Standard rules consultation no 20: revision of standard rules sets for biowaste treatment

Standard rules for the Environmental Permitting Regulations

October 2019

We are the Environment Agency. We protect and improve the environment.

We help people and wildlife adapt to climate change and reduce its impacts, including flooding, drought, sea level rise and coastal erosion.

We improve the quality of our water, land and air by tackling pollution. We work with businesses to help them comply with environmental regulations. A healthy and diverse environment enhances people's lives and contributes to economic growth.

We can't do this alone. We work as part of the Defra group (Department for Environment, Food & Rural Affairs), with the rest of government, local councils, businesses, civil society groups and local communities to create a better place for people and wildlife.

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1. Introduction

The Environmental Permitting (England and Wales) Regulations 2016 allow us to make standard rules to reduce the administrative burden on business while maintaining environmental standards.

This is the 20th consultation on standard rules. This consultation proposes revisions to standard rules for biowaste treatment including composting, anaerobic digestion (AD) and sewage sludge activities. We also propose to revoke standard rules for the mechanical biological treatment of waste. We would like your views on these proposals.

We will take account of the consultation responses and publish the consultation response together with the revised standard rules sets (if any) on GOV.UK.

2. About this consultation

This document:

- describes what we are consulting on
- provides an overview of the relevant documents
- explains the standard permitting process

It is designed to help you understand and comment on our proposals. The consultation will be for a period of 12 weeks from 21 October 2019 to 13 January 2020.

2.1. What we're consulting on

The Environmental Permitting (England and Wales) Regulations 2016 (EPR) allow us to develop standard rules for certain activities. We base the rules on our understanding of the risks. We are asking for your views on revising the standard rules sets based on our review of the risks posed by biowaste treatment. These are the standard rules we propose to revise:

Composting

SR2008 No 16 25kte and 75kte: composting in open systems (no longer available)

SR2008 No 17 75kte: composting in closed systems (in-vessel composting)

SR2010 No 14: 500t composting biodegradable waste

SR2011 No 1: 500t composting biodegradable waste (in open and closed systems)

SR2012 No 3: composting in closed systems

SR2012 No 7: composting in open systems

SR2012 No 4: composting in closed systems

SR2012 No 8: composting in open systems

Anaerobic digestion and sewage sludge

SR2008 No 19: non-hazardous sludge biological chemical and physical treatment site

SR2012 No 10: on-farm anaerobic digestion facility using farm wastes only, including use of the resultant biogas

SR2012 No 12: anaerobic digestion facility including use of the resultant biogas (waste recovery operation)

SR2012 No 9: on-farm anaerobic digestion using farm wastes

SR2012 No 11: anaerobic digestion facility including use of the resultant biogas

We are proposing to revoke these rules sets for mechanical biological treatment:

SR2008 No 18: 75kte non-hazardous mechanical biological (aerobic) treatment facility (existing permits)

SR2015 No 12: 75kte non-hazardous mechanical biological (aerobic) treatment facility

We are also proposing that the rule sets SR2010 No 15 and SR2010 No 16 are revoked:

SR2010 No 15: anaerobic digestion facility including use of the resultant biogas

SR2010 No 16: on-farm anaerobic digestion facility

We will also conduct a review of all bespoke permits to ensure there is a level regulatory playing field.

2.2. What this consultation means to you

We think this consultation will be of particular interest to:

Operators, trade associations and businesses: this is your opportunity to ensure that the revised rules work for you and your industry as well as providing the necessary protection to the environment and human health.

Other regulators, the public, community groups and non-governmental organisations with an interest in environmental issues: this is your opportunity to ensure that the revised rules provide the necessary protection to the environment and human health, whilst still being useful to industry.

3. How standard permits work

3.1. What a standard permit is

Standard permits contain one condition which refers to a fixed set (or sets) of standard rules that an operator must comply with. The standard rules define the activities that an operator can carry out. They also specify necessary restrictions on those activities, such as emission limits or the types of waste or raw materials that can be accepted at the sites. We publish standard rules on GOV.UK following public consultation.

Any operator who wishes to carry out a particular activity at a particular site or sites can look at the standard rules. If they can comply with them, they can decide to apply for a standard permit.

We are able to issue the standard permit more quickly and cheaply because we have no decisions to make on site specific permit conditions. An operator who cannot meet the requirements of the standard rules must apply for a bespoke permit and provide us with additional information. It takes us longer to issue a bespoke permit because we have to carry out a more detailed assessment of the application. This includes deciding whether to include site specific conditions and consult in line with our public participation statement.

There is no right of appeal against the rules in a standard permit because applying for a standard permit is voluntary. If an operator wants to change the way their site operates, they must apply to vary the standard permit to a bespoke permit when:

- their operation falls outside the scope of the standard rules
- they feel that the standard permit no longer works for their particular operation

Operators must apply for a bespoke permit for any regulated activities not covered by standard rules. These activities generally have a higher potential impact on the environment or require more complex controls than operations for which standard rules can be used.

