

SECTION 8: INCIDENTS AND EMERGENCIES



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Section 8: Incidents and emergencies

Summary of Section 8

- ◆ Defines incidents and emergencies and gives some examples of common types.
- ◆ Sets out the requirement for each Water Services Authority (WSA) to prepare a Drinking Water Incident Response Plan (DWIRP) that covers its functional area including Public and Private Group Water Schemes (PuGWS and PrGWS).
- ◆ Provides guidance on how to prepare the Plan and the key contents of the Plan and the contribution from PuGWS and PrGWS to the Plan.
- ◆ Describes how PuGWS and PrGWS should notify the Water Services Authority (WSA) of incidents and emergencies and provides guidance on what information should be included in the notification and how the WSA should obtain advice from the Health Service Executive (the HSE).
- ◆ Sets out what WSAs should include in their reports on incidents and emergencies and the contribution required from PuGWS and PrGWS.
- ◆ Describes when an Outbreak Control Team (OCT) may be set up when there is illness, or suspected to be illness, in the community associated with an incident involving water supplies.
- ◆ Describes how small private water suppliers (not PuGWS or PrGWS) should deal with incidents and emergencies.

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1. Introduction

1.1 | From time to time events occur that affect or threaten to affect the quality of private drinking water supplies in a way that puts at risk human health or causes considerable concern to consumers. These events may be caused by some failure of the private water supplier's operations or may be caused by something outside of the private water supplier's direct control. Some events will be sufficiently serious to be classed as incidents or emergencies requiring full investigation; others will be minor and will not require investigation to the same extent.

1.2 | All events that are judged by the private water supplier to be incidents or emergencies should be notified to the relevant Water Services Authority (WSA) who in turn will notify the Health Services Executive (the HSE) [and if necessary the EPA]. Many failures to meet the standards and indicator parameter values in tables A, B and C of part 1 of the schedule to the regulations will not be incidents or emergencies because they do not put at risk human health or cause concern to consumers and they can be dealt with fully under the notification and other requirements of regulation 10. Some failures will put at risk human health (microbiological) and will cause concern to consumers (iron and manganese causing discoloured water) and may require a fuller investigation than under regulation 10. Other incidents may be identified without there being a sample failing to meet a standard or indicator parameter, for example a pollution incident in the water source, or heavy rain and flooding impacting on raw water quality, or a failure of disinfection at a treatment works.

2. Definition of incidents and emergencies

2.1 Definitions

2.1.1 | An incident or emergency is defined as any event detected by routine compliance monitoring or routine operational monitoring, or any other event that was not necessarily detected by the routine compliance or operational monitoring and has occurred because of something that has happened in the catchment, at the treatment works or in the distribution system, that:

- ◆ appears to have caused illness in the community as a result of the quality of the water supplied (reports of illness in the community that could possibly be caused by the water supply); or

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- ◆ because of its effect, or likely effect, on the sufficiency or quality of the water supplied, gives rise to, or is likely to give rise to, a significant risk to health of the persons to whom the water is supplied; or
- ◆ has caused, or is likely to cause, significant concern to persons to whom the water is supplied; or
- ◆ has attracted, or is likely to attract, significant local or national publicity.

2.2 Examples of incidents and emergencies

2.2.1 | Some common examples of incidents and emergencies are:

- ◆ a serious pollution of a surface water upstream of an abstraction point that has caused or threatens to cause difficulty with the treatment process and therefore a significant effect on drinking water quality;
- ◆ a serious pollution of an aquifer from which water is abstracted for supply (the treatment before supply may only consist of disinfection);
- ◆ a failure of an important water treatment process, such as loss of coagulation or filtration or breakdown of disinfection;
- ◆ a significant number of complaints of discoloured water or water with an abnormal or offensive taste/odour within a few hours from a particular area of the water supply; and
- ◆ a serious loss of water supply for a significant period.

