

Natural Resources Wales Policy	
Title:	Policy for Monitoring Storm Discharges in Wales
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Policy statement:	This is Water Quality Policy for 'storm' discharges' to be monitored using event and duration monitoring equipment (EDM). The policy applies only to water company discharges regulated by Natural Resources Wales (NRW) under EPR Permits.
Objectives:	Monitoring will be used for the purposes of counting the number and duration of events occurring at storm discharge where it is required on permits. This will enable reports to be produced and provided to NRW to demonstrate annual performance.
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**Natural Resources Wales Policy for Monitoring
Storm Discharges in Wales**

1. Background

Over the last 15 years we have been working with water companies to improve the industry's management of intermittent discharges. Our aim is to move from the current reactive approach to one which enhances wider sewerage management and planning; provides better public information about the performance and impact of all such assets and over the longer term establishes goals around reducing spills.

If an intermittent discharge is identified as causing an environmental problem in the receiving watercourse, the current policy classifies the discharge as unsatisfactory. The full criteria for classifying a discharge as unsatisfactory can be found in EPR 7.01 section 2.3.3.

The performance of these assets is improved to reduce the adverse effects. Such improvements include:

- ensuring the asset performs to the basic modern design standard establishing a minimum sewer capacity before discharges should occur and/or screening to protect the aesthetic nature of the receiving water and;
- specific designs to achieve water quality standards such as those for bathing or shellfish waters.

This approach is also how we have ensured compliance with the requirements of the Urban Waste Water Treatment Directive (UWWTD) to limit pollution from overflows. However this approach was called into question in October 2012 by the European Court of Justice ruling on Whitburn¹. Various pressure groups, such as Surfers Against Sewage, have indicated their intention to bring further complaints to the Commission regarding intermittent discharges they believe are spilling excessively. This could result in further infraction proceedings.

This policy implements spill monitoring. It complements the existing approach by ensuring the operator can demonstrate adequate performance of an asset that will in turn achieve the appropriate environmental outcomes. Consistent monitoring will ensure any deterioration in performance can be identified and managed early, therefore reducing the risk of non compliance with European directives and UK legislation.

¹ JUDGEMENT OF THE COURT 18 October 2012 - (Failure of a Member State to fulfil obligations - Case C-301/10

2. Future Approach

Monitoring spills from intermittent discharges will allow Natural Resources Wales (NRW) to better assess the impact on the receiving environment i.e. by identifying high spilling assets into failing stretches where previously the cause of non-compliance was unknown.

Spill monitoring over the longer-term will allow deterioration in performance to be identified and addressed before it results in adverse impacts on the environment.

Wales has taken a phased approach in introducing Event Duration Monitoring² (EDM) starting from the basis that **all sites will require EDM** except in exceptional circumstances. A programme to install monitors on the most sensitive discharges was initiated during AMP5 (2010-2015).

At the end of AMP5 discharges into bathing or shellfish waters will have event duration monitors with data recorded by telemetry (for these coastal intermittents) and reported to NRW. NRW will issue permit conditions to regulate the installation and the provision of information.

NRW received direction from Welsh Government in September 2013 giving support for an expanded monitoring programme in Wales during AMP6 (2015-2020).

This approach concurs with the Welsh Government Social and Environmental Guidance which states:

6.2 In order to ensure evidence based policy, appropriate environmental regulation and properly targeted investment for future maintenance and improvements, a monitoring programme is essential. This should help to ensure that problems are tackled earlier, when it is more cost-effective to do so, instead of them going unnoticed until a severe issue occurs resulting in remedial action at a higher cost.

3. Purpose

The purpose of this document is to outline the process to identify assets requiring monitoring and specify the monitoring requirements for those discharges.

² Event duration monitoring – providing information on the frequency and operation of the discharge and the duration of a spill.

Monitoring for these additional sites will form part of the National Environment Programme along with monitoring already identified for the event duration monitoring drivers rB5 (bathing waters) and S8 (shellfish waters).

Identified assets should be included in the AMP6 Phase 4 NEP under the following categories:

- **EDM1** – high amenity
- **EDMW** - moderate, low/ non amenity

Assets identified under EDMW are not considered to present a significant environmental risk but their actual impact is not well understood. This is in part because their performance in terms of spills is unknown. It is also accepted that pressure from the effects of population growth, increases in the impermeable surface of towns and cities, and changes in precipitation due to climate change are likely to increase over time.

4. Benefits of Event Duration Monitoring

A comprehensive EDM programme would:

- give greater confidence to regulators of asset performance,
- give confidence in planning for directive compliance,
- provide information on individual assets and the impact on the receiving water body
- bring robust evidence to justify and target future investment
- improve information available to members of the public
- identify deterioration in asset performance
- provide improved knowledge for the Drainage Strategy Framework³

5. Storm Discharge Asset Types

Consideration for monitoring would apply to the following permitted *storm discharge* asset types:

- Combined Sewer Overflows on the sewer network
- Storm discharges at pumping stations
- Inlet CSOs at STWs
- Storm Tanks at STWs

³ Guidance, published by Ofwat and the Environment Agency, for water and sewerage companies to describe the contents and intention of Drainage Strategies

6. Environmental Regulatory Monitoring Requirements

The following monitoring requirements will apply to all storm discharges requiring monitoring:

a. Standard Monitoring Requirements:

- Provision of Event Duration Monitoring
- Monitor the spill at 15 min intervals or via a continuous digital signal
- Spills numbers will be quantified using the agreed Spill counting procedure 12/24 in Annex 1.
- Information to be made available to the NRW in accordance with the Operating Techniques.