3.2. What standard rules are

When we develop sets of standard rules we carry out a single assessment of risk for a commonly undertaken activity. This enables us to define the risk boundary within which the rules can be used. This boundary comprises a number of restrictions such as size, location and operational controls. The restrictions will be those necessary to enable a consistent set of rules to reduce the risk to an acceptable level. The rules are the same for each operator carrying out that particular activity. Rules and risk assessments are published in advance so that operators and the public know precisely what controls we will apply to a proposed activity.

4. Why we need to revise biowaste rules sets

We propose to change the standard rules sets relating to biowaste treatment to:

- reduce incidents caused by the biowaste sector, including fires and odour nuisance
- improve poor performance
- improve contribution to a more sustainable and circular economy
- contribute to reducing the impact on climate change

By doing this we will limit negative impacts on human health, communities and the environment.

4.1. Reducing incidents and improving poor performance

We have identified that the cause of incidents and poor performance are mainly due to:

- inadequate design and poor construction standards
- lack of operational process control
- failure to have or follow an effective management system
- deficient maintenance systems
- inadequate pre-acceptance and acceptance checks, including unacceptable levels of feedstock contamination

We came to this conclusion by:

- reviewing the responses to our Call for Evidence consultation
- completing audits of AD sites over a 3 year period
- reviewing our data on AD and composting sites

See the Appendix which set out our findings.

We want to address this by changing the rules within the biowaste standard permits.

4.2. Contributing to a sustainable and circular economy

Recovering organic waste for soil benefit replaces the reliance on chemical fertilisers and decreases the dependence on peat.

Our objectives are to:

- increase the use of food waste as a resource
- replace chemical fertiliser through waste recovery
- ensure the sector uses a high quality and value product, in particular we reduce plastic contamination

We will also strive to meet the government's objectives as set out in their:

- 25 Year Environment Plan
- Clean Air Strategy
- vision for a circular economy

At the same time we want a regulatory framework which:

- is fair and achievable
- allows permitted sites to safely and sustainably recover and recycle organic waste
- allows the waste industry to be economically viable

4.3. Reducing the impact on climate change

This sector can have a positive effect on climate change by:

- reducing the decrease in soil quality
- capturing and storing carbon
- producing energy from AD

However, the Environment Agency must ensure:

- emissions are controlled, such as odour, bioaerosols and ammonia
- there is no risk to water, air, soil, plants or animals

See more detail in the Appendix.

5. Proposed changes to biowaste rules sets

5.1. Amending and merging rule sets

There are currently 21 rule sets listed for biowaste treatment facilities. We propose to reduce the number of standard rules by transposing like for like activity. We are only presenting examples for the following:

Waste facilities:

– open windrow < 75 tonnes in treatment per day
– in vessel composting < 75 tonnes in treatment per day
– on farm anaerobic digestion <100 tonnes per day
– waste anaerobic digestion < 100 tonnes in treatment per day

Installations:

– open windrow > 75 tonnes in treatment per day
– in vessel composting > 75 tonnes in treatment per day
– on farm anaerobic digestion > 100 tonnes per day
– waste anaerobic digestion > 100 tonnes in treatment per day
– sludge anaerobic digestion > 100 tonnes in treatment per day

We propose to merge the existing small scale composting site to one permit. We will propose how this will look.

5.2. Withdrawing rules sets

We propose to revoke (and remove from our website) these standard rules permits for mechanical biological treatment of waste:

- SR 2008 No 18
- SR 2015 No 12

Only one operator has applied for this permit since 2008. We will move this operator to a more suitable non-hazardous standard rules permit.

We also propose to revoke the following rule sets for anaerobic digestion:

- SR 2010 No 15
- SR 2010 No 16

Operators that used standard rules SR2010 No15 and SR2010 No16 should have moved over to SR2012 No10 and SR2012 No12.

5.3. Location of sensitive receptors

We propose to change some of the location criteria for the standard rules permits in this consultation. We are also including marine conservations zones within the location criteria as the designation had not been introduced when some of these standard rules were first produced.

5.3.1. Designated Air Quality Management Area

Air Quality Management Areas are by definition areas in which there is particular concern about air quality. We recognise that composting sites can have a negative impact on air quality. For this reason we propose that standard rules will not be available for composting operations within Air Quality Management Areas.

5.3.2. Groundwater Source Protection Zones (SPZs)

All the standard rules permits exclude sites from being located within groundwater SPZs 1 and 2. This is an amendment to a typo in existing rules sets.

5.4. Waste treatment BREF and Best Available Techniques (BAT)

If you operate an A1 installation you will be required to meet BAT and the Associated Emission Limits (BAT AELs). Existing operations must meet BAT AELs by 2022. New installations must meet the standards from the start of operations.

We've amended the operational techniques to reflect this requirement.

5.5. Design and construction of critical infrastructure, secondary containment and drainage systems

We want to make sure the design, build and maintenance of all infrastructure meets a recognised standard. This protects assets and minimises risk of failures.

