



Housing Health and Safety Rating System (HHSRS)

Case Studies

Group C
Protection Against
Infection

Hazard C17
Water Supply

Example C17.1
1946-79
Detached House
(Non-HMO)

Vulnerable Group
Persons of all ages

Multiple Locations
Yes

Related Hazards
No

Dwelling

Description

This is a three-bedroomed detached house in a rural location, built in 1973. It is used as a second (family holiday) home. It is not let out commercially. The house is situated in remote woodland in a mountainous area with diverse wildlife. It has mains electricity but no mains water, instead having its own private supply and septic/treatment tank for foul waste (the latter being well downstream of the water inlet pipe).



1

Front exterior

Photo credit: James Hime
/ Shutterstock.com

Deficiencies

Description

All water to the house comes from a mountain stream running through the grounds, which has been dammed to produce a small, shallow reservoir. From an inlet pipe near the dam, the water first runs a short distance to a sunken settlement tank with three chambers, adjacent to the stream. After passing through these chambers, the water is piped underground to a small pump room adjacent to the house. Here it is pumped through a filter and then through an ultraviolet disinfection unit before going up to a storage tank in the roof of the house, which is not temperature controlled. During spells of sunny weather, the loft temperature can remain over 30°C. This enclosed and insulated tank supplies the kitchen tap, wash-hand basins, the WC and the hot water cylinder that is heated by an electric immersion heater.

Rodents have chewed through a cable in the pump room, disabling the ultraviolet filter. The water pump is working and is supplying untreated water to the house.



2
Reservoir on stream



3
Ultra violet filter



4
Settlement tanks near
stream



5
Tank interior

Relevant Baseline Indicators

0

Satisfactory
or N/A

1

Not
Satisfactory

2

Defective

3

Seriously
Defective

Subject	Score	BI	Baseline Indicator
3	0 1 2 3	3.1	An approved potable water supply system shall provide an adequate amount of running water under pressure to all fixtures simultaneously. Supplies in individual bedsits/dwellings/flats must have their own controllable supply of water or the ability to store water.
		3.2	An adequate supply of heated running water shall be provided to sinks, wash-hand basins, baths and showers. Hot water storage tanks shall be set at a minimum temperature of 60°C. At bath taps and shower heads, the maximum temperature shall be 45°C to prevent accidental scalding.
18	0 1 2 3	18.1	The property and all structures and areas within the curtilage of the property shall be free of pest infestation with no features present that will attract and support pests. Inspection shall take place to ensure a pest free environment.

Relevant Matters

0

Satisfactory
or N/A

1

Not
Satisfactory

2

Defective

3

Seriously
Defective

ScoreMatters affecting Likelihood
of Harm

0	1	2	3	Water temperature control
0	1	2	3	Pipework
0	1	2	3	Tanks
0	1	2	3	Water treatment
0	1	2	3	Water softening system

ScoreMatters affecting
Harm Outcomes

0	1	2	3	Water temperature control
0	1	2	3	Pipework
0	1	2	3	Tanks
0	1	2	3	Water treatment
0	1	2	3	Water softening system

Likelihood of Harm

Scale Points Likelihood of harm from this hazard over the next twelve months	
Very Likely	1 in 1
	1 in 2
	Example Dwelling 1 in 3
	1 in 5
Likely	1 in 10
	1 in 20
	1 in 30
	1 in 50
Unlikely	1 in 100
	1 in 200
	1 in 300
	1 in 500
Very Unlikely	1 in 1,000
	1 in 2,000
	1 in 3,000
	National Average 1 in 5,000
Score 1 in 3	

Justification of Scoring

The defective UV water treatment system will result in untreated water being supplied to the property. The likelihood of pathogenic organisms being present in the water used by the occupants will be greatly increased. There is also the risk of Legionella build-up in the shower head and other parts of the system during periods when water is not being used frequently. Therefore, over a period of 12 months it is very likely that harm will occur to occupiers.

