

# Drinking Water Inspectorate Guidance to water companies



## **GUIDANCE ON THE NOTIFICATION OF EVENTS**

**October 2018**

## Contents

1. Introduction .....	2
2. The Water Industry (Suppliers' Information) Direction .....	2
3. Events and Categories of Events.....	3
4. The Notification Process .....	8
5. Actions taken by the Inspectorate.....	13
Enforcement Action.....	14
Offences and Prosecution.....	14
Dissemination of information.....	16
6. The Event Risk Index (ERI).....	16
Annex 1- Paragraph 9 of the Water Industry (Suppliers' Information) Direction 2017.....	19
Annex 2 - Examples of Events to be Notified.....	22
Annex 3 - Information that should be included in the Interim (3-day) report.....	26
Annex 4 -28_Information that should be included in the Final (20-day) report.....	28
Annex 5 – Flow Chart Event notification and Inspectorate's assessment process .....	30
Version History.....	31

# DWI GUIDANCE ON THE NOTIFICATION OF EVENTS

## 1 Introduction

- 1.1 Water suppliers<sup>1</sup> are required to notify the Drinking Water Inspectorate (DWI) of any event which, by its nature has, or is likely to adversely affect the quality or sufficiency of the water supplied by it, or, has or is likely to give rise to a significant risk to the health of the persons to whom the water is supplied. This is a requirement of regulation 35(6) of the Water Supply (Water Quality) Regulations 2016, as amended (the English Regulations), and regulation 35(6) of the Water Supply (Water Quality) Regulations 2018 (the Welsh Regulations).
- 1.2 Notification requirements are set out in the current [Water Industry \(Suppliers' Information\) Direction](#) ('the Direction'), which is available on the Inspectorate's website.
- 1.3 Retail-only companies should ensure that they have robust communication arrangements in place with their wholesale suppliers to ensure that retailers are made aware of events affecting their consumers, and to ensure that consumers contacting the retailer about a drinking water quality concern are directed to the wholesaler. Retailers should also have in place procedures for recognising an unusual number or pattern of consumer contacts about drinking water quality in order that rapid contact can be made with the wholesaler, whose responsibility it is to investigate the matter.
- 1.4 All events are assessed by the Inspectorate using the provisions of the Water Industry Act 1991, as amended in 2003 and 2014, having regard to its published [Enforcement Policy](#). The DWI follows the principles of better regulation to scrutinise company performance on the basis of risk of failing to meet the requirements of the Regulations.
- 1.5 This guidance document replaces the previous guidance on notification of events, published in 2009, and has been updated to take into account additional guidance provided in Information Letters and Advice Notes since that date.

## 2 The Water Industry (Suppliers' Information) Direction

- 2.1 Paragraph 9 of the Direction provides generic guidance on the notification of events to the Inspectorate and the associated provision of information. It does not specify the type of events that should be notified.

---

<sup>1</sup> "Water supplier" is a collective term which includes undertakers (wholesalers), inset appointees and holders of water supply licence (wholesale and supplementary) authorisations. Retail-only companies provide services such as billing, meter reading and advice on water efficiency. The terms "water suppliers" and "water companies" are used interchangeably in this document.

- 2.2 The requirements of the Direction are enforceable under section 18 of the Water Industry Act 1991 ('the Act').
- 2.3 Paragraph 9 of the current Direction is reproduced in Annex 1 for reference.

### 3 Events and Categories of Events

- 3.1 In order to assist water suppliers in their decision making processes, the Inspectorate has developed the following definition:

**Event** – any occurrence, which by its nature is required to be notified under the provisions of regulation 35(6) and paragraph 9 of the Information Direction.

- 3.2 It is not possible to provide an exhaustive list of situations that might be regarded as events. A list of examples, based on experience, can be found in Annex 2.
- 3.3 The decision on whether or not to notify the Inspectorate rests with the water supplier, taking into account the particular set of local circumstances at the time. Notification is always prudent if a situation has generated consumer concern, especially in respect of drinking water quality and health, but we expect companies to take a pragmatic view. For example, in terms of event notification, there is no need to notify routine consumer contacts about water quality or compliance failures unless their character, singularly or collectively, would be considered unusual and thus amount to an event.
- 3.4 Notified Events are classified by the Inspectorate into one of 5 categories depending on the consequences or potential consequences and/or the potential to adversely affect public confidence in the water supply, and the amount of work required for the Inspectorate to complete the assessment. These categories are:
  - Not significant
  - Minor
  - Significant
  - Serious
  - Major
- 3.5 These categories are used by the Inspectorate to indicate the time required to assess an event and its complexity, as well as the impact on consumers. The categories are used by the Inspectorate for cost recovery purposes,

and the category assigned to an event will have no bearing on its Event Risk Index (ERI) score (see section 6). Criteria used to classify an event include:

- The number of consumers affected or potentially affected; whether it is a repeat event; whether the company has prolonged the event or exacerbated the consequences through its own actions;
- the presence of faecal indicator organisms;
- the presence of pathogenic or potentially pathogenic microorganisms;
- whether consumers have been provided with precautionary advice; cases of illness;
- failure of water treatment, in particular disinfection, and
- the extent of any media interest or national interest.

3.6 Events with a greater risk to public health or greater potential to cause public concern are likely to require a wider or different type of resource input to assess, for example the Inspectorate may decide to involve health professionals, press office, utilise GIS mapping capability within the organisation or simply escalate the resources available to investigate at an early stage. Additionally the information required from the company may vary significantly in terms of format, detail and timescales.

3.7 More serious events (categories 4 and 5) are those which take the longest time to investigate and conclude.

3.8 Notified events are also assigned a **seriousness score** as follows:

- i. **Not an event (Seriousness score 0)** – for example:
  - PHE/PHW<sup>2</sup> outbreak investigations not found to be related to the water supply
  - Courtesy notifications where the event does not breach another of the company's triggers
  - Low pressure; aeration; small-scale losses of supply
  - Media interest with no water company activity e.g. fluoride debates in the local news
  - Fracking
  - Media interest about pollution not affecting public water supply
  - Blocked sewers and sewer flooding
  - Water charges

It is not anticipated that companies would notify the Inspectorate of most of these types of events, but for some, a communication from the

---

<sup>2</sup> Public Health England/Public Health Wales

company is welcome because the Inspectorate then understands that the company is aware of a situation that may escalate in due course. For example courtesy notifications about an event affecting a bulk import where there is not an immediate risk affecting the recipient's consumers. Unless they escalate into more serious events, these notifications will attract an ERI score (see section 6) of 0.

