

Developing Action Plans

Laura Moss

Principal Inspector

Drinking Water Inspectorate

Risk assessment process

A three stage process:

- Stage 1 – desktop assessment
 - Review explanatory notes for RA tool, and guidance notes
 - Identify and rule out sections on the risk assessment, which are not applicable
 - Obtain water quality report from local water company where company mains supply the PWS.
 - Obtain copies of any relevant procedures and documentation for the supply.
 - Obtain site plan of the supply and identify any potential hazards for checking on-site

Guidance sheet

Risk No.	Revision	Hazard Description	Guidance
A1		Is there a site plan showing location of source, chambers, tanks, distribution network including valves, pipes, consumer premises etc.?	It is essential to understand the layout of the water supply system in order to understand the flow of water from source to tap, and how it is managed and monitored, e.g. by valves, meters and other management devices. If no schematic is present, risk assessment of the site is difficult if not impossible to achieve. If not present the likelihood should be scored as 5, the person in control should be requested to make arrangements to draw up plans showing any valves, meters, hydrants etc as part of the action plan.
A2		Are there any procedures and/or written records for the supply (i.e. for checks, monitoring or maintenance, etc.)?	An absence of written procedures relies on specific individuals, who may not always be available to operate the supply system. Procedures provide a reference for operators and ensure a consistent approach. Records of maintenance and monitoring checks provide a management audit trail, which demonstrate how well a supply is being managed and its performing. If these are absent the person in control should be required to implement them.
A3		Is there any manufacturers instruction for the equipment on the supply?	The presence of manufacturers' instructions for key equipment (e.g. pumps, treatment processes, dosing systems, monitors) provides an essential reference for operators and provides a record of equipment requirements as designed. Where any instructions are absent, they should be sought as part of the action plan.
A4		Is there an emergency plan for the provision of an alternative water supply?	Loss of supplies can occur for a variety of reasons, which are often unforeseen. Contingency measures to provide alternative supplies should be documented as written procedures to ensure that the relevant people can reference what to do under these circumstances. DWI have provided guidance on the provision of alternative supplies, which can be obtained from their website. Persons in control should demonstrate that procedures are in place.
A5		Has the owner or operators had appropriate training for the supply?	Operators should be competent in the operation of the supply system they are managing, and have an understanding of the need to apply sound hygienic practise. A lack of competency and/or hygiene awareness presents a risk of contamination of the supply. The risk assessor must determine what and when training has been undertaken, and whether it is appropriate. This can be achieved through dialogue and evidence through certification or other written records. A judgement as to whether deficiencies present a risk must be made and relevant advice provided.

Very High Risks			
Risk No.	Action Plan	Hazard Description	Yes
D5		Are records available which demonstrate conformity to BS 8551?	
F4		Is there a suitable written procedure for mains repair and maintenance?	
F13		Are lead pipes present in the supply?	
F15		Do all junctions in the supply network, particularly animal watering systems and standpipes, have backflow protection?	

B	C	D		
High Risks				
Risk No.	Action Plan	Hazard Description		Yes
D2		Does the temporary water storage facility comply with BS 8551?		
F2		Is there evidence of disinfection by-products in the network (e.g. taste problems due to THM's)?		
F6		Could occur if there is ponding of surface water or poor drainage, during low pressure or changes in pressure, e.g. B...		

To be confirmed (tbc)

	B	C	D	
1	To Be Confirmed			
2	Risk No.	Action Plan	Hazard Description	Yes/No/
3	A3		Is there any manufacturers instruction for the equipment on the supply?	tbc
4				
5				
6				
7				
8				

Completing the risk assessment

- Select out any sections which are NOT relevant to the supply.
- Answer each question: Yes-No-TBC-N/A
- Where a hazard is identified, complete the likelihood rating
- Where high or very high risk scores result, develop an action plan
- Action plans
 - Take into account existing mitigation.
 - Develop remedial actions for unmitigated risks

Action Plans

- Action plans are in 3 parts
- Like-hazards can be grouped together into action plans
 - e.g. Poor structure condition of a borehole head works and spring storage tank cover.
 - Both have similar control measures i.e. Repair the cover and bore hole head works
- To minimise the need for typing text...
 - The hazards questions are pre-populated, when the code is entered.
 - Mitigation/control measures can be selected from a drop down menu

RISK ASSESSMENT - Action Plan		Revision:	Date:
Initial Risk Rating			
Risk No:	Hazard Description	Yes/No	Score
v10	Is there potential contamination of plastic pipes through designated contaminated land, oil from generators/household fuel tanks/fuel stores or solvent spillage?	Yes	VH
v5	Is there a suitable written procedure for mains repair and maintenance?	No	VH
v16	Are lead pipes present in the supply?	Yes	VH
Scope of hazard	<i>A brief explanation of the hazard</i>		
Estimated Likelihood & Severity	Likelihood: 5	Severity: 5	Preliminary Risk Rating
	<i>Rating: with brief explanation of reason for the decision</i>		Likelihood Category
			Severity Category
		Risk Rating	VH
			25

