

## SECTION 9: ANNUAL REPORTING OF TO THE EPA



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## Section 9: Annual reporting of monitoring results and other information to the EPA

### **Summary of Section 9**

- ◆ Describes the requirements on the Environment Protection Agency (the EPA) to produce a report on drinking water quality in Ireland.
- ◆ Describes the responsibilities of Water Services Authorities (WSAs) as the supervisory authorities for private water supplies and the requirement on WSAs to monitor compliance of private water supplies with the standards and indicator parameter values.
- ◆ Sets out the information private water suppliers need to provide to WSAs to enable WSAs to report to the EPA.
- ◆ Sets out the requirement on WSAs to report the check and audit monitoring compliance results to the EPA.
- ◆ Describes the new Environmental Data Exchange Network (EDEN) which WSAs use to up-load monitoring data to the EPA and the EPA's Excel template used for some general supporting data.
- ◆ Sets out the general data to be inputted into the Excel template about the WSA and each private water supply (source, treatment, supply etc).
- ◆ Sets out the monitoring data (sampling and analysis information) to be up-loaded to EDEN and describes how pesticides results are handled.
- ◆ Describes how the data is up-loaded to EDEN.
- ◆ Sets out how EPA assesses the monitoring results.
- ◆ Sets out the timing for submission of returns by WSAs to the EPA.

Issue No:	1
Date:	12 April 2010

## **Contents of Section 9**

1. Introduction
2. Monitoring results and information on supplies to be reported to the EPA
3. Format for submission of monitoring results and information on supplies
  - 3.1 Introduction
  - 3.2 General details of the WSA
  - 3.3 Drinking water (DW) schemes
    - The type of treatment
    - The source of the water supply
    - The supply zone code
    - Cryptosporidium* risk screening score
    - Other information
  - 3.4 Monitoring results
    - Introduction
    - Sample information
    - Analysis information
    - Reporting of pesticides
  - 3.5 Up-loading of data to EDEN
  - 3.6 Assessment of monitoring results by the EPA
  - 3.7 Submission of returns

### Appendix 1: Suggested reporting format for pesticides

Table 1: Blank

Table 2: Example of completed report

Issue No:	1
Date:	12 April 2010

## 1. Introduction

**1.1 |** Section 58 of The Environmental Protection Agency Act, 1992 to 2007 (the Act) requires the Environmental Protection Agency (the EPA) to prepare and submit to the Minister (at the Department of Environment, Heritage and Local Government (DoEHLG)) a report on the quality of drinking water in Ireland. This report is to be based on the results of monitoring carried out in accordance with the requirements of the Regulations. In accordance with section 58(1) of the Act, the EPA may require a Water Services Authority (WSA) to submit to it the results of monitoring (sampling and analysis) carried out under the Regulations in such a manner and at such times as it may specify.

**1.2 |** The Regulations establish the WSAs as the supervisory authorities in relation to private water supplies. A WSA is obliged under regulation 7 to monitor compliance of drinking water supplied by each private water supplier in its functional area with the standards and indicator parameter values in part 1 of the schedule to the Regulations. WSAs are also required to enforce the regulatory requirements in respect of private water supplies. The EPA is required to supervise the performance of each WSA of its monitoring functions under the Regulations for both public and private water supplies. The latter includes an assessment of whether the minimum monitoring frequencies for each private water supply have been complied with.

**1.3 |** The WSA is also required in accordance with regulation 8(3) to keep a register of all private water supplies for which it is the supervisory authority. Each WSA will need to collect this information from the private water suppliers so as to enable the WSA to include it as part of the annual reporting of monitoring results to the EPA.

**1.4 |** This section of the handbook provides comprehensive guidance to private water suppliers on the information to be provided to WSAs and to WSAs on the information to be reported to the EPA in the annual report and on the format of that information in respect of private water supplies. A similar 'Handbook on the Implementation for Water Services Authorities for Public Water Supplies' contains guidance on the information to be reported to the EPA in respect of public water supplies.