- ii. **Non-health risk indicator (Seriousness score 1)** – Insignificant risk to drinking water quality and/or consumer confidence. No quantifiable effect on consumers. No further information required by an Inspector to assess the event after the 3-day report. Examples include:
  - Loss of supply to consumers where there is no an impact on water quality or no significant risk to public health;
  - Aeration giving rise to significant consumer contacts;
  - Low pressure giving rise to a significant number of consumer contacts over a prolonged period;
  - Media interest (including online and local media) due to the activities of the company about a water supply issue (e.g. media interest in road flooding due to a burst main).
- iii. **Regulatory Impact (Seriousness score 2)** – Where regulations were or could have been breached for example Regulation 4 or Regulation 26, but the event had no impact on the quality of water supplied to consumers. For example:
  - Failure of a treatment stage which had no impact on final water quality (including where water did not go into supply).
  - Risk of ingress identified which has not given rise to any regulatory failures, including coliform detections in a single sample at a service reservoir.
  - Presence of a faecal indicator (e.g. *E.coli*) where evidence attributes the cause to the condition of the tap or sampling facility.
  - Where a substance not conforming to the requirements of Regulation 31 comes into contact with water but there was no detected impact on water quality.
  - Local media interest about a drinking water quality or sufficiency issue (including online and local media) due to the activities of the company.
  - Laboratory/Data/Sampling issue that is unlikely to have masked a PCV breach or wholesomeness concern.
- iv. **Aesthetic and confidence (Seriousness score 3)** - potential for consumers to be directly affected and/or potential for consumer

concern. Where consumers are likely to or did reject the water, or where advice limiting the use of the supply was given. Usually a full company report is required. For example:

- Taste/Odour/Discolouration – Where there has been a significant number (compared with the normal background level for the area) of consumers contacting the company complaining about discolouration or unacceptable taste or odour.
  - Animalcules - visible animalcules found in treated water.
  - Nontoxic chemical – Presence of a chemical which does not pose a potential risk to human health.
  - Advice – Issuing of Do not drink, do not use or boil advice to consumers (note that if seriousness score 4 or 5 is applicable the higher score applies).
  - Water Fittings Regulations fluid category 3 contravention - chemicals which are not significant to health including disinfectants like chlorine contravention which has contaminated or is likely to contaminate supplies.
  - National media – National print or broadcast media interest regarding quality or sufficiency of water within the company's control which could affect consumer confidence not covered by any higher category, for example this might include items on the home page of the BBC news website but not items only available on local sections of the website. Includes issues not covered by a higher category where a ministerial briefing is required.
  - Laboratory/Data/Sampling issue – that is likely to have masked a PCV breach or wholesomeness concern
- v. **Health Risk Indicator (Seriousness score 4)** – where consumers are at a higher than normal risk of harm, or where there is a significant potential for consumer concern. For example:
- Indicator organism – Detection of parasites (e.g. *Cryptosporidium* oocysts above typical concentrations) or faecal indicator organisms (e.g. *E.coli* or Enterococci) in water supplied to consumers (but not due to sampling reasons/condition of tap).
  - Suspected illness – Illness which is likely to be caused by the water supplied, for example PHE/PHW has notified an atypical increase in number of cases of illness in the community
  - Chemical – Presence of a chemical of potential risk to human health but below any available SNARL.
  - FC4 –Water Fittings Regulations fluid category 4 (environmental pathogens or toxic substances at a concentration significant to

health) contravention which has contaminated or is likely to contaminate supplies.

vi. **Health Risk (Seriousness score 5)** - where consumers actually or potentially suffered harm. For example:

- Pathogens – confirmed detection of pathogenic organisms (e.g. *Cryptosporidium hominis*) or faecal indicator organisms (e.g. *E.coli* or Enterococci) in water supplied to consumers in concentrations such that professional health advice confirms that boil water or other advisory restriction on use is necessary. (Where cause is not due to sampling reasons/condition of tap)
- Illness – Proven illness due to water supplied.
- Toxic chemical – Presence of a chemical contaminant which is a serious risk to human health and above the SNARL.
- FC5 –Water Fittings Regulations fluid category 5 (pathogens, radioactive or very toxic substances at a concentration significant to health) contravention which has or is likely to contaminate supplies.
- Undisinfected water – Failure of the disinfection process where inadequately disinfected water is supplied to consumers, with or without restrictive advice (e.g. boil advice). Breach of Regulation 26(1) or (4) or Regulation 28(4)(d).

The seriousness score is used in the ERI score for an event (see section 6). Where there is more than one level of seriousness score applicable, then the highest will be used. Events are given an indicative seriousness score on notification, but the final score may change during or on completion of an Inspector's assessment.

3.9 The term 'significant' is used frequently in the Direction and in the above definitions of an event. It is not possible to give a precise definition of its meaning in this context, as it will depend on each particular set of circumstances. Generally 'significant' should be taken to mean higher than normal levels of contacts from consumers expressing concern. However it should be borne in mind that a serious problem with a water supply may come to light through a report by just a single consumer. The terms 'unexpected' and 'unusual' are also used and should be likewise interpreted sensibly.

3.10 Paragraph 9(1)(a) of the Direction makes specific reference to 'significant risk to the health of persons to whom the water is supplied'. Suppliers therefore need to take account of more than just physical health, for example: An event causing deterioration in the aesthetic quality of drinking water where consumers are likely to avoid consumption; or a situation that

is protracted causing anxiety to those affected directly or indirectly through publicity.

- 3.11 It is always better to notify the Inspectorate of a perceived problem with drinking water quality, rather than the Inspectorate being made aware via a third party. This also applies to local or national media interest in drinking water issues that could result in consumer concern. No further action is required if the situation does not develop, other than to inform the Inspectorate of the outcome. Companies may telephone their liaison Inspector or the Principal Inspector responsible for external communications to discuss these situations.
- 3.12 Suppliers should be aware that anyone, not just the company itself, can notify the Inspectorate of a situation involving actual or perceived risk to water quality. The Inspectorate does not treat such notifications differently from those made by water suppliers.