Both primary and secondary containment failures affect the environment. Other affects include:

- clean up costs - which can be considerable
- enforcement action - civil sanctions, fines and criminal records have a long lasting effect on businesses and individuals
- increased subsistence charges or permit revocation - as a result of non-compliance and accidents
- increase in insurance premiums - insurance companies can view biowaste facilities as uninsurable assets

We believe there are 2 options to address this, they are:

- the use of CIRIA (Construction Industry Research and Information Association) standards - industry accepts CIRIA standards as a sound risk based approach
- to locate facilities with standard rules permits further away from water courses, boreholes or major critical infrastructure such as railways and roads

We propose that:

- a qualified civil engineer assesses the site
- the engineer validates the site as meeting CIRIA standards

The assessment will confirm the site can retain all polluting material in the event of failure. The assessment may show the site cannot meet CIRIA standards. The operator will have the opportunity to adapt their site and show how they can manage the risk. We will not require the operator to build secondary containment unless it's necessary to meet the required standard.

Other waste sectors, such as landfill, are already required to validate their sites using a qualified chartered engineer.

We do not propose to increase set back distances to ensure facilities are further away from receptors as this could result in a significant number of operators having to move to bespoke permitting. This would be costly and involve a high level of risk assessment and scrutiny.

You can find the cost of varying a SRP to a bespoke permit in our charging scheme. We estimate the cost of a chartered engineers report to be between £1,000 and £2,000.

Our AD audit showed that the majority of facilities already have secondary containment. So most operators should be able to show they can meet the standard.

5.5.1. Proposed changes to rules sets for critical infrastructure

You will need to meet the following rules:

- secondary containment meets the standards set out in CIRIA report 736
- lagoon structures meet the standards set out in CIRIA report 759
- report on the condition of critical infrastructure and include inspection and maintenance procedures (as per manufacturers recommendations) in your recorded written management system
- submit a validation report produced by a chartered engineer

- submit an improvement plan if the validation inspection highlights the need for improvement
- provide an accurate drainage plan showing how you'll prevent the risk of polluting material leaving the site
- meet the requirement to monitor tank and lagoon volumes to ensure adequate freeboard

5.6. Technically competent operations

Rule 1.1 of all standard rules permits require:

- a written management system
- operators to have competent management

The operator must also follow the associated generic risk assessment.

Our AD audit found that some facilities were in breach of these requirements, for example:

- not all operators complied with the rule to have and adhere to a written management system
- operators were often found to be totally reliant on a third party to interpret process data

In our call for evidence we asked if we should increase technical competence requirements, and whether that would be sufficient to ensure better management and operations on site.

Industry responded that increasing technical competence hours was not enough. They stated that all operators need to be competent. Operators need defined operational responsibilities and to train their staff appropriately.

For installations, the BREF and BAT clearly define these approaches.

We think it appropriate to provide more guidance on how to develop a management system. We will publish this in due course. We also propose to amend the operating techniques in the permit. This will make clear the standards required and appropriate measures operators must put in place.

5.7. Operational capacity

Where facilities operate beyond the design capacity this can result in issues with:

- odour
- bio aerosols
- output quality

In our call for evidence we asked whether operators should declare the facility’s operational capacity and design capacity in their application. We would then include this in the permit.

We propose that the permit should state:

- the design capacity of the facility
- that the operator will not accept waste unless there is capacity to treat the waste
- that all incoming waste is managed to prevent uncontrolled decomposition - includes monitoring and actively managing feedstock

- that the operator must make provision for storage of finished material when the landbank is not available
- that there is adequate storage capacity for liquors and leachate and/or digestate

The operator will need to show how they will comply with these requirements in their management system. We will allow some flexibility but will make sure operations are within the design capacity of the site.

We do not envisage any additional cost. Facilities should already be operating within the design capacity.

5.8. Permitted activities

We have proposed amendments to the permitted activities table for AD to include:

- gas upgrading and injection to the grid
- digestate drying with abatement
- allowing pasteurised, separated digestate fibre to be composted in the open with abatement or under static aeration
- provision for safe storage of raw materials
- provision for safe storage of hazardous waste, such as spent engine oil and used carbon

Some of these provisions are not included in sewage sludge treatment permits.

5.9. Waste acceptance: daily tonnages and maximum quantities

This does not apply to SR 2010 No 14 and SR2010 No 1.

We intend to increase the daily acceptance tonnage allowance in the composting permits. We will increase the daily tonnage to 100 tonnes. This allows more flexibility during peak seasons. Also where different sites may share plant, for example screeners.

This is on the condition that the operator manages and monitors storage by adopting appropriate measures.

To safeguard against unmanaged decomposition of waste prior to processing, we intend to include a time limit on its storage.

We have reviewed the waste returns for standard rules permits. The waste received at sites is consistently below 30,000 tonnes per year (except for SR 2010 No 14 and SR2010 No 1). We intend to reduce the annual limit for SR 2008 and SR2010 waste permits from 75,000 tonnes to 35,000 tonnes per year. This amount is equivalent to the threshold for installation activities.

We will include an annual throughput for installation permits but in addition we will restrict waste throughput to the operational design capacity. This is in keeping with industry response that operations should only be permitted to the amount of waste they can effectively manage.

