

## PH2D: Establish drinking water quality failure event management procedures and protocols

REGULATORY FUNCTION: PUBLIC HEALTH		PH2D
<b>OBJECTIVE PH2</b> Regulatory compliance with water and sanitation safety plans is monitored through collected information on water quality	<b>ACTION CARD PH2D</b>  <h1>ESTABLISH DRINKING WATER QUALITY FAILURE EVENT MANAGEMENT PROCEDURES AND PROTOCOLS</h1>	
<b>COST:</b> Low <b>FREQUENCY:</b> One time <b>TARGET GROUPS:</b> Regulators, service operators, consumer associations, ministries of health		
<b>DESCRIPTION</b> Regulators respond and activate event management protocols and procedures when alerted to a drinking water quality compliance failure by a service operator or by consumers. In accordance, regulators develop these protocols and procedures and specify conditions and circumstances which may trigger their activation. In general, protocols outline different types of failure, steps to be taken for each of them, and the roles of different institutions involved in the procedures. Although such procedures are often conducted by regulators, overall responsibility of addressing failures that cause public health concerns remains exclusively under national health institutions, in most cases ministries of health. In consequence, regulators perform this action in close coordination with public health sector actors.		
<b>EXPECTED OUTCOMES</b> <ul style="list-style-type: none"> <li>• Dangerous impacts on public health are prevented.</li> <li>• Analyses and results of monitoring are compared.</li> <li>• Service operators are corrected when regulatory requirements are not met.</li> </ul>		
<b>EXAMPLE 1: SINGAPORE</b> In <b>Singapore</b> , the Food Agency developed the Code of Practice on Drinking Water Sampling and Safety Plans in 2019. This states that water providers prepare management procedures (including corrective actions) to be taken in response to variations that occur during normal operational conditions, and during specific 'incident' situations where a loss of control of the supply system may occur. This includes unforeseen and emergency situations such as when it is necessary to issue advice (e.g. 'boil water', 'do not drink', 'do not use water'), or when a non-compliance with water quality standards occur. Where any water quality incident occurs that is likely to pose a potential danger to human health, providers shall, as soon as practicable, make reasonable efforts to inform the public or persons to whom water was sold or supplied, about the health risk and measures that should be taken to address the risk as a part of remedial action. Where necessary, providers may issue a statement or a notice to be delivered through an appropriate mode (e.g. by hand, email, or briefings), and publish it on the providers' websites, or advertise them on bulletin boards near to where water was provided, or advertise through appropriate media (radio, television, newspapers, social media).		
<b>EXAMPLE 2: IRELAND</b> In <b>Ireland</b> , when Irish Water find a microbiological or chemical failure during water quality monitoring, , they must notify the Environmental Protection Agency (EPA) and investigate why the failure occurred. The EPA oversees investigations to ensure that a satisfactory solution is found, and Irish Water keep the EPA informed throughout the process. Early in each investigation, Irish Water consult with the national health services to check if the failure might impact on people's health, and may advise the issuing of a 'boil water' or water restriction notice on a supply, and if so, Irish Water must inform consumers as quickly as possible. When the cause of the failure is fixed, Irish Water consult the health service again and any notice is removed, while informing the public		

that water is safe to drink or use again. Notices can apply to all or part of a supply, and how long they last will depend on how long it takes to fix the problem. Irish Water may also issue precautionary notices even when no water quality failure has been found, if they are concerned that a problem in the supply might cause a failure.



**EXAMPLE 3: MEXICO**

In Mexico, the National Water Committee (CONAGUA) has elaborated a Drinking Water, Sewerage and Sanitation Manual on the Establishment of Preventive and Safety Measures and the Design of Protective Works for Drinking Water Infrastructure in Emergency Situations. The Manual establishes that operators must provide drinking water services to users even in the event of a natural disaster, for which infrastructure and staff must be prepared to provide a quick response with the aim of restoring the service, both in the event of a natural disaster and in an emergency situation. To this end, the manual makes recommendations that could be adopted by drinking water, sewerage and sanitation operators of any size and complexity. The manual defines dangers that would lead to probable disasters as “the forces that could damage the components of the Drinking Water, Sewerage and Sanitation System (SAPAS),” such as the contamination of a water source due to a chemical substance spill. The document describes how to elaborate a prevention and contingency plan, which must be used before, during and after a disaster, and indicates measures aimed directly at avoiding water contamination.

**EXAMPLE 4: COLOMBIA**

The Ministry of Housing, Urban and Territorial Affairs issued Resolution No. 0154 of 2014 adopting guidelines for the formulation of emergency and contingency plans for the management of disasters and emergencies related to the provision of household aqueduct, sewerage and cleaning services. It later issued Resolution No. 0549 of 2017 adopting guidelines for the development of these plans and ordering public aqueduct service providers that provide and distribute water for human consumption to submit contingency plans for risks to water for human consumption; the document aims to provide a detailed plan of the activities that are to be carried out in the event of an emergency related to the alteration of the quality of water for human consumption. It includes objectives, strategies and actions for addressing emergency situations. The guiding document orders the identification of threats posed by the presence of substances that alter water quality as a result of natural and socio-natural phenomena and their potential contribution of direct and indirect contaminants; it also orders the identification of threats posed by substances that alter water quality as a result of human activity and the possible contaminants resulting from the provision of public aqueduct and sewerage services, as well as possible contaminants resulting from sector-wide activities other than household public services.

**LINKS**

Singapore: <https://www.sfa.gov.sg/docs/default-source/food-retailing/practices-and-guidelines/code-of-practice-on-drinking-water-sampling-and-safety-plans-sfa-apr-2019.pdf>

Ireland: Irish Water web page: [https://www.water.ie/docs/2017-DW-Report\\_web\\_Final.pdf](https://www.water.ie/docs/2017-DW-Report_web_Final.pdf)

Mexico: Drinking Water, Sewerage and Sanitation Manual on the Establishment of Preventive and Safety Measures and the Design of Protective Works for Drinking Water Infrastructure in Emergency Situations

<https://files.conagua.gob.mx/conagua/mapas/SGAPDS-1-15-Libro3.pdf>

Colombia:

<https://www.minvivienda.gov.co/sites/default/files/2020-08/0154-2014.pdf>

<https://minvivienda.gov.co/sites/default/files/normativa/0549%20-%202017.pdf>[https://www.water.ie/docs/2017-DW-Report\\_web\\_Final.pdf](https://www.water.ie/docs/2017-DW-Report_web_Final.pdf)

**INTERNAL CAPACITIES NEEDED AND THE ROLE OF PARTNERS**

To establish drinking water quality failure and event management protocols, technical capacity to understand public health implications of failure and contamination events is required. Further technical skills are needed by regulators to establish different pathways of response. Development partners could provide technical assistance in supporting the development of protocols.