

# Assessing compliance of sewage works discharges that are subject to descriptive permits

Operational instruction

1155\_08

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## What's this document about?

This instruction describes the method to assess and report compliance for descriptively permitted sewage treatment works discharges.

This document supports document [91\\_09 Methodology for Assessing Compliance \(MAC\) for water discharge activities regulated under the Environmental Permitting Regulations 2010.](#)



Document details

## Who does this apply to?

This instruction is for warranted officers who make routine inspections of Sewage Treatment Works (STW) that are controlled through the use of descriptive permits and senior environment officers and environment officers who will carry out annual audits.



Related documents

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Feedback

**Contact for queries**

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# Compliance inspections

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## Scope

This instruction applies to any continuous sewage discharges subject to descriptive conditions with a volume condition of **more than 5m<sup>3</sup>/day**, for both water companies and private discharges.

The inspection method is based on two aspects:

- assessing the operation/maintenance of the works;
- assessing the impact that the discharge is having on the receiving environment.

**Note:** It does not apply to **trade discharges** with a descriptive permit.

There should be no trade effluent if the sewage works has “descriptive” conditions.

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## Inspection frequency

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### Deciding how often to inspect

Site inspection frequency and thoroughness should be proportionate to the environmental risk of the site.

We use Opra scores as a measure of that risk. So the overall resource for site inspections is allocated annually to Areas in proportion to the total of all Opra scores for sites in that Area. (Refer to Compliance Assessment Plan (CAP) guidance in 91\_09 “Assessing compliance of consented discharges to water”). The inspection frequency for the sites covered by this instruction is once every five years on average and described by the site specific CAP that covers the site type.

You should draw up inspection plans in advance over the financial year. You should set inspection frequencies that are described in the CAP for these discharge sites, but the frequencies for each site should be appropriately weighted by other relevant factors. Sites with higher risk factors may have more frequent visits with a corresponding reduction in visits to lower risk sites to maintain the same overall resource. These factors include:

- non-compliance
- pollution incidents
- poor or deteriorating receiving water quality
- local knowledge of other risk factors.

Unprogrammed (extra) site inspections may be needed in response to incidents, or other in-year events.

Where possible site inspection should be accompanied by an agreed representative of the operator, so that any issues can be resolved there and then.

Where we will be accompanied the sites to be inspected should not be announced until shortly before the visit, to allow you to see the sites as they really are.

Audits of the management system covering water company descriptive sewage treatment works will be carried out annually with typically 2 days of effort per water service plc.

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## Inspection format

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### Basic inspection principle

An important feature of assessing for descriptive permit compliance is that due to the nature of the permit we do not need routine chemical sampling.

Instead, you carry out most of the assessment by visual inspection. This applies both to assessing the discharge performance and assessing the impact that the discharge is having on the receiving environment.

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## Making a visual inspection

### Action

Carry out a visual inspection of the treatment works and the immediate receiving environment on each visit. Do this to a distance downstream of six times the width of the receiving watercourse if it is safe to do so.

To ensure we carry out a full compliance assessment for each discharge, regardless of the format of its permit:

**You must be aware of those parts of the assessment that are relevant to compliance with the legal permit document.**

Any permit non compliance identified during an inspection will be reported to the operator using the CAR form and entered on to CCS.

The [Inspection guidance sheet](#) provides additional guidance on what might be considered during an inspection and allows you to record relevant details of your inspection and any pre-inspection checks you carry out

**You must send a completed CAR form to the operator following all inspections regardless of whether they are compliant or non compliant.**

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## Taking chemical samples

**Routine chemical sampling of the effluent is unnecessary.**

Only take effluent samples if some other aspect of the inspection gives rise to concern over the likely quality of the effluent and there is evidence of downstream impact that causes you to consider enforcement action.

**Examples:** A broken filter arm, or the presence of sewage fungus downstream of the discharge.

Also take samples if it is likely that the discharge permit is going to be reviewed to include numeric conditions (see [Assessing and reporting compliance](#)).

Similarly, **you do not need to take routine chemical samples of the receiving environment** as part of the inspection.

You should take such samples if the impact of the discharge on the receiving environment is severe and you feel it necessary to treat the situation as a **pollution incident**. In this case, follow our current policy/information on responding to **pollution incidents**.

If there is reason to suspect a downstream impact due to the discharge you should consider the use of a hand-held meter (to measure Dissolved Oxygen, Ammonia for example). You can record any readings you take or the details of samples taken on the inspection guidance sheet.

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### Biological assessment of discharge impact

Biological monitoring of the receiving environment **does not form part of the official compliance assessment method**. However biological monitoring may have an important role to play as a tool used to assess the impact of descriptively permitted discharges which fail their inspections.