Issue No:	1
Date:	12 April 2010

## 2. Monitoring results and information on supplies to be reported to the EPA

**2.1** | Each WSA must report all its **check and audit compliance monitoring results for all the private water supplies** in its functional area as part of the annual reporting to the EPA. The following monitoring results must **not** be included:

- ◆ any monitoring carried out by a private water supplier or by the WSA to assist the private water supplier in response to complaints about drinking water quality from consumers;
- ◆ operational monitoring carried out by the private water supplier to assist in the management of the private water supply;
- ◆ any investigative monitoring carried out by a private water supplier or by the WSA to assist the private water supplier in response to a failure to meet a standard or indicator parameter value;
- ◆ investigative monitoring carried out by the private water supplier in response to a potential problem with the water supply (e.g. breakdown of equipment); and,
- ◆ additional monitoring carried out in response to a direction issued by the EPA.

**2.2** | Should the WSA take a compliance sample from a tap in a premises that subsequently is found not to be supplied by the private water supply, the WSA should keep a record of that sample and the results of the analyses for audit purposes, but it should not include the results in its annual report to the EPA. The WSA must take a replacement sample as soon as practical from a premises supplied by that private water supply to ensure the correct frequency of compliance monitoring.

## 3. Format for submission of monitoring results and information on supplies

### 3.1 Introduction

**3.1.1** | The EPA has developed the Environmental Data Exchange Network (EDEN) to assist local authorities (WSAs) in the sharing of water related environmental data with other relevant stakeholders. Monitoring data entered into the WSA's laboratory



Issue No:	1
Date:	12 April 2010

information system is to be directly up-loaded into EDEN. This data can then be collected by the EPA through EDEN. This will enable the WSAs to fulfil their obligations regarding reporting under the Regulations by up-loading their monitoring data to EDEN. Thus WSAs no longer have to export monitoring data from their laboratory information system into the EPA excel template that was used to collate data in previous years. Through EDEN the EPA will collect and collate the same monitoring information as was previously contained in the excel templates. WSAs should include the contact details of their approver when submitting their annual monitoring results to the EPA.

**3.1.2 |** The EPA will collect all of each WSA's check and audit compliance monitoring results for private water supplies through EDEN. It is essential each WSA ensures that the information inputted to its laboratory information system and up-loaded to EDEN is accurate and does not contain errors.

**3.1.3 |** The EPA will continue to collect the following information through its excel template:

- general details of the WSA; and
- drinking water supply schemes (DW schemes).

## 3.2 General details of the WSA

**3.2.1 |** This includes the contact details for the WSA making the returns. The contact details of the person filling out the template should be included here to enable the EPA to contact the WSA in the event of any queries arising from the submission of the results.

## 3.3 Drinking water (DW) schemes

**3.3.1 |** This is a complete list of all private (and public) water supplies covered by the Regulations. WSAs must ensure that the list provided is up to date by checking the details with the private water suppliers. Any supplies no longer operational should not be included in this list. WSAs should review, in consultation with its private water suppliers, this list which is published on the CD attached to the latest EPA report on "The Provision and Quality of Drinking Water In Ireland" ([www.epa.ie/downloads/pubs/water/drinking](http://www.epa.ie/downloads/pubs/water/drinking)). **It is essential that private water suppliers notify WSAs of such changes to the list of supplies, and that WSAs notify the EPA of such changes as it will be assumed that these supplies have not been monitored if the list is not updated.**

Issue No:	1
Date:	12 April 2010

3.3.2 | Each private water supplier must provide the WSA with the following information so that the WSA can include it in its register of private water supplies and in its annual return to the EPA:

- ◆ the name and address of the water supplier;
- ◆ the volume of water supplied per day;
- ◆ the population served by the water supply;
- ◆ the type of treatment in place;
- ◆ the source of the water supply; and
- ◆ the supply zone code.