## 4 The Notification Process

- 4.1 The notification and reporting requirements are set out in paragraphs 9(2) to (4) of the Direction (see Annex 1).
- 4.2 The Inspectorate has introduced a web portal for notification of events, which suppliers should use for notification of all events. Suppliers should contact the Inspectorate to obtain details necessary to enable the supplier to register as a user. Notifications made using the web portal will then be accepted and logged on the Inspectorate's system, normally during the next working day. The Information Direction will be updated to make provision for this new procedure.
- 4.3 The supplier should, in addition, make telephone contact to the Inspectorate using the cascade list published on the Inspectorate's website for the following types of events:
- Any event that is, or is likely to become, a civil emergency (as specified in the Civil Contingencies Act 2004) affecting the quality or sufficiency of drinking water supplies.
  - Any event affecting the quality or sufficiency of public water supplies to a population of 10,000 or greater, where consumers are actually affected, i.e. the supply has been lost, restrictive advice has been issued or where PHE/PHW has advised the company to issue restrictive advice. Single sample failures at treatment works and service reservoirs do not fall into this category unless there is an immediate consequence for consumers.

- Any event that has caused, or is likely to cause a significant and immediate risk to public health affecting a significant number of consumers.
- Any event that has caused, or is likely to cause, widespread consumer concern associated with the public water supply. The following criteria are examples, but it is not an exhaustive list:
  - The issue of protective advice with or without notified cases of illness.
  - Confirmed cases of illness in the community where the quality of the public supply is a credible cause.
  - Loss of supplies to a population below 10,000 caused by the loss of a treatment works or loss of a major trunk main that is the sole source of supply for that population, where restoration of supplies cannot be achieved in the short-term by rezoning the network.
- Any event that is attracting or is likely to attract significant media interest because of consumer concern about a drinking water quality or sufficiency issue.
- Any event associated with drinking water quality or sufficiency that is or is likely to attract the attention of local and/or national politicians.
- Any other type of event where the supplier is concerned and wishes to make telephone contact with the Inspectorate to discuss the situation.

4.4 All other types of event, including events where the most likely cause is the private system of a premises or group of premises, can be notified using the web portal without making telephone contact. If an event escalates, for example the population affected is much larger than initially determined, or where consumers are becoming concerned because of the duration of an event, telephone contact should be made to update the Inspectorate on developments.

4.5 The information that should be supplied with the initial notification is provided in the notification template on the web portal:

## Event Notification (New)

Date / Time of Notification	11/04/2018 08:33:35
Company Name	United Utilities Water Plc
Name of person making this notification *	
Contact telephone number *	
E-mail address *	
Date of Event *	
Event Name *	
Areas Affected *	
Related To *	-- Please Select --
	Select Sites
Nature of Event (select all that apply) *	Select all that apply
Cause of Event *	Please select a Cause ...
Properties *	
Population *	
Associated with a compliance breach?	<input type="checkbox"/>
Anticipated duration (hours) *	
Details of Risk Assessment / measures taken to inform / protect consumers	
Action being taken to rectify the situation and estimated duration. Effect, or likely effect on the quality and sufficiency of the water supplied	
Notification (please tick)	<input type="checkbox"/> CC Water Notified <input type="checkbox"/> EHO Notified <input type="checkbox"/> PHE/PHW Notified <input type="checkbox"/> Independent medical advice sought
Level of Publicity / Media interest	<input checked="" type="radio"/> None <input type="radio"/> Local <input type="radio"/> National
Comments	

4.6 The *Related to* field allows the user to select an option from a pick list:

Related To *	-- Please Select -- Lab Event No Relevant Site Other PWS Sites Whole Company Affected
--------------	---

“Sites” should be selected where the event is associated with a company asset that has a designated sampling point code in the company’s data files provided to the Inspectorate. Selecting this will display a list of all the company’s sampling points. Select all relevant current sampling points affected by the event. Do not select historic sampling points that are no longer used.

Where a treatment works or service reservoir is affected, always select the relevant routine compliance sampling point or points. There is no need to select supply point sampling points. Where the event is associated with consumers’ properties supplied from a public supply zone (including single properties), all affected zone sampling point codes should be selected, and any upstream or downstream assets affected.

PWS refers to Private Water Supplies.

4.7 *Anticipated duration field:* This is to give an indication of the likely duration of the event, with the best available information at the time the notification is made. If there is uncertainty, a duration of 73 hours may be added, which is recognised as a default duration, and will be corrected by the assessing Inspector on completion of the event assessment.

4.8 There are three larger free text fields for additional information required to provide background on the event:

*(i) Details of risk assessment / Measures taken to inform/protect consumers*  
Suppliers should use this field to explain the risk assessment for determining the most likely cause, the population affected and likely duration of the event. It is expected that suppliers will use regulation 27 risk assessments, recent and contemporaneous sample data, works quality trends, information about recent consumer contacts, information about operational activities and ongoing works, modelling and other appropriate information to inform their immediate response to an event and communication with affected consumers and health agencies. Brief details of these steps should be included in this field. If precautionary advice has been issued to consumers, or is likely to be, this should be included.

*(ii) Action being taken to rectify the situation and estimated duration. Effect or likely effect on the quality or sufficiency of water supplied.*

This field should be used to record the immediate steps that the supplier is taking to restore normal, wholesome supplies, and how long this is likely to take. Suppliers should include information about the investigational sampling response, and other relevant information about the likely consequences of the event.

*iii. Description*

Include in here a brief narrative description of the event, to include the location, the cause or likely cause, the population affected and the effect on consumers, and actions being taken to protect public health. Also include any other information not provided elsewhere that may be helpful to the Inspectorate.

- 4.9 The other fields in the template are generally self-explanatory. If a figure for the number of affected properties is inserted, the population is automatically calculated and added to the population field, using a multiplier of 2.4 (rounded down to the nearest whole number). Similarly if a population figure is entered, the number of properties affected is calculated and entered automatically. Other fields are completed by the user. Anticipated duration should always be recorded in hours, up to a maximum of 73.
- 4.10 Once the template has been completed, and the user is content that the information is correct, as understood at the time, the user should press “save” to upload the notification. The notification will then be saved on the Inspectorate’s Events database, and an automatically-generated email will be sent to the supplier to confirm receipt. An event notification email is also generated automatically, which is circulated within the Inspectorate. Currently the supplier does not receive this (although this is likely to be changed in due course, and suppliers will be sent an email record of their notification). The notification will then be reviewed by an Inspector, and once accepted and logged as an event, the supplier will receive a second email to confirm the date that the interim (3-day) report is required.
- 4.11 Suppliers should provide an interim report on the event within 3 working days of the date of notification. The interim report should always be sent electronically to the following email address: [dwi.events@defra.gsi.gov.uk](mailto:dwi.events@defra.gsi.gov.uk) (DWI Events). This is to ensure that the company can be advised of the event classification within the required time period. Refer to Annex 3 for more detail.
- 4.12 The interim report may be accepted as the final report on the event if the event is over, normal wholesome supplies have been restored, the cause is known and actions have been taken to prevent a recurrence. Companies may be asked to provide an update on actions by a specified date, in lieu of a final report, if the assessing Inspector considers it to be appropriate (for example if there still some sample results awaited; or events affecting a single property where the cause is the private domestic system, and the supplier is working with the consumer to ensure that plumbing defects are being corrected).