2.2.2 | The guidance that follows in this section applies to the management of the types of incidents described above. It does not apply to the management of major emergencies, such as terrorist threats, national strikes, major flooding of water treatment plants and major power failures that involve a large number of Government Departments and other stakeholders. Guidance on management of major emergencies is contained in “A New Framework for Major Emergency Management” published by an Inter-departmental Committee (Departments of Health and Children, Justice, Equality, Law Reform and Defence) which covers:

- ◆ hazard analysis/risk assessment;

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- ◆ mitigation/risk management;
- ◆ planning and preparedness;
- ◆ co-ordinated response; and
- ◆ recovery.

3. Drinking Water Incident Response Plan (DWIRP)

3.1 Introduction

3.1.1 | In accordance with the Department of Environment, Heritage and Local Government (DoEHLG) Circular L4/09, each WSA, must have a written **Drinking Water Incident Response Plan** (DWIRP) that sets out the WSA's strategy and protocols for responding to contamination incidents or other emergencies irrespective of whether they are the water suppliers or whether the water is provided by **public group water schemes** (PuGWS) or **private group water schemes** (PrGWS), including for PrGWS supplies with Design, Build and Operate (DBO) contracts in place. This means that each WSA's DWIRP must cover all PuGWS and PrGWS (including those with DBO contracts) in its functional area. Clearly each PuGWS and PrGWS will need to assist the WSA in the preparation of the DWIRP and to assist and co-operate with the WSA in the management of an incident affecting its private water supply. Each PuGWS and PrGWS should have a copy of the WSA's DWIRP relating to its supply.

3.1.2 | WSAs and private water suppliers should be aware of the HSE document "Guidelines proposed by the Health Service Executive as a template document between the Health Service Executive and Water Services Authorities for Dealing with Exceedances and Incidents in Water Supplies" which is intended to facilitate a standardised framework nationally for dealing with microbiological, chemical and indicator failures and incidents and can be used as a guide for HSE Appendix A5 Protocols in the DWIRP.

3.1.3 | In general terms the DWIRP sets out how incidents or emergencies are to be managed, investigated and brought to a satisfactory conclusion. The Water Services Training Group (WSTG) has developed a two day training course to assist WSAs,

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PuGWS and PrGWS to prepare a DWIRP. DoEHLG recommends that all appropriate personnel from WSAs, PuGWS and PrGWS attend this course. As well as the course notes and supporting documentation, participants in this course receive

- ◆ a guidance document on preparing and implementing a DWIRP; and
- ◆ a template for a DWIRP.

3.2 Guidance on preparing a DWIRP

3.2.1 | The guidance in this section sets out the key requirements of a DWIRP. Readers requiring more detail are referred to the guidance document and the template above.

3.2.2 | Each WSA must appoint an appropriate person to be the **manager of the DWIRP** and another person to be the **deputy manager**. These persons should be thoroughly familiar with the organisation, structure and water supply function of the PuGWS/PrGWS in the WSA's area. Each PuGWS and PrGWS should nominate a person to assist the WSA with the preparation of its DWIRP. The manager (deputy manager) from the WSA should have the following main roles in respect of private water supplies:

- ◆ preparation of the DWIRP in consultation with the nominated persons from the PuGWS/PrGWS and other organisations such as the HSE;
- ◆ distributing the DWIRP as a controlled document to all relevant personnel in the PuGWS/PrGWS so that they know what their role is when an incident affecting their private water supply occurs;
- ◆ maintaining the DWIRP up-to-date;
- ◆ co-ordination of the resources needed to implement the DWIRP, including those in the PUGWS/PrGWS;
- ◆ training all relevant personnel in the PuGWS/PrGWS to implement the DWIRP;
- ◆ rehearsing and testing the DWIRP; and
- ◆ reviewing incidents to determine any lessons and, if necessary, modifying the DWIRP.