Further information is collected by the EPA to assist in the collation of statistics for enforcement and reporting purposes.

3.3.3 | WSAs must include all of this information on the DW schemes sheet and make sure that it is accurate and up to date. Further guidance on what is required from WSA, and therefore the private water supplier, in relation to the last three items is given below.

### **The type of treatment**

3.3.4 | The WSA needs to obtain from the private water supplier the type of treatment (each of the treatment processes) at each treatment plant including the use of coagulants, pH adjusting chemicals, disinfectants and other chemicals. A treatment plant that might be described as 'conventional coagulation, clarification, filtration and disinfection' should be more fully described as for example "Coagulation using aluminium sulphate, clarification, rapid gravity sand filtration followed by disinfection using sodium hypochlorite and pH correction using sodium carbonate (soda ash)". Details on whether the supply has a continuous residual chlorine monitor must be obtained. Also details on whether turbidity monitors are installed and where (after each filter, on the combined filtrate etc) must be included.

Issue No:	1
Date:	12 April 2010

### **The source of the water supply**

3.3.5 | The template contains a drop down menu from which one of the following should be selected by the WSA based on information from the private water supplier:

- ◆ groundwater, include details of the aquifer;
- ◆ surface water, include details of the river, lake etc;
- ◆ spring water, include details of the spring; or
- ◆ mixed, include details of the mixed sources.

### **The supply zone code**

3.3.6 | The Drinking Water National Monitoring Programme (DWNMP) (referred to in the Department of Environment, Heritage and Local Government circular letter, WSP11/04, dated 17 December 2004) assigned supply zone codes to all water supply zones in Ireland at the time. The database provided to each WSA with that circular contained a mechanism for assigning new supply zone codes for new private water supply zones which came into operation after that date. Each WSA should ensure that each supply zone is assigned a supply zone code of the format xxxxPRlyyyy where xxxx is the four digit WSA code and yyy is the four digit unique supply code.

### **Cryptosporidium risk screening score**

3.3.7 | There is no requirement for a private water supplier to carry out a risk assessment for *Cryptosporidium*. However, private water suppliers, particularly the public and private group water schemes, are strongly encouraged as a matter of good operational practice to carry out a risk assessment especially if the circumstances in the catchment indicate there is likely to be such a risk. If a private water supplier has carried out such a risk assessment, it should inform the WSA so that the WSA can include the *Cryptosporidium* risk screening scores for the catchment, the treatment works and the overall score. Private water suppliers are advised to use the risk screening methodology set out in appendix 1 of section 10 of this handbook to obtain these risk screening scores.



Issue No:	1
Date:	12 April 2010

### **Other information**

3.3.8 | The WSA should also include information on any private water supply that had not been used for part or all of the reporting period provided it intends to use that supply in the future. Any supply that has been permanently abandoned should not be included.

## **3.4 Monitoring results**

### **Introduction**

3.4.1 | WSAs must up-load to EDEN the results of the analysis for all of the check and audit compliance monitoring samples for each private water supply monitored during the year. WSAs must ensure that all data are up-loaded and complete where appropriate. A brief description of the sample information and analysis information required to be up-loaded is outlined below.

### **Sample information**

3.4.2 | The following information is required in respect of private water supplies:

- ◆ **Scheme Name/Name of Water Supply** – the name of the water supply should be inserted here and should be the same name as that entered on the DW Schemes sheet. Where a supply has multiple colloquial names, only one of these names should be used.
- ◆ **Scheme Code** – the complete scheme code should be used. This should be of the same format as that on the DW Schemes sheet which will be xxxxPRlyyyy for private water supplies. Locally used codes (i.e. county specific) should not be reported to the EPA.
- ◆ **Public/Private/Group** – enter public group water scheme or private group water scheme or private water supply as appropriate from the drop down menu.
- ◆ **Location** – the sample location should be provided here. The purpose of this is to confirm that the sample was taken at the “point of compliance” as defined in regulation 5 and therefore the information provided here should be sufficient to enable the EPA to confirm this fact.