Harm Outcomes

Extreme		Severe		Serious		Moderate	
Death, permanent paralysis, etc.		Heart attack, serious fractures, etc.		Chronic stress, severe concussion, etc.		Broken fingers, moderate cuts, etc.	
Very Likely	50.0	Very Likely	50.0	Very Likely	50.0	Example Dwelling	89.0
	30.0		30.0		30.0		National Average
	20.0		20.0		20.0		
Likely	10.0	Likely	10.0	Example Dwelling + National Average	10.0	These scores are simply calculated as the sum of the other three harm outcomes subtracted from 100%	
	5.0		5.0		5.0		
	2.0		2.0		2.0		
Unlikely	1.0	Example Dwelling + National Average	1.0	Unlikely	1.0		
	0.5		0.5		0.5		
	0.2		0.2		0.2		
Very Unlikely	0.1	Very Unlikely	0.1	Very Unlikely	0.1		
	0.0		0.0		0.0		
Example Dwelling + National Average							
Score		Score		Score		Score	
0.0%		1.0%		10.0%		89.0%	

Justification of Scoring

The harm outcomes are likely to remain the same as the national averages.

Safety Ratings

Scenario 1
As described in
this document

Key

Category	Band	Score
1 Legal duty to take action	High	10,000
2 Discretion to take action	Medium	1,000
	Low	100

Likelihood of Harm
1 in 3

Extreme 0.0% Severe 1.0% Serious 10.0% Moderate 89.0%

Category	Band	Score
1 Legal duty to take action	High	10,000
Example Dwelling		1,630
2 Discretion to take action	Medium	1,000
	Low	100
National Average		1

Score
1,630

Scenario 2

After works meeting baseline indicators

Likelihood of Harm
1 in 5,000

Extreme 0.0%	Severe 1.0%	Serious 10.0%	Moderate 89.0%
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Category	Band	Score
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1 Legal duty to take action	High	10,000
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2 Discretion to take action	Medium	1,000
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	Low	100
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Score 1	Example Dwelling + National Average
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Justification of Scoring

After works meeting baseline indicators

The baseline indicators require the provision of an approved potable water supply system that shall provide an adequate amount of running water under pressure to all fixtures simultaneously. In the case of a private water supply, this would require an effective treatment system to ensure compliance with water-quality standards. This would require repair or replacement of the UV treatment and other measures to maintain water safety. The baseline indicators also require the eradication and prevention of pest infestations; compliance will also ensure that rodent access to the pump room is prevented.

Scenario 3

After further improvements

Likelihood of Harm

Extreme	Severe	Serious	Moderate
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Category	Band	Score
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1 Legal duty to take action	High	10,000
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2 Discretion to take action	Medium	1,000
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	Low	100
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Score

Justification of Scoring

No further works would be necessary.

Other Relevant Legislation and Guidance

Water supply regulations

The majority of private water supplies in England and Wales supply are to single dwellings only, where the water is used exclusively for domestic purposes (e.g. where the water is used for cooking, drinking, food preparation, bathing, showering and laundry) and not for any commercial activity (such as bed and breakfast or tea shop/cafe). The regulations in England and Wales do not require monitoring or risk assessments to be undertaken at these supplies unless the local authority is requested to do so by the owner or occupier of the dwelling. They may, however, choose to monitor, for example, if they are concerned that the supply presents a potential danger to human health.

If the monitoring does identify a potential danger to human health, the local authority must serve a Regulation 18 (Regulation 20 in Wales) notice to protect public health. A local authority must serve a Section 80 notice if the water continues to be unwholesome in the event that remedial work is not completed, or not completed adequately, within 28 days of the local authority becoming aware of the sample failure.

There are more stringent requirements where water at a dwelling is being used as part of a commercial or public activity including, in some cases, where the dwelling is being rented by tenants (including short-term lets such as holiday cottages or bed-and-breakfast accommodation). In these scenarios there can be requirements relating to the frequency of local authority risk assessments and monitoring.

Updates

Matters for consideration listed in this section were correct at the time of publication. For the most up-to-date legislation and guidance in these areas, please visit the gov.uk website.