This should incur no additional cost. Those who treat over 35,000 tonnes per year should already have an installations permit.

5.10. Waste inputs and quality outputs

We want to make sure compost and digestate outputs are of high quality.

We want the biowaste industry to be a sustainable and efficient resource leader. Compost and digestate can replace chemical fertilisers and peat. However, to achieve a higher demand and market price the output material must be consistent. This is to meet customer requirements.

In 2017 we looked at the chemical profile of composts. We found elevated levels of chemicals. We believe this to be because of plastics and chemically treated waste wood being in the feed material. We also considered tannery waste and paper pulp fibres. We concluded that these wastes had not been sufficiently characterised in the past. The lack of data from industry did not support continued inclusion of these waste streams.

We will remove the following waste types and descriptions from all standard rules permits:

- all 99 codes
- waste wood as 03 02, 19 12 07, 20 01 38 and chapter 17 codes. All post-consumer and construction waste wood will be excluded. We have previously advised that waste wood from mixed sources such as from skip operators or civic amenity sites should not be composted. Such waste wood is likely to have been chemically treated.
- tannery waste
- 07 chapter codes due to the risk of chemicals being present

5.10.1. Plastic limits

Good feedstock controls are required for a good quality output. We have concerns, based on evidence, on the quality of compost and digestate being spread to landbank. See figure 4 showing plastic found in digestate.

Plastic contamination, even if compliant with PAS 100 or PAS 110 standards, has reduced market confidence in using compost and digestate for agriculture.

Removing plastic during or at the end of the treatment process is not an effective control measure. It is costly and can increase the risk to workers. We consider the most effective way to deal with plastic contamination is by controlling feed material so we propose to exclude all non-compostable plastic and packaging.

Current waste input contracts operate at a contamination rate of around 5% weight/weight (w/w). The current PAS 100 standard allows an equivalent of approximately 150 plastic bags per tonne at this conversion rate. We do not consider this to be sustainable.

We propose that incoming waste streams contaminated with non-biodegradable contaminants such as plastic and other litter above an incidental level of 0.5% w/w is excluded. Compostable and biodegradable plastic will be permitted only if the packaging complies with EN 13432 or other recognised compostable packaging standard/certification.

All facilities will be required to implement pre-acceptance and acceptance procedures that demonstrate waste contamination levels are minimised. We will expect all facilities to ensure they do not exceed the site’s storage and processing capacity.

We will require installations to demonstrate BAT for waste pre-acceptance and acceptance.

5.11. Biosecurity

We intend to enhance biosecurity measures.

Invasive Alien Species (IAS) are becoming more resistant to herbicides and are more prevalent in England. We propose to extend excluded wastes to include:

- plant species listed in the IAS Regulations 2014 including Japanese knotweed
- manures, slurries and spoiled bedding and straw from farms where animals have notifiable diseases as stipulated in the Animal By-Products (Enforcement) (England) Regulations 2011

5.12. Amended descriptions

We intend to amend some of the waste descriptions in the standard rules sets:

- 03 03 10 waste now clarifies that fibre rejects are to be from the virgin timber only chapter
- 15 codes: packaging waste must meet the EN 13432 standard or be certified as biodegradable
- 16 10 02 waste will only be allowed if from facilities with waste codes listed in the standard rules
- 19 02 06 sludges from physico/chemical treatment other than those mentioned in 19 02 05 (if derived solely from physical treatment and/or pH adjustment of waste input types listed within the standard rules)
- 19 08 05 sludges from treatment of urban waste water (sites that accept waste input types listed in the standard rules only)
- 19 12 01 paper and cardboard (excluding veneers, plastic coatings or laminates) meeting EN 13432 or equivalent certified standard only
- 20 01 01 paper and cardboard (excluding veneers, plastic coatings or laminates) meeting EN 13432 or equivalent certified standard
- 20 01 39 now clarifies that plastic and packaging waste must meet the EN 13432 standard or be certified biodegradable

5.12.1. Sewage sludges

The code for sewage sludge currently used in standard rules is 19 08 05 sludges from treatment of urban waste water. This only applies to raw (untreated) sewage sludge. This was not our intention. Where this code appears in standard rules we propose to replace it with three new codes:

19 02 06 sludges from physico/chemical treatment other than those mentioned in 19 02 05 (sewage sludge which has been previously pasteurised and stabilised only)

19 05 03 off-specification compost (previously composted sewage sludge only)

19 06 06 digestate from anaerobic treatment of animal and vegetable waste (previously digested sewage sludge only)

This will ensure that only treated sewage sludge can be received under the standard rules.

SR2008 No19 is the exception because this rule set is intended solely for the digestion of sludges.

5.13. Additional waste types for composting

We propose the following additional waste types for open windrow composting (excluding smaller sites of less than 500 tonnes):

- 19 05 01 non-composted fraction of municipal and similar wastes - from composting processes that accept waste input types listed in the standard rules and made up of previously sanitised batches only

- 19 06 04 digestate from anaerobic treatment of municipal waste, separated fibre from a process that accepts waste input types listed in the standard rules or anaerobic digestion standard rules only

We consider that this will develop the market further for digestate:

- where food waste collections are packaged in compostable bags
- which requires further composting to stabilise the material

We recognise that many AD facilities will not have spare capacity or infrastructure to treat digestate by composting.