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3.2.3 | The DWIRP should include the following key requirements:

- ◆ clear criteria for identifying incidents and emergencies that affect, or threaten to affect, the sufficiency or quality of drinking water supplies or give concern to consumers;
- ◆ contact arrangements within the PuGWS/PrGWS and within the WSA when incidents and emergencies occur outside normal working hours;
- ◆ a planned response to incidents and emergencies with an appropriate nominated person in the PuGWS/PrGWS; to assist and co-operate with the WSA in the management of an incident
- ◆ the criteria for convening an **Incident Response Team (IRT)** to assist in managing defined aspects of the incident. The WSA's incident manager would convene the IRT and it could include a nominated person from the PuGWS/PrGWS. Where necessary the IRT, chaired by the WSA, could include external organisations such as the HSE. Sometimes it may be necessary for the HSE and the WSA to discuss and agree a course of action which could include the convening of an IRT. Information about IRTs and their role is given in Chapter 4 of "Drinking Water and Health – a Review and Guide for Population Health, Health Service Executive 2008" (www.hse.ie/eng/services/Publications/services/Environmentalhealth/HSE_Drinking_Water_and_Health_Review_and_Guide_2008.pdf);
- ◆ clear lines of communication between sampling, laboratory, scientific, engineering, operational, customer services, management staff and the nominated person from the PUGWS/PrGWS during the incident;
- ◆ a contact name and telephone of the appropriate person within the WSA who should be notified of an incident discovered by a PuGWS or PRGWS and arrangements for liaison with that person throughout the incident;
- ◆ preparing a report on the incident in consultation with the IRT and the HSE (if the HSE is not part of the IRT) and the nominated person from the PuGWS/PrGWS;
- ◆ the planned response should contain details of how the WSA assisted by the nominated person from the PuGWS/PrGWS should deal with typical common types of incident including:
 - how the investigations are to be initiated;

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- what the investigations might consist of;
- how any information and advice is to be given to consumers and who does it including help lines and automated information messages;
 - ❖ criteria for deciding when it may be necessary to supply water by other means such as in bottles or tankers and the arrangements for such supplies;
 - ❖ who is responsible for dealing with the media (providing information and enlisting their help to broadcast information); and
 - ❖ the criteria for deciding the incident is over;
- ◆ the investigations may include, when relevant;
 - reviewing the recent events in the catchment including any monitoring of the raw water and checking the operation of the treatment works and distribution system;
 - reviewing recent compliance monitoring data from the WSA and any operational monitoring data obtained by the PuGWS from relevant points in the distribution network or by the PrGWS from relevant points in the treatment and distribution networks;
 - visiting and inspecting relevant parts of the catchment, treatment works and distribution system;
 - taking and analysing samples for relevant parameters from appropriate points in the catchment (raw water source), treatment and distribution systems. The PuGWS/PrGWS may need the assistance of the WSA for this; and
 - carefully assessing the results of the investigations and deciding whether remedial action is needed;
- ◆ for giving advice to consumers on any action they may need to take to protect their health whilst the PuGWS/PrGWS is investigating the incident or taking remedial action (**this advice must be given in consultation with the WSA who in turn will consult on, and agree, the advice with the HSE or the IRT if the HSE is part of the IRT**):

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- criteria for deciding when advice by leaflet is sufficient and when advice needs to be given by other means such as loud-hailer, media announcements etc;
- model leaflet for:
 - ❖ advising consumers to boil water for drinking and cooking when there is a microbiological problem; and
 - ❖ advising consumers not to use water for drinking and cooking and to use an alternative supply (in bottles or from a tanker) for these purposes when there is a chemical problem;
 - ❖ how the leaflets are to be distributed;
 - ❖ these leaflets should be capable of adaptation quickly to any water quality or water supply emergency;
 - ❖ these leaflets should be very clear and use simple language;
 - ❖ these leaflets may need to be provided in languages other than English in some cases (e.g. Irish and other languages);
 - ❖ **when such advice is to be given, the WSA should agree with the HSE or the IRT (if the HSE is part of the IRT), if possible before the advice is given, the criteria that would enable the advice to be withdrawn by the PuGWS/PrGWS; and**
 - ❖ model leaflets for withdrawing the advice when the incident/emergency is over;
- ◆ what information needs to be provided to the media, who prepares it and who speaks to the media (TV, radio and newspapers) – **it is vitally important that consistent information is given to the media;** and
- ◆ reviewing the adequacy of the procedures from time to time as a result of experience in dealing with incidents and emergencies.