## 5 Actions taken by the Inspectorate

- 5.1 When an event is notified online by a company, an email is generated automatically and sent to nominated recipients within the Inspectorate, including the Chief Inspector. If necessary, the Inspectorate will inform other Defra and Welsh Government colleagues and other external stakeholders (e.g. the Food Standards Agency, the Environment Agency and Public Health England), as appropriate. Ministers will be advised if the event is of sufficiently high profile or has occurred in their constituencies.
- 5.2 Within 5 working days of receipt of the interim (3-day) report on the event, the Inspectorate will inform the water supplier by email whether any further information is required, including whether a final report is required within 20 working days of the date of the notification, or a longer period if considered necessary and agreed in writing between the Inspectorate and the supplier. A condition of granting an extension may be the provision of interim reports at specified intervals advising the Inspectorate of progress with the water supplier's investigation.
- 5.3 If a final (20-day) report is not required, which would normally be the case for events with a seriousness score of 0, 1 or 2, the supplier will be sent a concluding email of the outcome of the Inspectorate's investigation and the provisional ERI score for the event, within 10 working days of receipt of all information from the company.
- 5.4 A list of the minimum information that should be supplied in the final report is given in the Information Direction (see Annex 4).
- 5.5 All events will be fully assessed by the Inspectorate and for more serious events a concluding letter will be sent to the water supplier, retail water service companies contacted by the supplier in connection with the event and any other relevant stakeholders. It is for the Inspectorate to decide the appropriate response for each event notification. Thus it is in the water supplier's interests to ensure that all information relevant to assessing the event is accurate and submitted in a timely manner.
- 5.6 For events where the Inspectorate is content with the water company's response to the event and actions taken to prevent a recurrence, and no further information is required to complete the investigation, the event will be closed with a standard email.
- 5.7 For events where the Inspectorate wishes to make recommendations to the company, and for those events that have required a more detailed investigation, a formal event assessment letter (EAL) will be sent to the

Board level contact of the supplier. Recommendations are made where there has been a breach of a regulatory requirement, or where there remains an ongoing risk of a breach. Suggestions are made to encourage good practice. The assessment letter will set out the findings and conclusions of the assessment, with any recommendations requiring a formal response within 20 working days to the Inspector who carried out the assessment.

- 5.8 If the event is perceived to be serious or unusual, the Inspectorate may visit the site or other location to carry out a technical audit. This requirement will depend on the circumstances of the incident and will be decided on a case by case basis. Generally the supplier will be notified in advance of the visit, but exceptional circumstances may mean that minimal notice (24hrs) will be given.
- 5.9 A flow diagram of the process is given in Annex 5.

### **Enforcement Action**

- 5.10 The Inspectorate may issue a Regulation 28(4) Notice if there is evidence that unwholesome water was supplied or where there was a risk of unwholesome water being supplied, and the supplier has, in the Inspectorate's opinion, not taken adequate steps to prevent a recurrence of the event. The Inspectorate may consider initiating enforcement action under section 18 of the Act for other breaches of an enforceable regulatory duty during the event.
- 5.11 The Inspectorate may issue a Regulation 27(4) Notice requiring a supplier to review and resubmit a risk assessment for a particular supply system where there is evidence that a foreseeable risk was not identified or that mitigation was inadequate.

### **Offences and Prosecution**

- 5.12 The supply of water unfit for human consumption is a criminal offence under section 70 of the Water Industry Act (1991), as amended in 2003 and 2014. Section 70 was amended under Section 20 of Schedule 8 of the Water Act 2003, which came into force 1 October 2004. The amendment empowers the Inspectorate to investigate and take proceedings against 'anyone involved in the supply of water'. Thus water suppliers and their contractors may all be potentially liable in the event of water unfit for human consumption being supplied.

5.13 Section 57 of Water Act 2003 also amended section 86 of the Act to allow the Chief Inspector of Drinking Water to institute proceedings in relation to the quality and sufficiency of water supplied using a water undertaker's supply system. This means that any person(s) whose actions cause a public water supply to be contaminated or disrupted could be liable to criminal proceedings.

5.14 Regulation 33(1) creates separate criminal offences for failure to comply with the requirements of regulation 26(1) to disinfect water supplied for regulation 4 purposes, and non-compliance with regulation 26(4) by failing to operate an adequate treatment process.

5.15 Under Regulation 33(3) it is a criminal offence to fail to comply with the requirements of regulation 31 (materials and products in contact with drinking water).

5.16 Prosecution may be considered if there is sufficient evidence to demonstrate any of the following:

- an offence has been committed under regulation 33(1) or 33(3)
- illness or some other health effect was experienced, normally by at least two consumers, which was associated with the quality of the water supplied
- the quality of the water supplied was such that (normally) at least two consumers rejected it for drinking, cooking or food preparation on aesthetic grounds
- the concentration of a substance in, or value of a property of, the water supplied during the incident was at a level at which illness or other health effect may be expected in the long term even though none was manifest in the community at the time,

and the Inspectorate considers either that:

- the water supplier does not have a defence that it took all reasonable steps and exercised all due diligence<sup>3</sup> to prevent the event or to mitigate the consequences;

or

- the water supplier does not have a defence that it took all reasonable steps and exercised all due diligence for securing that water that

---

<sup>3</sup> It is the responsibility for the supplier to demonstrate due diligence, which includes learning from previous events and recommendations made by the Inspectorate.

was, or likely to be, considered unfit, was not used for human consumption during the incident

**and** such a prosecution is regarded as being in the public interest.

It should be noted that a prosecution may be considered in circumstances where only a single property has been affected.

