

HAZARD/THREAT CATEGORY		SUB-CATEGORIES	
Industrial technical failure		Accidental failure at water treatment works	
Hazard and threat description including scale:		RISK REFERENCE NO:	
Between 5 -12,000 customers (10-50,000 people) could be without piped water supply for up to three days		H39	
DATE OF REVISION		NEXT REVIEW DATE	
November 2007		November 2008	
Version	2		
Author	Utility through TVP		

### 1. Overview of hazard or threat

Under the Water Industry Act 1991 all water undertakers have a duty to develop and maintain an efficient and economical system to provide wholesome drinking water.

Water is essential for public health and well being, is critical for fire fighting purposes and supports many industrial and commercial processes.

It is worth noting that the failure of a water treatment works may not result in an instant loss of supply to the public, only a loss from the treatment works outlet. There are a number of options downstream of treatment works which can act as a buffer zone while the treatment process is rectified and it is usually possible to rezone the network distribution area or tanker potable water into service reservoirs to maintain supplies to customers.

### 2. Key historical evidence

The UK water industry has a long established history of investment in improving, maintaining and managing their assets effectively and efficiently. As a result the loss of supplies for up to three days is an exceptionally rare event and the majority of incidents that occur are on a much smaller scale.

The Drinking Water Inspectorate (DWI) regulates public water supplies in England and Wales. They are responsible for assessing the quality of drinking water and taking enforcement action if standards are not being met. All information relating to DWI reports are published on their website [www.dwi.gov.uk](http://www.dwi.gov.uk)

The economic regulator for the water and sewerage industry in England and Wales is OFWAT who monitor and report unplanned interruptions to water supply. All information relating to OFWAT reports are published on their website [www.ofwat.gov.uk](http://www.ofwat.gov.uk)

#### Summary:

Companies report to OFWAT the number of properties where an unplanned interruption of supply of water of 3, 6, 12 or 24 hours has occurred. They are not required to report separate data as to the cause of the interruption (the vast majority of which are in respect of burst or damaged water mains) or for how long after 24 hours the interruption continued. The work required to provide accurate historical evidence would be disproportionate to the outcome and therefore at this time has not been requested from the individual water companies servicing the Thames Valley Local Resilience Forum area

### 3. Likelihood

HAZARD	Outcome Description	Likelihood
Unplanned loss of supply for up to 3 days	No piped water to customers	Possible (4)

#### 4. Impact

##### Summary

HAZARD	Outcome Description	Impact				
		Health	Social	Environ	Financial	Overall
Unplanned loss of supply for up to 3 days	No piped water to customers	2	3	2	3	3

The hazards below are ones the civil community may wish to consider:

##### Details

<b>IMPACTS ASSOCIATED WITH ROTA DISCONNECTIONS</b>
<b>PRIMARY:</b>
<ul style="list-style-type: none"> <li>• Domestic, industrial, commercial and agricultural premises without piped water</li> <li>• Disruption or suspension of services at hospitals, surgeries, schools, etc which do not maintain their own on-site water storage</li> <li>• Impact on vulnerable customers such as dialysis patients</li> <li>• Lack of water for fire fighting, fire tenders will not have mains backup inside the affected area</li> <li>• Public health concerns, especially for vulnerable groups (personal hygiene, food preparation, hand washing etc.)</li> <li>• Potential impact on the sewerage systems with low flows, smells and septic sewage</li> </ul>
<b>SECONDARY:</b>
<ul style="list-style-type: none"> <li>• Panic buying of water from supermarkets</li> <li>• Public and commercial need for information and advice</li> <li>• Reduced output or closure of manufacturing and production sites, food preparation/food outlets and public houses who do not maintain their own on-site storage</li> <li>• Disruption or closure of places of employment and leisure facilities who do not maintain their own on-site storage</li> <li>• Public order issues at alternative supplies distribution points and personal safety issues for those deploying the supplies</li> <li>• Increased media interest</li> <li>• Commercial implications and potential brand damage to water company</li> <li>• Reduced discharge from sewage works would effect watercourses where a large proportion of the flow is from the works. This would be greater during periods of low flow such as drought or summer.</li> </ul>

#### 5. Vulnerability and resilience

All water companies have highly integrated region wide networks of trunk mains, storage reservoirs and distribution mains and can rezone supplies from one source to another as appropriate.