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3.3 Rehearsal of DWIRP

3.3.1 | Each WSA should have a policy for rehearsal of the procedures in its DWIRP so that all personnel involved understand and become familiar with exactly what they have to do when an incident or emergency occurs. The policy should specify who is to organise rehearsals and the type of rehearsal. Ideally the rehearsal should be as realistic as possible and should include the PuGWS or PrGWS, the HSE and other stakeholders. The outcome of rehearsals should be assessed and recorded and any lessons learned from the rehearsals should result in appropriate revisions to the procedures in the DWIRP.

4. Notification of incidents to the WSA and the HSE

4.1 | The PuGWS/PrGWS should notify the designated WSA contacts by telephone, fax or e-mail of any incident or emergency that falls within the definitions in paragraph 2 of this section as soon as possible after it becomes aware of the event affecting its private water supplies. The notification to the WSA is required:

- ◆ to enable the WSA to discuss and agree with the HSE whether there is a potential danger to human health and if there is to advise, in agreement with the HSE, the PuGWS/PrGWS on what action needs to be taken to protect consumers' health. The HSE may require further information through on-going communication with the WSA before it can advise the WSA whether there is a potential danger to human health and the actions required to mitigate the danger; and
- ◆ to enable the WSA to consider whether any urgent regulatory action is necessary such as a direction to require remedial action to be taken.

4.2 | This notification should include the following information (if some of the information is not available it should be included as soon as practical):

- ◆ the date of the incident, the date and time of the notification and the person making the notification;
- ◆ the geographical location, such as the water supply zones affected, and, if relevant, the catchment, the water treatment works and service reservoirs involved;
- ◆ a description of the nature of incident;

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- ◆ whether a standard for a parameter has been, or is likely to be, breached or whether an indicator parameter value has been, or is likely to be, exceeded;
- ◆ whether any other element, organism or substance (not a parameter) is of concern and the effect or likely effect on the quality of water supplied;
- ◆ the number of people affected;
- ◆ the likely cause(s) of the event;
- ◆ the action that has been, or is being taken, to rectify the situation; and
- ◆ whether there has been any local or national publicity and details of it.

4.3 | Following the notification from the PuGWS/PrGWS, the WSA should consider the draft HSE guidelines for dealing with incidents and consult and agree with the HSE on:

- ◆ whether there is a potential danger to human health;
- ◆ the nature and extent of any sampling and analysis that might be needed to establish whether there is a potential danger to human health and to establish the cause and extent of the incident – the WSA will need to discuss with the PuGWS/PrGWS which organisation carries out any sampling and analysis because the PuGWS/PrGWS may not have the capability;
- ◆ any action that might need to be taken by the PuGWS/PrGWS to inform and protect consumers and the content of any notice issued to consumers;
- ◆ if a notice of advice is to be issued to consumers, the criteria for deciding when to withdraw that advice; and
- ◆ any information that should be given to the media relating to any potential danger to human health and advice to consumers about protecting their health.

4.4 | The PuGWS/PrGWS should liaise with the WSA, who in turn should liaise with the HSE throughout the incident. This liaison could include verbal communications, written communications (fax or e-mail), local meetings or full scale IRTs.

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5. Report on the incident/emergency by the WSA

5.1 | Within one month of the start of the incident, the WSA (or the IRT if one is convened) should prepare a report on the incident– some of the information in the report will need to be provided by the PuGWS or PrGWS, for example the results of any investigations and monitoring carried out and any remedial action taken. The WSA should identify in the report any lessons to be learnt from the incident including any for the PuGWS or PrGWS. This report should be available publicly so that all private water suppliers can learn the lessons arising from the incident and other stakeholders are kept informed.