Issue No:	1
Date:	12 April 2010

- ◆ **Sample Type** – the type of sample analysed should be provided here. The WSA will select either 'Check Monitoring Private' or 'Audit Monitoring Private' from the four options as the other options refer to public water supplies
- ◆ **Inv/Op/Surv** – the surveillance option should be selected for all samples as investigative and complaint samples are no longer required to be submitted as part of the annual returns to the EPA.
- ◆ **Sample Code** – the unique sample or laboratory code should be inserted here.

### **Analysis information**

3.4.3 | The WSA should ensure all results of analysis are included and not in separate attachments (with the exception of pesticides – see paragraph 3.4.4). The WSA should flag any failures that it (or the private water supplier) demonstrated were due to the domestic distribution system (condition of the tap or pipe work) within premises that were not under the ownership of the private water supplier. When completing the analysis results section the WSA must ensure the following:

- ◆ **Results are reported in the correct units** – monitoring results reported to the EPA must be of the units specified in the Regulations. If the WSA obtains results from a laboratory in different units the results must be converted to the correct units prior to submission to the EPA. In the event that results are in the incorrect units the EPA will send the returns back to the WSA and request correction of the results. In particular WSAs should ensure that nitrate, nitrite and ammonium results are reported as NO<sub>3</sub>, NO<sub>2</sub> and NH<sub>4</sub> respectively and not as N. A full list of the parametric values and associated units is included in section 2 of this handbook
- ◆ **Methods of analysis are adequate** – section 2 of part 3 of the schedule to the Regulations specifies the performance characteristics that must be achieved in laboratories carrying out analysis of drinking water. The WSAs must ensure that these characteristics are being met in laboratories carrying out analysis. The EPA recognises that results will be obtained and reported using methods that do not achieve these performance characteristics at present. **The EPA recommends that laboratories carrying out analysis for determining compliance with the water quality standards should aim to be accredited by the end of 2012 and that all analysis must be carried out in accredited laboratories by the end of 2015. The EPA will not accept monitoring results from unaccredited**

Issue No:	1
Date:	12 April 2010

**laboratories after the end of 2015.** In the meantime, the EPA will accept results from WSAs where the laboratories used do not meet these requirements except in cases where the method used fails to meet the requirement by a large margin. For example where results are reported as less than the limit of detection and the limit of detection is either the same as or greater than the parametric value then the results should not be submitted to the EPA (for example if cyanide results are reported as <50 µg/l when the parametric value is 50 µg/l). Where such results are submitted by the WSA they will be deleted from the returns by the EPA as it is not possible to determine compliance with the parametric value on the basis of such results. This will then be considered as a shortfall in the monitoring programme by the WSA.

### **Reporting of pesticides**

**3.4.4 |** The Regulations set two standards for pesticides. For each individual pesticide the standard is 0.1 µg/l with the exception of aldrin, dieldrin, heptachlor and heptachlor epoxide for which the standard is 0.03 µg/l. For total pesticides the standard is 0.5 µg/l. In the return the EPA requires that a figure be inserted for total pesticides. This result should be calculated by summing the individual pesticides detected and reporting this result in the template. In calculating total pesticides, all individual pesticides present in concentrations less than the limit of detection should be assumed for the purposes of these calculations as being absent (0.0 µg/l). Where all pesticides monitored are reported as less than the limit of detection, the total pesticides figure should be reported on the template as <0.5 µg/l.

**3.4.5 |** In cases where individual pesticides have been detected, the WSA should complete a separate summary of the concentrations of all individual pesticides detected. It is not necessary to include individual pesticides that were monitored if they were reported as less than the limit of detection. The recommended format for reporting of individual pesticides and an example of a complete report is at Appendix 1.