We will work with the Animal and Plant Health Agency (APHA) to make sure we have the right environmental measures in place.

Additional waste types for in-vessel closed systems:

- 19 05 01 non-composted fraction of municipal and similar wastes from composting processes that accept waste input types listed in these standard rules and made up of previously sanitised batches only
- 19 05 02 non-composted fraction of animal and vegetable waste from composting processes that accept waste input types listed in these standard rules, made up of previously sanitised batches only
- 19 06 03 liquor from anaerobic treatment of municipal waste (from a process that accepts waste input types listed in these standard rules or anaerobic digestion standard rules only)
- 19 06 04 digestate from anaerobic treatment of municipal waste separated fibre from a process that accepts waste input types listed in these standard rules or anaerobic digestion standard rules only
- 19 06 05 liquor from anaerobic treatment of animal and vegetable waste from a process that accepts waste input types listed in these standard rules or anaerobic digestion
- 19 06 06 digestate from anaerobic treatment of animal and vegetable waste, separated fibre from a process that accepts waste input types listed in these standard rules or anaerobic digestion standard rules only

The additional waste codes will allow the recovery of post AD digestate fibre. This is where compostable packaging is present in the feedstock which results in the need for further treatment. This will improve the digestate market. Composting of fibre will also reduce ammonia emissions during storage.

We will keep these waste codes under review. We will check for detrimental effects or increased odour incidents.

We expect some short term disruption by limiting non-biodegradable plastic in feedstock. However, the longer term economic gains will improve market confidence.

5.14. Commissioning facilities and Hazard Operability Study (HAZOP)

Your facility's management system sets out your procedures, including staff training. It should include a commissioning plan. This sets out how you will address incidents during commissioning.

This is often missing. We know that lack of, or a poorly adopted management system causes failures and non-compliance.

We propose that new facilities are required to have a commissioning plan before they receive waste.

Existing sites will be required to submit a re-commissioning plan before re-start following any period of shut down or refurbishment.

We propose that all facilities do a HAZOP assessment or similar risk assessment to inform the requirement for critical work and maintenance. Operators will need to detail the programme of works in their management procedures. We think this is an appropriate measure and best practice.

Doing a risk assessment and a programme of planned works is fundamental to operations. There should be no additional cost as operators should already be doing this. The level of detail required will vary from site to site depending on how complex it is. Many of the critical issues are addressed in the permit's accompanying risk assessment.

5.15. Reducing emissions

Many odour complaints and fugitive emissions relate to feedstock controls and/or ineffective abatement systems. We know that emissions from biowaste facilities are rising, see figure 1.

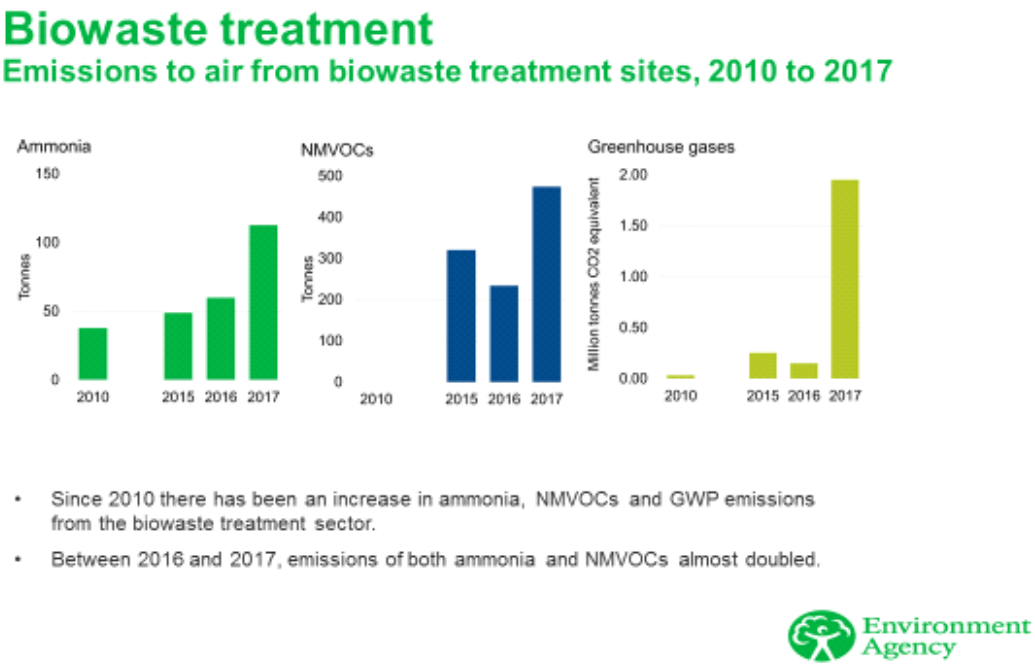


Figure 1: Emissions reporting from biowaste operations.