5.2 | The WSA with assistance from the PuGWS/PrGWS should include the following information in its report:

- ◆ background description of the incident, including details of:
 - the water zones and population affected;
 - water sources and treatment works;
 - service reservoirs and distribution system;
 - any problems or abnormal occurrences in the catchment, the operation of works, service reservoirs and/or distribution system experienced prior to the incident;
 - where relevant, a map of the area and diagrams of the treatment works, distribution networks etc;
- ◆ log of events with times and dates, including details of:
 - methods of identifying the supply zones affected, or likely to be affected, and of informing and protecting consumers;
 - the investigations to establish the cause, the extent of the incident, including the samples taken and their locations etc;
 - actions taken to restore water quality or provide alternative supplies;
 - notification to the WSA;

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- any advice received from the HSE and any other scientific or technical experts, and any action taken as a result of the advice;
- ◆ numbers of samples taken and the sampling points associated with the incident and the results of the analysis of those samples;
- ◆ discussion where appropriate on:
 - the appropriateness and effectiveness of the investigations and the action taken;
 - the analytical systems and methods used;
 - whether the procedures in the WSA's DWIRP were followed including any that the PuGWS/PrGWS was required to carry out;
 - the adequacy of liaison arrangements with the PuGWS/PrGWS and with the HSE and other relevant organisations;
 - the adequacy of the communications with the consumers;
 - the adequacy of the communications with the media;
 - any potential danger to human health and the actions to mitigate any danger; and
 - details of any further action taken or proposed to prevent the incident recurring;
- ◆ copies of any press releases, press reports and any information and advice provided to consumers; and
- ◆ conclusions of the WSA on the handling of the incident by WSA staff and PuGWS/PrGWS staff and any recommendations for improvements to the procedures in its DWIRP.

5.3 | It follows from the last bullet of paragraph 5.2 above that once an incident is concluded, the WSA should review its handling of all aspects of the incident, including the aspects handled by the PuGWS or PrGWS, to identify any lessons to be learned from the incident. These lessons may require the WSA to modify parts of its DWIRP for dealing with future incidents.

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6. Incidents involving outbreaks of illness

6.1 | When drinking water is associated or suspected to be associated with an outbreak of illness in the community an outbreak investigation may be triggered. This may involve the convening of an **Outbreak Control Team (OCT) by the HSE** to manage the outbreak. If requested the WSA, and if necessary the PuGWS/PrGWS, should nominate a suitable person to serve on the OCT to provide the members of the OCT with all relevant information relating to the incident involved in the outbreak. The OCT and the IRT (see paragraph 3.2.3 above) should have some common membership. Information about OCTs and their role is given in Chapter 7 of Drinking Water and Health – A Review and Guide for Population Health, HSE, 2008 ([www.hse.ie/eng/services/Publications/services/Environmentalhealth/HSE Drinking Water and Health Review and Guide 2008.pdf](http://www.hse.ie/eng/services/Publications/services/Environmentalhealth/HSE_Drinking_Water_and_Health_Review_and_Guide_2008.pdf)).

6.2 | When an OCT is operating, a number of organisations are involved in the management of the incident and the outbreak. It is extremely important that consistent and clear messages and information is given to the public and the media. Generally both the IRT and the OCT (the WSA and the HSE and possibly the PuGWS/PrGWS) will be involved. Each should have a dedicated spokesperson for public/media announcements. The IRT and OCT should decide whether any media notices and appearances should be made jointly. Whilst the PuGWS/PrGWS has the responsibility to advise all consumers, in some situations additional advice may be provided directly to consumers by the HSE.

6.3 | After an incident involving an outbreak of illness is concluded, the OCT should critically review all aspects of its handling of the incident to identify any lessons to be learned and, if necessary, to make any changes to its practices and procedures for future incidents involving outbreaks of illness.

7. Small private water supplies

7.1 | This is a large group of different types of small private water supplies comprising industrial water supplies (such as those used in the brewing industry) to boreholes serving commercial premises (e.g. pubs, hotels etc.) and public buildings (e.g. schools, nursing homes). They are not PuGWS or PrGWS and are not specifically required to have a DWIRP. Those private water supplies where the organisation supplying and using the supply has a management system (for example industrial, hotels, schools etc) should prepare a DWIRP as outlined in the sub-sections above.

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7.2 | Those private water supplies that serve a group of premises (supplying 10 m³/d (50 persons) or more), but do not involve a commercial or public activity, cannot be expected to prepare a detailed DWIRP. If there is an incident affecting one of these supplies, a person responsible for the supply should immediately inform the relevant WSA and the WSA should manage the incident using its DWIRP.

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