## Dissemination of information

5.17 Sometimes the assessment of a serious or unusual event may generate a number of action points or lessons to be learned that are relevant to the industry as a whole. Case studies will be included in the Chief Inspector's published report where there are important lessons to be learned for all water suppliers. In other cases the Inspectorate may publish the EAL or event report, or may disseminate information by way of a separate report or Information Letter to all water suppliers and relevant stakeholders. There is a section on the Inspectorate's website where this [guidance](#) is published.

## 6 The Event Risk Index (ERI)

- 6.1 A new drinking water quality index has been developed by the Inspectorate, in consultation with water suppliers and other stakeholders, which replaces the current event response categorisation with a risk based methodology to assess the consequences of events for consumers and to promote proactive risk mitigation.
- 6.2 The Event Risk Index (ERI) is an index designed to measure the risk arising from water quality events, and it aligns with the current risk-based approach to regulation of water supplies used by the DWI. It has been developed alongside the Compliance Risk Index ([CRI – definition link here](#)).
- 6.3 The components of the ERI measure include an individual score for every event reported during the calendar year, which comprises:
- The seriousness of the event (the **Seriousness** score), explained in paragraph 3.8 above.
  - A measure of the company's performance in managing the event (the **Assessment** score); and
  - The consequences (**Impact score**) of the event for consumers, calculated from the population affected multiplied by the duration in hours.

6.4 The formula for calculation of the ERI score for an individual event is as follows:

$$\text{Event ERI score} = \frac{(\text{Seriousness} \times \text{Assessment} \times \text{Impact})}{\text{population served by the company}}$$

6.5 A water company's ERI score for a calendar year is the sum of the individual scores for each event reported during the year.

6.6 The **Inspector's Assessment** of an event is scored as follows:

**Table 2 – Inspector's Assessment Scores**

<b>Inspector assessment</b>	<b>Score</b>
Prosecution	5
Caution	5
Warning letter	4
Enforcement – legal instrument	4
Legal instrument in place	4
Prosecution considered	4
Recommendations made	3
Suggestions made	2
No recommendations or suggestions made	1

6.7 **Reporting timescales:**

6.7.1 Provisional ERI scores for individual events will normally be provided in event closure emails and EALs.

6.7.2 Provisional whole-company ERI scores will be provided to companies by the end of April each year, covering the previous calendar year. This will include ERI scores for all events reported in the relevant calendar year, with provisional scores provided for events where the investigation is still ongoing.

6.7.3 An updated ERI figure will be reported in the Chief Inspector's Report in July and again at the end of April the following year by which time the majority of events assessments for that year will have been completed.

6.8 **Special Rules:** For some events default duration and population figures will be used as indicated below. The burden of proof rests with the company to identify events falling into these categories.

- Precautionary advice issued to single premises/premises on same service (including high lead results):
  - Domestic premises – population 2.4 per property affected
  - Public Building – population minimum of 50.
  - Commercial premises – as stated by company
  - Duration – default value 72 hours
- Lab/Data/Sampling Events: these events generally have little, if any impact on consumers and any increased risk to consumers is impossible to quantify:
  - Population – default value of 1
  - Duration – default value 72 hours
- Events associated with a single operational sample (including positive *Cryptosporidium*):
  - Duration – 24 hours unless evidence of longer duration, e.g. repeat samples failed, compromised treatment process (i.e. duration is to restoration of wholesome supplies)
  - Population – population supplied by the asset if service reservoir or treatment works outlet
- **Duration** – with the exception of events covered by the special rules outlined above, the duration will be calculated in hours from the start of the event to the time that normal wholesome supplies are restored to all affected consumers.

6.9 **Relationship with CRI:** In some circumstances compliance failures are reported as an event, and therefore may contribute to both CRI and ERI. Most of these will attract an ERI score of 0 on the basis that they are assessed as compliance breaches. There may be circumstances, however, where it is appropriate to score such occurrences under both the CRI and ERI indices, depending on the outcome of the company investigations and DWI assessments.

## Annex 1- Paragraph 9 of the Water Industry (Suppliers' Information) Direction 2017

### 9. Provision of information—events, incidents, emergencies etc.

- 9(1) A water supplier must notify the drinking water quality regulator of—
- (a) the occurrence of any event which, because of its effect or likely effect on the quality or sufficiency of water supplied by the supplier, gives rise, or is likely to give rise, to a significant risk to the health of persons to whom the water is supplied
  - (b) any other event associated with a water supply that is notified by the supplier to a local authority, or local or regional health board (or equivalent) under regulation 35 of the Regulations
  - (c) the occurrence of an event that may have been notified to the supplier by a local authority that is related to a private water supply or private distribution system (as set out in the Private Water Supplies Regulations<sup>4</sup>) that could impact on the quality or sufficiency of water supplied by the supplier
  - (d) any other matter relating to the supply of water that—
    - (i) in the opinion of the supplier, is of significance;
    - (ii) has attracted or, in the opinion of the supplier, is likely to attract local or national publicity;
    - (iii) has caused or, in the opinion of the supplier, is likely to cause concern to persons to whom water is supplied; and
  - (e) any reports of disease that might be associated with water supplied by the supplier; and
  - (f) any significant occurrence, apprehended or otherwise, where the collection or analysis of samples causes the test results for those samples to be unrepresentative of the quality of water at the time of sampling or that results in the failure to provide data from sampling.
  - (g) any significant occurrence, apprehended or otherwise of where the company has identified interference with electronic systems caused by external interference ('cyber attack') that has or could impact quality or

---

<sup>4</sup> SI 2016 No. 618 in England, SI 2010 No. 994 (W.99) as amended by SI 2016 No.411 (W.129)

sufficiency of water.

9(2) The notification must be:

- (a) Given as soon as possible after the event or matter has come to the supplier's attention, by telephone; and
- (b) Confirmed in writing (by email) no later than 3 working days after compliance with sub-paragraph (a).