Governments clean air strategy sets out the requirement for ammonia reduction. Total emissions from AD in 2017 were 13.6Kt or 4.8% of UK total ammonia emissions. This comprises:

- 12.8Kt from digestate spreading on land
- 0.8Kt from the AD process and storage

These figures are based on the assumption that both:

- all stores are covered
- there is 95% ammonia abatement

We know that many stores are not covered. We think emission rates are higher.

Ammonia emissions from slurry stores (such as open tanks and lagoons) can be reduced. This can be done by decreasing the airflow across the surface. For existing stores you can install solid or floating covers. This allows a surface crust to form. For new structures you can increase the depth of stores to reduce the surface area to volume ratio.

Co-benefits

Solid covers (and open roofs) prevent rain from filling the storage. This makes the capacity more predictable. Also with less water, haulage and disposal costs are lower.

Covers reduce odour and greenhouse gas emissions. However under some conditions straw cover may increase NO2 emissions. Reducing the surface to volume ratio tends to have the same co-benefits as covers. There are also indicative cost savings in terms of nitrogen loss.

Operators should already prevent fugitive emissions release. We propose that methods to prevent fugitive emissions become a prescribed operational technique supported by monitoring requirements.

We propose the following:

- inclusion of specified operational techniques addressing feedstock and waste storage
- a requirement to monitor feedstock waste on compost sites to ensure the biodegradation is managed
- covering high ammonia feedstock such as chicken manure
- all facilities that depend on abatement to demonstrate the plant is designed and built to treat the process emissions and is maintained to ensure it remains fit for purpose
- implement BREF, BAT conclusions and BAT-AEL's for installations
- introduce Emission Limit Values (ELV) for some waste standard rules permits where the risk is highest
- introduce a requirement to review and investigate all failures and incidents
- a schedule of planned work and critical infrastructure assessment
- a requirement to monitor abatement efficiency and report it to us annually
- a requirement to cover all storage lagoons and tanks (such as digestate and dirty water) and provide air extraction and abatement
- implementation of leak detection devices at AD plants
- all sites to have storage contingency for periods where the landbank is unavailable
- all tank transfers are linked to an abatement system
- pressure relief valves are correctly sized and checked to ensure re-seating after release - a record of use must be maintained and an annual report submitted to the Environment Agency to include date, time and duration of event and an estimate of the mass release.
- auxiliary flares must be available on site - a record of use must be maintained and an annual report submitted to the Environment Agency to include date, time and duration of event and an estimate of the mass release.

There is already a requirement for standard rules permits to cover digestate stores. We recognise, for existing facilities adding a cover may be cost prohibitive. However adding a floating cover may be a viable alternative. Most compliant operators already employ these appropriate measures and best available technique.

5.16. Fire prevention

To reduce the risk of fire, we propose to add some additional measures to our fire prevention plan (FPP) guidance. This supports the fire prevention permit condition. All composting sites that accept, sort or treat combustible waste will have a fire prevention condition. Sites that do not have the fire prevention condition will be required to address these measures in their written management system. Specific fire prevention measures include:

- monitoring of representative temperatures throughout the process and in stock piles, for example over-size, in line with our published FPP guidance
- a requirement to monitor maturing materials, for example, during the composting of digestate
- safe storage of activated carbon (new and used)
- lightning conduction and the requirement for Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) assessment on AD plant
- methane leak detection and repair on AD plant
- permit to work procedure on AD plants

Fire risk is reduced when operators apply all appropriate measures and best available techniques for storage, processing and monitoring.

We do not think operators will be affected by the additional requirements. The majority of sites will already have put in these measures.

5.17. Water harvesting and separating clean and fouled water

We propose all facilities harvest and utilise clean surface water. Where possible, divert clean surface water from dirty water areas. This is a BAT requirement but it is also an appropriate measure for waste operations to:

- reduce abstraction volumes and reliance on potable water supply and associated costs
- provide water for maintaining housekeeping and for firefighting
- ensure surface water does not contribute to the volume of leachate collected in lagoons, reducing cost of disposal

We consider these are existing appropriate measures.

5.18. Changes to operating techniques - monitoring and process control

All operators are required to demonstrate good process control. In our call for evidence we asked how good operational performance should be reflected in the permit conditions. Responses ranged from setting out control parameters in permit conditions to incorporating them into guidance.

We know that non-compliances arise from poor management systems or poorly implemented management systems. Inadequate infrastructure design and poor maintenance are also contributing factors.

We do not intend to prescribe all measures in the permit. But we will do in our guidance. Therefore, there will be no ambiguity in what we require.

We have consulted on these measures with industry and insurance companies who are in support of proposed amendments.

These measures should be incorporated in the operator's management system.

Published guidance will be available in the autumn.

5.19. Waste and material returns

Operators are already required to submit waste returns for waste entering and leaving the site. We have data that shows the recovery of compost and digestate that leaves site under deployment. However, the data does not currently reflect the total amount of waste recovered. To ensure we have complete data we are proposing that all material leaving the site, including certified material, is recorded.