Biological assessments may be used:

- as part of the process of initial appraisal of a discharge in order to decide whether a descriptive permit is an appropriate means of control;
- in instances of continued non-compliance as part of the following permit review to assess whether the discharge should be subject to a numeric permit;
- in confirming whether or not the discharge is having a severe impact on the receiving environment;

**Example:** As part of the evidence used in a prosecution for permit non-compliance, or if the impact of the discharge on the receiving environment is such that you feel it necessary to treat the situation as a Pollution Incident. In this case, follow our current policy/information on responding to Pollution Incidents.

- to prioritise further inspections of a site,.

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### When to use biological assessment

The exact extent to which you use biological assessment for the purposes outlined in the bullet points above is left to the individual areas.

Existing assessments may be sufficient where there is already a suitable biological monitoring programme in the stretch, such as for Water Framework Directive purposes. If the stretch is not currently subject to any routine suitable biological assessment then make provision for such assessment.

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## Assessing and reporting compliance

### Handling a non-compliance

As stated in [Format of the inspection](#), formal assessment of compliance must be with the conditions on the permit itself.

Not all aspects included in the inspection guidance sheet will be relevant to legal permit compliance at each discharge.

#### Action

If an inspection leads to the discharge being assessed as non-compliant with its **legal permit conditions** the non-compliance will be reported back to the operator using the CAR form and entered on to CCS as occurring on the date of the inspection.

If the discharge is assessed as having an unacceptable environmental impact on the receiving watercourse this must be clearly stated on the CAR form sent to the operator following the inspection.

If the discharge fails its permit conditions and appropriate improvements cannot be agreed and implemented in a reasonable timescale then consider reviewing the permit to include numeric conditions and consider using an Enforcement Notice.

### Failing inspection but meeting permit

#### Action

If a discharge fails to meet some of the criteria shown on the inspection sheet, but cannot be assessed as being legally non-compliant due to the wording of the permit, use the CAR form to confirm the problems identified to the operator and what improvements, if any, will be required following the inspection.

If appropriate improvements cannot be agreed and implemented in a reasonable timescale then consider reviewing the permit to include numeric conditions.

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### Re-inspection

Any re-inspection of a site, for example following a non-compliance or a failure to meet criteria shown on the inspection sheet, will not be counted as part of the area's pre-planned site inspection effort for descriptive sewage treatment works.

We do not have to re-inspect a site following a non-compliance or a failure but may choose to do so to discuss improvements with the operator or check that improvements have been carried out.

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### Reviewing the permit

#### Action

If the discharge fails the inspection and appropriate improvements cannot be agreed with the operator and implemented in a reasonable timescale then consider reviewing the permit to include numeric conditions and consider using an Enforcement Notice.

Include in the review, amongst other things:

- chemical sampling of the discharge;
- making a chemical and biological assessment of the discharge impact;
- an assessment of available dilution;
- amenity uses downstream of the discharge;
- if there are any trade components to the discharge.

**Note:** There should be no trade effluent input if the sewage works has "descriptive" conditions.

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## Inspection guidance

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### Introduction

These notes are for our warranted officers who make routine inspections of STWs controlled through the use of descriptive permits.

This instruction includes a standard STW site [Inspection guidance sheet](#) which provides officers with further guidance on what an inspection should consider and allows relevant notes to be recorded on it if they wish to do so.

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## Purpose

The purpose of the site inspection guidance sheet is to:

- provide guidance for site inspections;
- assist staff in achieving consistent inspection standards;
- assist in deciding courses of action in cases of non-compliance;
- allow pre inspection issues, problems identified during the inspection and any sampling carried out during the inspection to be noted.

**Note:** Feedback to the operator on how well or badly they are performing against their permit conditions, the standards expected of descriptive discharges and the impact the discharge is having on the environment will be provided using the CAR form.

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## Impact on receiving waters

For sites where the permit includes conditions specifying no effect on the receiving watercourse, yet there is an obvious impact downstream that is not evident upstream, the works fails the permit.

**Note:** You must check against the legal permit document for the discharge before non-compliance can be confirmed.

In making the assessment of impact on receiving waters, make allowance for the mixing of the effluent that must normally be achieved within a distance downstream of no more than 6 times the width of the receiving water.

This distance will vary on a case by case basis.

**Example:** The mixing zone for stagnant waters or rivers with very little flow (in the absence of any other criteria) is the width of the receiving water.

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## Treatment plant/Works operation

Some typical aspects of works operation that you must check are detailed below. Not all will be appropriate at every works.

### Receiving water

Is the receiving water readily accessible at the point of discharge?

### Inlet works

Are the screens clear? Are the comminutors/macerators operational and downstream of any storm overflow? Is the storm water overflow operating in dry weather conditions?

### Storm tanks

Is there evidence to show that the operation is not in accordance with good practices? For example, are the tanks full for extended periods after storm flows have ceased? Is the overflow operating early? Are the channels clear? Are any devices for removing gross solids being effectively maintained?