In order to identify which storm discharges should be monitored and additional requirements the following prioritisation has been developed:

b. Priority 1 (AMP5 Shellfish & Bathing Waters)

Asset Criteria:

- As required in AMP5 Guidance EA OI 378_07.
- Sites identified or within 2km of a designated⁴ bathing water (rb5 driver)
- Sites identified or within 2km of a designated shellfish Water (s8 driver)

Additional Requirements:

- These requirements should cover all storm discharges having EDM installed in AMP5.
- Option to measure volume of the spill, considering technical feasibility, and has been agreed locally between the water company and NRW.
- Monitoring will be provided in line with the completion dates identified in the AMP5 programme.
- The requirement to monitor at more frequent intervals (i.e. 2min) will be reviewed by NRW. If deemed appropriate and feasible the water company will be given reasonable notice of this requirement.
- The Operating Techniques will introduce a spill frequency for storm overflows into Bathing Waters or Shellfish Waters. The company will be required to submit annual report with total spill number per annum and bathing season (where required).
Spill frequency trigger levels and subsequent actions will be specified in the Operating Techniques.

⁴ New or existing bathing water designations in 2011

c. **Priority 2 (AMP6 High Amenity EDM1)**

Asset Criteria:

- Discharges into high amenity waterbodies (EDM1)

Additional Requirements

- Provision of monitoring for these discharges should be phased before 31st March 2017. The phasing and priority for will be agreed with the NRW Water Company Account Manager by 31/03/15.
- Option to measure volume of the spill, considering technical feasibility, and has been agreed locally between the water company and NRW.
- The requirement to monitor at more frequent intervals will be reviewed by NRW as technology progresses. If deemed appropriate, this requirement will only be applied when the monitoring equipment is being replaced. The water company will be given reasonable notice.
- These requirements should cover all storm discharges having EDM installed in AMP6 under the EDM1 driver.

d. **Priority 3 (AMP6 moderate/ low and non amenity EDMW)**

Asset Criteria

- Discharges into moderate/ low or non amenity waterbodies (EDMW)

Additional Requirements

- These requirements should cover all storm discharges having EDM installed in AMP6 under the EDMW driver.
- Provision of monitoring for these discharges should be phased before 31st March 2020. The phasing and priority for these will be agreed with the NRW Water Company Account Manager by 31/03/16.

e. **Newly identified assets 'unconsented'**

Newly identified assets should be classified in accordance with EPR 7.01.

The timing of EDM requirements is as follows:

- Substandard: EDM will be required by 31/03/2020. Sites identified after 31/03/19 will have 12 months to install monitors from the permitted date.
- Unsatisfactory: EDM will be required when the discharge has been brought up to satisfactory status (normally 2-3 years from consent).

7. Exceptional Circumstances

It is recognised that on an exception basis there may be storm overflows where it is technically infeasible or disproportionately costly to provide EDM.

All evidence should be submitted to the NRW Water Company Account Manager on a case by case basis and discussions should be held locally to review alternative options.

8. Long Term Monitoring Requirements

Should a company wish to remove a monitor the following, requests should be submitted to the Water Company Account Manager and will be dealt with on a case by case basis.

The presumption is that monitoring will remain unless formally agreed by NRW.

Where agreement is reached and monitoring removed NRW will retain the right to request that a monitor be brought back online following significant change to the sewer network e.g. new developments.

9. Spill Frequency Approach

In PR14 we are implementing in certain cases a spill frequency permitting regime for storm overflows. This will introduce a trigger spill frequency referenced within the permit.

It will be applied to the highest risk intermittent discharges that have been, or are being, designed to improve/protect coastal protected areas. It will require spill frequency monitoring and an assessment against an annual or bathing season significant spill trigger limit.

The permit trigger limit would be set slightly above the maximum number of spills predicted by the operator in any single year or bathing season. Set this way the trigger limit is aimed at prompting immediate action for those discharges operating a long way above their original design. Exceeding the trigger spill frequency limit would lead to an investigation being carried out by the operator and, where necessary, to a programme of remediation work being identified and agreed to return the discharge, where appropriate, to its original design state.

10. Permitting & Reporting

For EDM installations there will be an EPR permit requirement. The permit will include trigger levels where appropriate. Trigger levels will be used to initiate investigations and would not constitute a permit failure.

Annex 1

Spill Definition and Spill Counting – the 12/24 hour block model

Water Companies in England and Wales will use the 12/24 hour block method to determine spill frequencies and for spill count reporting.

Method

- Spill counting starts when the first discharge occurs.
- Any discharge(s) in the first 12 hour block is counted as 1 spill.
- Any discharge(s) in the next and subsequent 24 hour blocks are each counted as 1 additional spill per block.
- This counting continues until there is a 24 hour block with no discharge.
- For the next discharge after the 24 hour block with no discharge, the 12 hour and 24 hour block spill counting sequence begins again.

The following diagram shows how this methodology can be applied. This example gives a spill count of 3:

Example

BLOCK METHOD