Operators already submit waste returns to us on a quarterly basis so we do not expect this to introduce any additional cost.

We have included additional interpretations to ensure operators understand how to comply with their permit.

5.20. Medium Combustion Plant and generators

The anaerobic digestion standard rules have been amended to include conditions that apply to the operation of medium combustion plant and generators.

In addition to monitoring requirements and emission limits we have included a requirement for the operator to notify us if they install additional combustion plant that is new medium combustion plant.

5.21. Individual permit amendments

5.21.1. SR 2010 No 14 and SR 2011 No 1 - 500t small scale aerobic composting

These standard rules permits enable small scale operations at levels above the T23 waste exemption but below a full scale commercial composting operation. We expect these smaller scale activities will be composting waste produced nearby or at the place of production.

We will include a daily capacity limit of 75 tonnes in treatment to ensure operations are below the installation threshold.

We have removed the requirement for mixing feedstock ratios in SR 2011 No 1 and intend to allow a wider variety of waste feedstock.

We will incorporate SR 2011 No 1 into SR 2010 No 14 and then withdraw SR 2011 No 1.

We will deal with these as an administration variation and there will be no cost to permit holders. The consolidated rule set does not introduce new restrictions other than a daily limit. Operators who exceed this limit should have an installation permit already.

5.21.2. SR 2008 No 16 - 25kte and SR 2008 No 17- 75kte

We intend to include a daily capacity limit of 75 tonnes to ensure operations are below the installation threshold. We will move SR2008 and SR2010 permit holders to the latest rule set SR2012 No 7. Earlier versions will be withdrawn.

We will deal with these as an administration variation and there will be no cost to permit holders. The consolidated rule set does not introduce new restrictions other than a daily limit. Operators that exceed this limit should have an installation permit already.

5.21.3. SR 2012 No 7 v2.0 Composting in open processes

We restricted the total waste acceptance per day to 75 tonnes to remove the risk of stockpiling. However, this had little effect on odour and may restrict operators contractually. We consider that pre-acceptance, acceptance and active management of waste feedstock's to prevent anaerobic conditions is more fundamental to the control of emissions and odour.

Data on waste returns indicate that these sites operate below 30,000 tonnes of waste per year. We propose that yearly tonnages are reduce from 75,000 tonnes per year to 35,000. However, operations must not exceed the design capacity of the site.

We have increased the amount of waste to 100 tonnes per day, provided that the waste waiting for treatment is monitored and stored to prevent anaerobic conditions.

We propose that in addition to the increase in tonnes per day, we will allow up to 200 tonnes of waste to be stored for up to 5 days prior to processing.

There will be no effect on costs. Waste returns data show that operators using SR 2012 No 7 process less than 30,000 tonnes of waste per annum. Operators should already have an installation permit if they treat or have capacity to treat over 75 tonnes of waste per day.

5.21.4. SR 2008 No 17 and SR 2012 No 3 – Closed vessels composting waste operations

We will consolidate these. Earlier versions will be withdrawn.

We are considering changing the standard rules to allow stabilisation in the open, after the requirements under the Animal By-Products regulations are met. However we would require static aeration to be installed or the use of covers on windrows. We will consult and work with the Animal and Plant Health Agency but welcome industry's view on whether this is economically viable and achievable.

We will require routine monitoring and maintenance on all abatement systems to ensure they remain effective.

We will include process monitoring requirements for composting windrows and static piles.

There should be no additional cost to operators. Those who treat over 75 tonnes per day in composting should already have an installation permit. Operators should already be doing the process monitoring requirements.

We propose that older versions of standard rules permits, 2008 and 2010 will be moved to one consolidated version.

We will deal with these as an administrative variation and there will be no cost to permit holders.

5.21.5. SR2008 No 19 - non-hazardous sludge biological chemical and physical treatment site 75kte and 250kte

The 75kte and 250kte versions will be merged with a single annual limit of 250kte.

Implementation of the Industrial Emission Directive for the biological treatment of waste has been completed apart from the anaerobic digestion of sewage sludge. To facilitate the permitting of sludge digesters we have amended these standard rules to reflect the requirements of the BREF and BAT. Chemical and physical treatment are still listed but only as directly associated activities to the biological treatment activity. Gas combustion and clean-up for injection to grid is also included.

Waste types have been restricted to raw and treated sewage sludges and septic tank sludges. These feedstocks produce digestate of a type capable of being spread under the Sludge Use in Agriculture Regulations (subject to other requirements).

The requirements of the Medium Combustion Plant Directive are incorporated into the rules.

6. Responding to this consultation

6.1. Important dates

This consultation will start on 21 October 2019 and run until 13 January 2020.

6.2. How to respond

You can view the consultation documents and questions online at:

https://consult.environment-agency.gov.uk/environmental-permitting/standard-rules-consultation-no-20.

Here you can submit your response using our online tool which will enable you to manage your comments more effectively. It will also help us to gather and summarise responses quickly and accurately as well as reducing the costs of the consultation.