### Primary tanks

Are the channels clear? Is the scumboard/stilling box functioning? Is there evidence of rising sludge? Is there sludge/solids carryover?

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## Biological treatment

Consider the following points:

### Percolating filter works

Are the dosing siphons operational? Are the filter distributors providing an even distribution of the effluent to the filter media? Are the sparge holes/weirs mainly clear? Are the end caps and main seal adequately sealed? Is the filter surface mostly wetted, but with an absence of ponding?

### Activated sludge works

Is there a sludge blanket visible? If so, is it near the surface with a danger of carryover, or actual carryover occurring?

Is there aeration of the effluent occurring? If not has there been a power failure?

### Final settlement

Is there any rising sludge present? If so is it likely to cause blockages, other operational difficulties, or carry over to the final effluent?

### Package plants

Is the plant operating correctly? Does the maintenance appear adequate?

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## Samples taken

You must record if any water or effluent samples, biological samples or photographs have been taken to support the inspection on the CAR form. In the event of the failure/malfunction of parts of the STW then you **must** take photographs. If any samples or photographs are likely to be used in enforcement action they should as far as is possible meet the requirements of PACE.

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## Follow up actions

### Action

For a compliant discharge, send a CAR form, and sample analysis report if appropriate, to the operator/permit holder.

For a legally non-compliant discharge and/or discharge where we consider that improvements are necessary, you must send details of the non compliance and/or identified improvements to the operator using the CAR form. A copy must also be sent to the permit holder if different.

We may not know in all cases what improvements are necessary following an inspection and further investigation and negotiations with the operator may be required before we confirm in writing outside of the CAR form what is required to prevent the discharge failing its conditions and/or inspection and by when.

Keep a copy of the CAR form and any correspondence on the Site File and Public Register.

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## Notes on completing the CAR form

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### Using the CAR form

A CAR form must be completed and returned to the operator whenever a site inspection takes place.

Any enforcement response indicated in the CAR form following a non-compliance observed during an inspection must be appropriate to the inspecting officer's warrant.

Where Level 1 warranted officers are used to carry out inspections it will be necessary for a Level 2 warranted officer to visit the site following a non-compliance observed during an inspection if we want to take enforcement other than giving advice and guidance.

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### What to do when the form is complete

#### Action

Give a copy of the completed CAR form to the operator as soon as possible after the inspection.

If the operator is not the registered permit holder then copy the permit holder into any correspondence, especially if this relates to the requirement to carry out work at the site and/or notifications of non compliance with the legal permit.

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## Audit of water company descriptive sewage treatment works management systems

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### Annual audit

The audit of the management systems covering the operation of descriptive sewage treatment works continuous discharges applies to the ten major water companies who have many such discharges. It will be risk based and carried out annually.

Audits of other operator's management systems will be carried out as necessary, for example following an inspection if we have concerns with the way a site is being operated or where we become aware of a problem at a site as a result of a pollution incident.

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## Scope

The scope of the descriptive sewage treatment works management system audit is:

- check to what extent any company Environmental Management System (EMS) includes the management, operation and maintenance of descriptive STW;
- management, training and competence of personnel;
- fitness for purpose of inspection and maintenance programmes;
- keeping of records of maintenance and inspection;
- procedures for acting on issues identified by inspection and maintenance programme;
- procedures for ensuring improvements are effective.

## Procedure

Follow the steps below to complete the audit. The audit will be risk based and reflect the level of risk posed by the activities.

Step	Action
1	Consider if there are any issues identified in preceding site inspections that need to be considered in the audit.
2	Arrange to meet company representatives who have an appropriate understanding of and responsibility for the operation and maintenance of descriptive STW so that the audit can be carried out effectively and efficiently.
3	Check if the permit holder or any other organisation acting on behalf of the operator and responsible for the operation and maintenance of descriptive sewage treatment works has a relevant EMS covering the activity.
4	Ask the operator to demonstrate the effectiveness of the relevant EMS in auditing the operation and maintenance of their descriptive STW.
5	Ask the operator to show how inspections and maintenance are programmed in general and, if there are known site issues, at specific sites.
6	Ask the operator to show how their inspection and maintenance records are maintained.
7	Ask the operator to show how problems identified in their inspections and maintenance work are managed and resolved.
8	Ask how the operator checks the effectiveness of site improvements or changes to the way they operate sites after they have carried out.
9	Ask how the operator deals with unusual weather and other events which may occur at the sites from time to time.
10	Write back to the operator confirming the outcome of the audit and identify any areas of concern that we have encountered if there are any.

## Related documents

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### Links

- [1155\\_08\\_SD01 Inspection guidance sheet](#)
  - [91\\_09 Methodology for Assessing Compliance \(MAC\) for water discharge activities regulated under the Environmental Permitting Regulations 2010](#)
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