Plans exist for emergency repairs of trunk mains and distribution mains and agreements are in place with specialist equipment manufactures and suppliers.

All water treatment works have contingency plans for plant failure and loss of electricity supplies etc.

All water companies have plans for the provision of alternative supplies of water via tankers, bowsers, static tanks, and bottled water deliveries. To enhance resilience and contingency options across the UK companies are part of a national mutual aid scheme to share equipment. During severe incidents up to 50% of an individual company stocks may be supplied to assist, this may include tankers, static tanks or bowsers and other specialist equipment.

Contingency plans exist for key hospitals and prisons in local areas.

Vulnerable customers have been identified for alternative supplies.

## 5. Overall assessment

CATEGORY	SUB-CATEGORY		
Industrial technical failure	Accidental failure at water treatment works		
SCALE	IMPACT	LIKELIHOOD	RISK
Between 5 -12,000 customers (10-50,000 people) could be without piped water supply for up to three days	Moderate (3)	Possible (4)	<b>High</b>
<p><b>CONTROLS IN PLACE:</b></p> <ul style="list-style-type: none"> <li>• Within the Water Industry Act 1991, The Security and Emergency Measures Direction 1998 requires water companies to ensure plans are in place to maintain essential water supplies at all times, including a civil emergency and any event threatening national security. Under this legislation companies must plan to distribute water by alternative means, and in the event of a failure of the piped supply aim to provide at least 10 litres per head per day to all those affected until the supply is restored.</li> <li>• Individual Responders Business Continuity Plans</li> <li>• Royal Berkshire Hospital NHS Trust Major Incident Plan and Business Continuity Plans</li> <li>• Heatherwood and Wexham Park Hospitals NHS Trust Major Incident Plan</li> <li>• Berkshire Primary Care Organisations Major Incident Plan and Operational Response Manuals and Business Continuity Plans</li> <li>• Berkshire Healthcare Trust Major Incident Plan and Business Continuity Plans</li> <li>• Buckinghamshire Hospitals NHS Trust Major Incident Plan and Business Continuity Plans</li> <li>• Milton Keynes Hospital NHS Trust Major Incident Plan and Business Continuity Plans</li> <li>• Buckinghamshire Mental Health Trust Major Incident Plan and Business Continuity Plans</li> <li>• Buckinghamshire Primary Care Organisations Major Incident Plan and Business Continuity Plans</li> <li>• Oxford Radcliffe Hospitals NHS Trust Major Incident Plan and Business Continuity Plans</li> <li>• Oxford Mental Health Trust Major Incident Plan and Business Continuity Plans</li> <li>• Nuffield Orthopaedic Clinic Major Incident Plan and Business Continuity Plans</li> <li>• Oxfordshire Primary Care Organisations Major Incident Plan and Business Continuity Plans</li> <li>• South Central Strategic Health Authority Major Incident Plan and Business Continuity Plans</li> <li>• Berkshire Integrated Emergency Planning Structure</li> <li>• Buckinghamshire County Council Emergency Plan.</li> <li>• Aylesbury Vale District Council Emergency Plan.</li> <li>• Chiltern District Council Emergency Plan.</li> </ul>			

- South Bucks District Council Emergency Plan.
- Wycombe District Council Emergency Plan.
- Environment Agency Incident Management Plans
- Environment Agency 24/7 incident response
- Environment Agency Memorandum of Understanding with Fire Brigades, Police, Local Authorities, Highways Agency, Health Protection Agency and Health Authority.
- South Central Ambulance Service NHS Trusts Major Incident Plan and Business Continuity Plans
- Milton Keynes Council Major Incident Guide
- Thames Valley Police Emergency Procedures Manual
- ACPO Emergency Procedures Manual
- ACPO Motorway Manual of Guidance
- Oxfordshire County Council Emergency Plan and Business Continuity Plans
- Royal Berkshire Fire & Rescue Service Major Incident Policy
- Oxfordshire Fire & Rescue Service Major Incident Policy
- Buckinghamshire Fire & Rescue Service Major Incident Policy

**Additional Risk Treatment Required:**

- Consultation with local authorities and health protection agency regarding sensitivity of vulnerable people and premises.
- Liaison with local authorities for the distribution of alternative supplies.
- Liaison with police over potential public order issues and safety of water company staff when deploying alternative supplies.
- Liaison with fire service regarding fire fighting capability.
- Continued Development of BCM.