9(3) The notification must include:

- (a) Particulars of the event or matter;
- (b) A description of the geographical area affected by the event and the site reference of any assets impacted by the event.
- (c) An assessment of its effect or likely effect on the quality or sufficiency of water supplied by the supplier;
- (d) An estimate of the population affected and whether particularly sensitive water users such as hospitals, schools, or food manufacturers are affected;
- (e) Any information available about the cause or likely cause of the event or matter;
- (f) Particulars of the action taken or proposed to be taken to inform and protect customers and to rectify the situation, and an estimate of when supplies are likely to be back to normal;
- (g) A list of any persons (other than customers of the supplier) notified of the event or matter, and a copy of any notice issued to customers and to the press about the event or matter
- (h) A list of all non-household retailers engaged with about the event; and
- (i) The number of customers of the supplier who complained about the quality of their water supply and —
  - (i) if there are 50 or fewer such complainants, a list of their names, addresses and telephone numbers; or
  - (ii) if there are more than 50 complainants, a list of the names, addresses and telephone numbers of at least the first 50 of them to

report the problem to the supplier;

- 9(4) Depending on the category of the event, within 20 working days of the date of the notification, or such longer period as the drinking water quality regulator allows, the supplier must submit all relevant information about the event or matter including:
- (a) Any information necessary to supplement the information given in accordance with paragraph 9(1);
  - (b) If samples were taken in connection with the event or matter—
    - (i) particulars of the time at which the samples were taken,
    - (ii) the places from which the samples were taken, and
    - (iii) the results of the analysis of the samples;
  - (c) A copy of any report or advice or information provided to the supplier by its medical, scientific or technical advisers, a local authority or the health protection agency;
  - (d) An assessment of the effectiveness of the action taken in respect of the event or matter, and of the adequacy of arrangements for liaison with the local authority, Public Health England or Public Health Wales, the Environment Agency in England or Natural Resources Wales in Wales, the emergency services and the public, as the case required;
  - (e) A statement of any lessons learned and of any proposals, if any, for further action that the water supplier considers necessary or desirable in the light of the event or matter;
  - (f) A map or plot showing the location of all complaints received and all samples taken in connection with the event; and
  - (g) Any other information about the event or matter that the supplier considers relevant.

## Annex 2 - Examples of Events to be Notified

**Water suppliers are reminded of the need to assess the risk to public health and effect on consumers when determining the response to any event, whether it is a parameter failure in a single sample or an issue that suggests a widespread problem with the public supply network. This assessment should inform the investigational sampling response, investigations into the likely cause and the need to provide advice to consumers.**

Any failure of a parameter in a single sample, or any drinking water quality concern reported to the supplier by a consumer, should be risk assessed to inform the supplier's response. This should, as a minimum, cover the following:

- recent consumer contacts about drinking water quality and complaints of illness
- ongoing or recent work or problems at the asset in question, or at an upstream asset, that could have caused or contributed to the failure. (The risk assessment should include weather events, for example recent heavy rainfall which may have caused ingress into a tank, or increased raw water challenge).
- where relevant, ongoing or recent work or problems in the network that could cause ingress or a change to water quality

Suppliers should exercise judgement when deciding to notify the Inspectorate. The following occurrences should be notified as events, along with any other occurrence that the supplier considers may be an event:

- a) Any event or sequence of events leading to a significant and unexpected or unusual deterioration in the quality of a raw water source, which is affecting , or may affect the microbiological and/or chemical quality of the associated treated water (e.g. affect longer term treatment performance);
- b) Any event or sequence of events leading to a significant and unexpected or unusual deterioration in the quality of the water entering supply (e.g. the detection of indicators of faecal contamination such as *E. coli* in the water supplied from a water treatment works);
- c) Any event or sequence of events leading to a significant and unexpected or unusual deterioration in the quality of the water at any point within the distribution system (e.g. the detection of indicators of faecal contamination such as *E. coli* in the water supplied from a service reservoir);

- d) Any event or sequence of events leading to a significant deterioration in the aesthetic quality of the water supplied and resulting in consumer concerns (e.g. unusual taste/odour; discolouration);
- e) Any event or sequence of events leading to a significant and unexpected breach of Part 3 (Wholesomeness) of the Water Supply (Water Quality) Regulations 2016 as amended (England); or the Water Supply (Water Quality) Regulations 2018 (Wales);
- f) Any potential risk to health, whether affecting a single property or more than one property (e.g. the detection of indicators of faecal contamination such as *E.coli* or Enterococci in the water supplied or the risk of such a presence), which results in the issuing of advice to boil water or not to drink water (except when issued as a precautionary measure prior to carrying out planned work);
- g) Any significant consumer concern, whether affecting a single property or more than one property (e.g. hydrocarbon/solvent migration or any other situation where there could be a potential risk to health), which results in the issuing of advice not to drink, or not to use the water (except when issued as a precautionary measure prior to carrying out planned work);
- h) Any potential risk to health or significant consumer concern (e.g. where precautionary advice has been issued) caused, or potentially caused, by a defect in the private domestic system of a building where tap water is made available to members of the public (a “public building”);
- i) Any malfunction of disinfection equipment or those upstream treatment stages necessary to prepare the water for disinfection, which has not resulted in automatic shutdown of the water treatment works on high or low residual chlorine alarms or, regardless of the length of time of the failure, has compromised the Ct value (or other measure of disinfection efficacy criteria) as defined by the supplier’s disinfection policy and operational procedures for that works;
- j) Any malfunction of the treatment process, which has not resulted in automatic shutdown of the treatment works and, regardless of the length of time of the failure, has compromised the efficacy of other parts of the treatment train creating uncertainty about the quality of treated water that has entered supply, as defined by the supplier’s treatment policy and operational procedures for that works;
- k) Any event associated with the presence or potential presence of *Cryptosporidium* or *Giardia* in raw water in concentrations that might

challenge the removal capability of the treatment works, or in treated water at concentrations indicating a potential risk to public health. If necessary advice should be sought from Public Health England / Public Health Wales and/or the National Cryptosporidium Reference Unit in Swansea;

- l) Any significant increase in the number of confirmed cases of cryptosporidiosis (or any other disease that may be transmitted through drinking water) in the community, reported to the supplier by the local or health authority (or by any other source) as potentially related to drinking water supplies;
- m) For further clarity, with respect to notification of events associated with the detection of *Cryptosporidium* oocysts, guidance on situations requiring notification as events was given in IL 02/2014 – *Cryptosporidium monitoring in water supplies*. The relevant section of this IL is reproduced here:

“Events indicative of a potential risk to health from the presence of *Cryptosporidium* might include, but are not limited to:

- An increase in the level of *Cryptosporidium* oocysts detected in a raw water that is indicative of an increased risk of breakthrough into the final treated water, or where there is evidence that breakthrough may have occurred.
- Any event potentially involving the compromise or failure of a treatment process designed to remove particulate material.
- Any event potentially involving the compromise or failure of a UV treatment process installed to inactivate *Cryptosporidium* oocysts.
- The failure of an automated shutdown process triggered by turbidity, where the treatment works failed to shut down.
- Any event that is indicative of the potential failure or compromise of a treatment process, for example elevated turbidity in treated water.
- The detection in treated water of a concentration of oocysts that is inconsistent with information and data used to inform the risk assessment for the treatment works or supply system.
- Confirmation of the presence in treated water of any oocysts of a type known to be pathogenic to humans, e.g. *C.hominis*<sup>5</sup>.