Current Mitigation				
Mitigation Measures	Briefly describe the mitigation measures in place (editable suggestions in drop down list)		Validated	
1	All tanks are double skinned, banded and delivery drivers are accompanied to ensure spillage or damage is prevented			
2				
3				
4				
5				
6				
Verification of Mitigation <i>Include brief comment on the verification method for each mitigation measure</i>	1 2 3 4 5 6	Management control of oil and fuel deliveries		
Mitigated Risk Rating (Refer to Risk Assessment Matrix)	Risk assessment with existing controls in place		<table border="1"> <tr> <td>VH</td> </tr> </table>	VH
VH				
			Calculation of Risk Rating	
			Likelihood Category	
			Severity category	
			Risk Rating	

Actions Required						
Control measures				Target completion date	Actual completion date	Action by
1	Replace pipes, ensuring they are Regulation 5 approved material.					
2	Develop procedures for mains repairs and communicate it to any site operatives.					
3						
4						
5						
6						
7						
8						
Verification of Control <i>Include brief comment on the verification method for each control measure</i>	1	Assess records for example photographs, documentation, schematics, maintenance log, service record and certificates				
	2	Obtain a relevant copy of the new procedures				
	3					
	4					
	5					
	6					
Final Risk Rating (Refer to Risk Assessment Matrix)	Risk assessment when future planned controls are in place			Medium	Calculation of Risk Rating	
					Likelihood Category	2
					Severity category	5
					Risk Rating	10

Example – high iron and manganese at source

RISK ASSESSMENT - Action Plan		Revision:	Date:
Initial Risk Rating			
Risk No:	Hazard Description	Yes/No	Score
o1	Is the treatment plant operating within its design capacity?	No	VH
o2	Is there adequate pre-treatment (e.g. filtration) in place if required?	No	VH
o3	Is the media depth at a minimum to design specification?	No	VH
o4	Is the ion exchange media composition as per design specification?	No	VH
o5	Is there a suitable maintenance schedule?	No	VH
o6	Is the regeneration regime as per design specification?	No	VH

Current Mitigation		Risk Rating	VH	20
Mitigation Measures	<i>Briefly describe the mitigation measures in place (editable suggestions in drop down list).</i>			Validated
1	Existing iron and maganese removal treatment systems in place.			yes
2				
3				
4				
5				
6				
Verification of Mitigation	1	Visited site		
<i>Include brief comment on the verification method for each mitigation measure</i>	2			
	3			
	4			
	5			
	6			
Mitigated Risk Rating (Refer to Risk Assessment Matrix)	Risk assessment with existing controls in place		VH	Calculation of Risk Rating
				Likelihood Category
				Severity category
				Risk Rating
				4
				5
				20
Actions Required				

ACTIONS REQUIRED

Control measures		Target completion date	Actual completion date	Action by
<i>If no control measures are in place, outline the planned control measures with dates</i>				
1	Contact the installer or an installer of the iron and manganese removal treatment systems to ensure the system is operating within its design capacity, with the appropriate media type and depth being used for the raw water quality of the supply, to achieve the regulatory standards.	01/09/2014		
2	Ensure the media is regenerated Contact the installer or an installer of the iron and manganese removal treatment systems to ensure the system is operating within its design capacity, with the appropriate media type and depth being used for the raw water quality of the supply, to achieve the regulatory standards.	01/09/2014		
3	Where the existing treatment system is unknown, contact the installer or an installer of treatment systems to identify what treatment media is required for the raw water (and the appropriate media type and depth), to achieve the regulatory standards.	01/09/2014		
4				
5				
6				
7				
8				
Verification of Control <i>Include brief comment on the verification method for each control measure</i>	1 Assess records for example photographs, documentation, schematics, maintenance log, service record and certificates 2 Visit site to ensure that the improvements made comply with regulations and mitigate the associated hazard to a suitable level of 3 Collect samples and assess sample results 4 5 6			
Final Risk Rating (Refer to Risk Assessment Matrix)	Risk assessment when future planned controls are in place	Medium	Calculation of Risk Rating Likelihood Category 2 Severity category 5 Risk Rating 10	
PA Completed	Name			

Verification measures

- These are checks to confirm that the control measures/mitigation is in place.
- e.g. Site visit, following agreed specification, validation certificates, invoices, etc;
- The verification should also include;
 - **ongoing management and operation of the supply is in place;**
 - **e.g. record keeping**
i.e. simple physical checks, on site field tests or on line monitors, trigger levels

Before and after remedial works



July 2014

Developing action plans

- 10 template action plans are provided in the RA tool (e.g. cat phys/dist struct)
- Tailored drop down lists of common mitigation measures and verification
- Blank action plan has no drop down lists – use any mitigation measures from other lists, or develop specific ones

Developing action plans

- Local Authorities can use, edit, or develop their own mitigation measures
- Examples provided are simply common examples of measures already being used
- Current or required mitigation must achieve a maximum risk rating of medium
- Action plans provide a way of showing how hazards are mitigated in a supply