Issue No:	1
Date:	12 April 2010

### 3.5 Up-loading of data to EDEN

**3.5.1** | WSAs can access the EDEN website at <https://www.edenireland.ie/Home/Home.aspx>. WSAs need to register as a user of EDEN at <https://www.edenireland.ie/Users/Register.aspx> (the register menu option in EDEN). If any WSAs need assistance to up-load data, there is a comprehensive help facility, including sample documentation at <https://www.edenireland.ie/Help/Index.html>.

**3.5.2** | For WSAs using LabInfo, an upgraded version along with an application called LIXIE has been installed in those WSAs. Where the LabInfo PC has access to the Internet, LIXIE will allow automatic connection and transfer of drinking water data selected by the WSA staff to EDEN. If the PC isn't connected to the Internet, then the file can be created on the LabInfo PC and then manually uploaded to EDEN from a PC with an Internet connection.

**3.5.3** | For WSAs using a LIMS other than LabInfo, a manual upload to EDEN should be carried out. Work has been completed by certain LIMS vendors so that monitoring data can be exported to the EDEN DET format required. This file will then have to be uploaded to EDEN following the instructions in the EDEN help file.

### 3.6 Assessment of monitoring results by the EPA

**3.6.1** | The EPA will assess the monitoring results submitted and will do one of the following:

- ◆ accept the data as submitted without further queries and import the data into the EPA drinking water database;
- ◆ revert to the WSA with queries about the returns; or
- ◆ return the data to the WSA and request amendment of data and resubmission.

The EPA will return all data to the WSA where there are any errors or omissions from the returns to allow the WSA to correct the data and re-upload the data through EDEN.

Issue No:	1
Date:	12 April 2010

**3.6.2** | Once the EPA is satisfied that the results are accurate and correct, the data will be imported into the EPA database. The EPA will carry out an analysis of the data to generate statistics for its annual report on drinking water quality. When this analysis is complete the EPA will send out a copy of the analysis to the WSA for verification. The following files will be sent to the WSA:

- ◆ a list of all failures in all private (and public) water supplies;
- ◆ a complete set of results as imported into the EPA database;
- ◆ a list of all private (and public) water supplies in the WSA's area;
- ◆ a list of any supplies insufficiently monitored; and
- ◆ a summary of the statistics for the private water supplies in the WSA's area including the calculations of overall compliance.

**3.6.3** | The WSA will be given a period of two weeks to comment on the accuracy of these files and the calculations. All valid comments or amendments will be incorporated into the statistics used for the preparation of the overall national summary and the report on private (and public) water supplies in the WSA's area.

### 3.7 Submission of returns

**3.7.1** | WSAs should submit their drinking water quality compliance monitoring results to EDEN by 28 February each year in respect of the previous calendar year. The general details and drinking water scheme details should be submitted by the same date using the Excel template by email to [drinkingwater@epa.ie](mailto:drinkingwater@epa.ie).

Issue No:	1
Date:	12 April 2010

## Appendix 1: Suggested reporting format for pesticides

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Water Services Authority	Name of Private Water Supply	Scheme Code	Sample Code	Date	Pesticide	Result (µg/l)	Pesticide	Result (µg/l)	Pesticide	Result (µg/l)

Table 2: example of completed report

Water Services Authority	Name of Private Water Supply	Scheme Code	Sample Code	Date	Pesticide	Result (µg/l)	Pesticide	Result (µg/l)	Pesticide	Result (µg/l)
X County Council	Lake Private GWS	4000PRI1001	2007/1024	26/01/2007	Atrazine	0.05	Simazine	0.02	Aldrin	0.02
X County Council	Big Lake Private GWS	4000PRI1005	2007/251	12/08/2007	Heptachlor	0.01				
X County Council	Big Lake Private GWS	4000PRI1005	2007/358	12/12/2007	Heptachlor	0.01	MCPA	0.05		
X County Council	Small Well	4000PRI2002	2007/301	20/09/2007	Methoxychlor	0.15				



Issue No:	1
Date:	12 April 2010