---

<sup>5</sup> The Inspectorate recognises that the current method for genotyping oocysts where there are fewer than 5 oocysts on the slide has limitations, and automatic submission of all positive slides to the National Cryptosporidium Reference Unit for typing is not a formal DWI requirement. All positive slides should be retained so that if an initial detection develops into a public health emergency (e.g. boil advice has been issued), slides can then, if necessary, be sent for typing in order to provide additional information to help direct a supplier's investigation and response to the detection and any necessary health protection measures (as agreed in discussion with PHE/PHW). It should be noted that the absence of confirmed human pathogen species does not confirm absence of a risk to public health.

- Any event causing actual or potential ingress of contaminated surface water, or animal life, into a collecting chamber, final water tank, service reservoir or other tank or structure used for containment or storage of drinking water.
- Any report of an increase in the number of cases of cryptosporidiosis in the community that has been notified to the company by a health agency.
- An increased level of consumer complaints of gastric illness in any part of a company's supply system.

The above list is not exhaustive. Companies should exercise judgement.”

- n) Any notification made to the local and health authority under the provision of regulation 35;
- o) Any burst main or other distribution event causing significant deterioration in water quality to a significant proportion of the population supplied;
- p) Any significant loss of supplies and/or potential depressurisation of part of the distribution system (e.g. burst mains; unexpected emptying of a service reservoir; or depressurisation associated with the operation of booster pumps);
- q) Any suspected or actual occurrence of contamination caused by backflow/back-siphonage into the public supply network;
- r) Any significant publicity or media interest relating to drinking water quality issues, either locally or nationally, which could give rise to consumer concerns;
- s) Any significant contact relating to drinking water quality made by a local consumer representative (e.g. local councillor, Member of Parliament, NGO or resident's association), which may result in media interest and thus consumer concern.

## **Annex 3 - Information that should be included in the Interim (3-day) report**

### **To be submitted within 3 working days of the Notification**

All the information provided in the initial notification, plus:

- Updates of information not immediately available at the time of notification. This should include any changes to the area affected. The interim report must include the site reference codes and names of all water treatment works, service reservoirs and water supply zones affected, including the estimated population or number of properties affected. If the supplier proposes that the event affected a population less than the relevant DMA or WSZ size, it should submit detailed supporting evidence as to how they calculated this figure e.g. a GIS plot of the streets downstream of a valve, the operation of which caused discolouration with property numbers clearly labelled.
- Duration of the event and when supplies were returned to normal.
  - For events relating to sample failures this refers to the time a failed sample was first reported to the water quality team in the supplier's company, to the time the clear sample(s) which signalled the closure of the event by the company were reported.
  - For events relating to acceptability of the water (taste and/or odour, discolouration, aeration) this is the time of the first contact received by the supplier to the time of the last.
  - For events related to issue of warning this relates to the time the first warning was issued to the time the last notice was lifted.
- Chronology of events with date and time relevant information was received or actions taken.
- Details of the actions taken to protect consumers.
- Provision of alternative supplies, together with details of compliance of that supply with the Regulations, i.e. evidence that the quality of bottled water provided is wholesome, and that water provided in tankers and bowsers is wholesome.
- Details of actions taken to restore normal, wholesome supplies
- Details of investigations that have taken place or are taking place into the cause of the event, including whether it was as a result of planned work. If so provide details of method statements, risk assessments, consumer advice, etc. relating to the work.
- Details of any media interest, with copies of any press releases issued.
- If consumers have contacted the supplier about the quality or sufficiency of their supplies during the event, the names and addresses of the first 50

contacts with the date and time of the contact and details of its nature in a **password-protected Excel spreadsheet file**<sup>6</sup>.

- Sometimes an event continues over several days. If consumer contacts about the quality or sufficiency of the water continue to be received by the supplier for longer than 24 hours from the start of the event, the names, addresses and nature of the first 50 contacts received on each and every subsequent day should also be provided, in a password protected Excel file as specified above. This information can be provided in the Final (20-day) Report if the event continues for longer than the period covered by the interim report.
- Details of any recorded messaging used to inform consumers of the event, plus any subsequent updates, together with the number of 'hits'.
- Details of all samples taken in connection with the event, including all on-site tests, with their location, time of sampling, and results, if available.
- Details of any event related sampling and analysis arrangements by any other agency, such as a local authority, Public Health England or Public Health Wales, if known at this stage
- Contact names, email addresses and telephone numbers for the LA and public health contacts. Where not available the name and postal address should be provided.
- Any other information requested by the Inspectorate in response to the Notification

---

<sup>6</sup> Care should be taken with consumers' personal data, as required by the General Data Protection Regulation which came into force in 2018. Consumer contact details should be provided to the Inspectorate in a password-protected Excel spreadsheet file, in accordance with DWI's instructions to companies issued by email 25 May 2018. The responsibility for informing consumers that their personal information may be sent and used by the Inspectorate in relation to its statutory duty to investigate compliance, complaints and events lies with companies.

## Annex 4 - Information that should be included in the Final (20-day) report

### **To be submitted within 20 working days of the Notification (as applicable to the Event).**

All the information specified in Annex 3 plus:

- A chronological log of events from the point when the supplier was first aware of the problem developing to the point when the supplier considered the event to be closed.
- Details of any further samples taken in connection with the event, including on site tests, with their location and time of sampling, and results. Plus an update of any outstanding results from the interim report.
- Details of any samples taken by a third party (e.g. local authority, Public Health England or Public Health Wales)
- If the event relates to a problem in the distribution system:
  - A plot / map of all complaints received in connection with the event and incorporating the locations of all samples taken in connection with the event (see Note 1).
  - Schematic diagrams of all assets (e.g. water treatment works, pumping stations, service reservoirs, key valves in distribution) involved during the event, demonstrating the inter-relationship between sites and the normal flow directions;
  - The same diagrams showing the flow directions that may have occurred during the event;
  - Copies of risk assessments, method statements, and planning records associated with the event;
  - Copies of instructions to contractors and details of the level of supervision carried out. In the case of partnership agreements, an outline of what is in the agreement in terms of maintaining water quality and safeguarding public health; copies of instructions issued by the supplier's partner to their contractor and details of the level of supervision carried out by the supplier's partner.
- If the event relates to a water treatment works or service reservoir:
  - A plot/ map of all complaints received in connection with the event and incorporating the locations of all samples taken in connection with the event (see Note 1).
  - A list of the service reservoirs and zones fed by the WTW at the time of the event;
  - Locations of the first 50 consumer contacts received and the locations of all samples taken in connection with the event<sup>10</sup>.
  - an up to date process and instrumentation diagram;
  - relevant sections of asset operating procedures;
  - copies of all relevant SCADA/telemetry records for 48 hours prior to the event and during the event, including alarms;
  - a copy of the relevant pages of the Control Room Log;
  - copies of the relevant calibration and maintenance logs;

