Drinking Water in Ireland</i>. | | |

MAIN FINDINGS

- i. There was a UV system in place at the pumphouse. Disinfection was unverified as there was no accessible facility for measuring UVI at the point of disinfection.
- ii. The risks which nearby agricultural activities and domestic wastewater treatment systems may pose to the supply have not been assessed.
- iii. The borehole chamber was poorly protected from surface water ingress.

1. INTRODUCTION

Under the *European Communities (Drinking Water) (No. 2) Regulations 2007* the Environmental Protection Agency is the supervisory authority in relation to the local authorities and their role in the provision of public water supplies. This audit was carried out in response to the letter from Meath County Council dated 9th August 2013 identifying a number of additional public water supplies in Co. Meath, of which the EPA had not previously been informed.

Ballinabrackey PWS is a small public water supply serving eight houses in Ballinabrackey, Co. Meath with an estimated volume of 4 m³/day. The treatment provided is iron and manganese filtration with a water backwash and UV disinfection. The immediate vicinity of the borehole is residential (Ballinabrackey village), with houses served by domestic wastewater treatment systems in close proximity. There are low intensity agricultural activities beyond the houses served by the supply.

Photographs taken by Ms Ruth Barrington during the audit are attached to this report and are referred to in the text where relevant.

The audit process consisted of interviews with staff, review of records and observations made during an inspection of the pumphouse and borehole. The audit observations and recommendations are listed in Section 2 and 4 of this report. The following were in attendance during the audit.

Representing Local Authority: (* indicates that person was also present for the closing meeting)

Ms Aphra Leavy – A/Executive Technician

Mr John Gilsenan – Engineer

Representing the Environmental Protection Agency:

Ms Ruth Barrington – 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.

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| 1. | Source Protection <ul style="list-style-type: none">a. The Water Service Authority has not informed landowners in the vicinity of the borehole of their responsibilities under the <i>European Communities (Good Agricultural Practice for the Protection of Waters) Regulations</i>.b. The borehole was located on a green area in front of the houses served by the supply. It was not possible to lift the cover during the audit so the condition of the wellhead was not examined.c. The manhole cover to the borehole was at ground level and it was the auditor's opinion that there was the potential for surface water to enter the unsealed access hatch (refer to photograph Ref. No. .jpg).d. Prior to the audit, Water Service Authority staff had searched for records in respect of the borehole construction but were unable to locate any. Staff confirmed during the audit that these searches were to continue as it was possible that retired staff may be able to assist with this information. |
| 2. | Filtration <ul style="list-style-type: none">a. The filter in place is for iron and manganese removal with a water backwash stage. |
| 3. | Disinfection <ul style="list-style-type: none">a. There is a duty UV system in place at the pumphouse. The age of the system was not known at the time of the audit. The system was not validated.b. The efficiency of disinfection was not verifiable during the audit. While there was a monitor on the UV system, it was not set to display UVT and the WSA staff present at the audit were not familiar with its operation.c. There was no alarm system in place in case of failure of disinfection.d. The Water Services Authority staff stated that inspections and maintenance of the pumphouse facilities, including disinfection, are undertaken with bulb replacement, sleeve cleaning and visual checks undertaken. There was no documented schedule or procedure for these checks, including how the supply is managed during maintenance events (i.e. pump switched off).e. It appeared (from pipework layout) that it may be possible to bypass the UV system.f. A sample taken of treated water from the supply in July 2013 was compliant for bacteriological parameters.g. Analysis of raw water has not been carried out to the knowledge of the WSA staff present at the audit. |

3. AUDITOR'S COMMENTS

The disinfection system in place at the plant was not verifiable. At no point was it possible to assess the operation and dose of UV applied. The WSA should put in place a disinfection system which complies with Regulation 13 of the *European Communities (Drinking Water) (No. 2) Regulations*. The WSA should also ensure that the potential risks posed to the water supply by agricultural activities and domestic wastewater treatment systems are assessed and minimised.

4. RECOMMENDATIONS

Source Protection

1. The WSA should implement the requirements of the *European Communities (Good Agricultural Practice for the Protection of Waters) Regulations 2010 (SI No.610 of 2010)* to ensure, unless an alternative setback distance has been set as per Article 17 that:
 - i. Organic fertiliser or soiled water is not applied to land within 25m of the abstraction point; and
 - ii. Farmyard manure held in a field prior to landspreading is not placed within 50 m of the abstraction point.
2. The WSA should ensure that the location and status of drinking water abstractions are considered in the selection by Meath County Council of domestic wastewater treatment systems for inspection under the National Inspection Plan.
3. The WSA should carry out regular monitoring on the raw water and should include monitoring for *E. coli* bacteria, as an indicator of trends in assessing water quality and to determine the degree of treatment and controls required in the supply.
4. The WSA should ensure that borehole linings and seals are maintained and that the wellhead is adequately protected, as per the EPA publication "*Advice Note No. 14: Borehole Construction and Wellhead Protection*".

Disinfection

5. The WSA should ensure that an appropriate disinfection system is installed which is validated and verifiable at all times. Guidance on the selection of an appropriate disinfection system is provided in the EPA publication "*Water Treatment Manual: Disinfection*".
6. The WSA should ensure that the disinfection system is monitored and alarmed with a link to a recording device to ensure that any deviation of the quality of water outside the validated range, or a failure of the system, is immediately detected. A procedure should be put in place defining the actions to be taken in response to the different levels of alarm.
7. The WSA should ensure that undisinfected water does not enter supply in the event of failure of the disinfection system. Any facility for bypass of the disinfection system should be removed or inactivated.

FOLLOW-UP ACTIONS REQUIRED BY THE LOCAL AUTHORITY

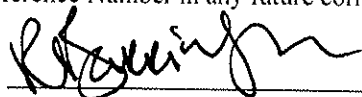
During the audit the Water Services Authority representatives were advised of the audit findings and that action must be taken as a priority by the Water Services Authority to address the issues raised. This report has been reviewed and approved by Mr Darragh Page, Drinking Water Team Leader.

The Water Services Authority should submit a report to the Agency within one month of the date of this audit report detailing how it has dealt with the issues of concern identified during this audit. The report should include details on the action taken and planned to address the various recommendations, including timeframe for commencement and completion of any planned work.

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 Meath County Council.

Please quote the File Reference Number in any future correspondence in relation to this Report.

Report prepared by:



Date:

14th November 2013

Ruth Barrington

Inspector



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