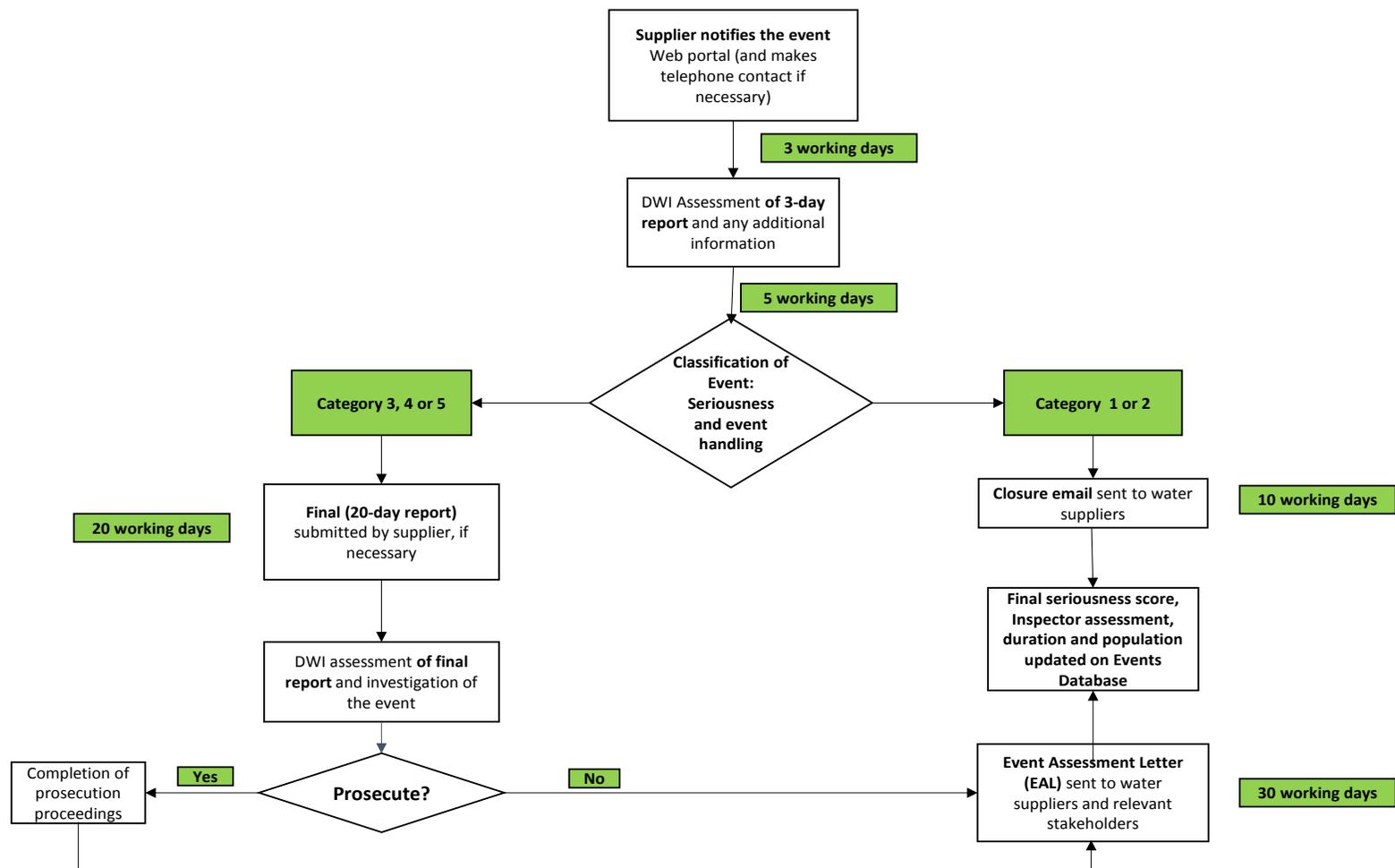
- copies of the operators' training records;
- any other associated relevant paperwork, including details of any similar previous occurrences during the six months prior to the event.
- Details of communications with other organisations, including copies of any meeting notes and emails outlining actions/decisions by the parties involved.
- Details of any outbreak control meetings attended by the company, including minutes of meetings and other information provided by the company e.g. sampling arrangements.
- Copies of any additional advice provided to consumers, either by way of scripts or in writing.
- Copies of any media reports associated with the event.
- Details of any lessons learnt from the event and actions taken or being taken to prevent a recurrence of the event. These should include any improvements in arrangements with local and health authorities, PHE/PHW etc.
- Any other information relating to the event that the company considers relevant e.g. copies of any letters about the event sent by the company to its consumers or to other stakeholders; copies of any photographs taken to highlight important aspects of the event.
- Any other information requested by the Inspectorate in response to the Interim report

If the supplier has any doubts about the level of detail required, it should discuss the matter with its liaison contact Inspector

Note 1:

- To aid understanding of the event it is extremely helpful if a map can be added to the report clearly illustrating the area affected. This can be added as a picture in jpg format as an appendix. The map should show the distribution of consumer contacts and locations of samples taken in association with the event where this information is available, as this is also very helpful to the assessment process.
- Where the event involved a works and/or service reservoir the report must be clear about whether the event affected (or may have affected) the quality of water supplied to consumers. Where water did or may have been supplied, other downstream assets and zones supplied at the time of the event must be clearly stated in the report.

## Annex 5 – Event notification and Inspectorate’s assessment process



## Version History

<b>Date</b>	<b>Version no.</b>	<b>Sections changed</b>	<b>Reason</b>
September 2018	1.0	Replaces previous version published in 2009	References to revised regulations and Information Direction; new notifications process and section inserted on the Event Risk Index