If you prefer to submit your response by email or letter, or if you would like to ask for a printed version of the document to be posted to you, please contact our National Customer Contact Centre on 03708 506 506 (Minicom, for the hard of hearing; 03702 422 549), Monday to Friday, 8am to 6pm, or email standard-rules@environment-agency.gov.uk.

If you would like to send your response by post, please send your completed response form by 13/01/2020 to:

Future Regulation - Permitting [Standard Rules Consultation no 20]

Environment Agency, Horizon House, Deanery Road, Bristol BS1 5AH

6.3. How we will use your information

We will use your information to help shape these standard rules.

During the consultation we will look to make all responses publicly available after the consultation, unless you have specifically requested that we keep your response confidential.

We will not publish names of individuals who respond.

We will also publish a summary of responses on our website in which we will publish the name of the organisation for those responses made on behalf of organisations.

We will not respond individually to responses. After the consultation has closed we will publish a summary of the responses on our website and contact you to let you know when this is available.

In line with the Freedom of Information Act 2000, we may be required to publish your response to this consultation, but will not include any personal information. If you have requested your response to be kept confidential, we may still be required to provide a summary of it.

For more information see our Personal Information Charter.

6.4. Privacy notice

The Environment Agency would like to keep you informed about the outcomes of the consultation. If you would like to receive an email acknowledging your response and be

notified that the summary of responses has been published please give us your email address in your response to this consultation.

By providing us with your email address you consent for us to email you about the consultation. We will keep your details until we have notified you of the response document publication.

We will not share your details with any other third party without your explicit consent unless required to by law.

You can withdraw your consent to receive these emails at any time by contacting us at:

mailto:standard-rules@environment-agency.gov.uk

6.5. Consultation principles

We are running this consultation in line with the guidance set out in the government's Consultation Principles.

If you have any queries or complaints about the way this consultation has been carried out, please contact:

Lucy Payne, Consultation Co-ordinator

Environment Agency, Horizon House, Deanery Road, Bristol BS1 5AH

Email: mailto:lucy.payne@environment-agency.gov.uk

Appendix

Pollution incidents

We recognise that biowaste treatment operators are striving to be the best they can be.

However, some parts of the sector still need to improve performance. Historically, the biowaste sector has been the cause of a significant number of high impact incidents, ongoing odour nuisance and fires (see figures 2 and 3). These incidents affect the quality of life of communities and can pollute the environment.

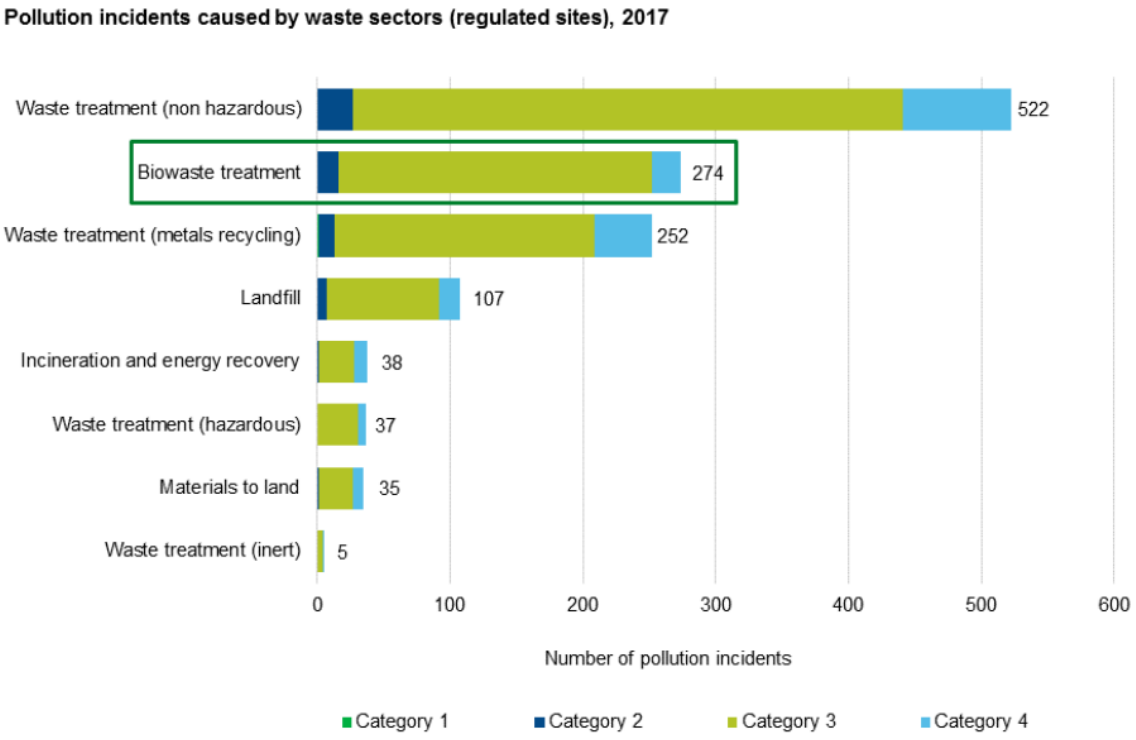
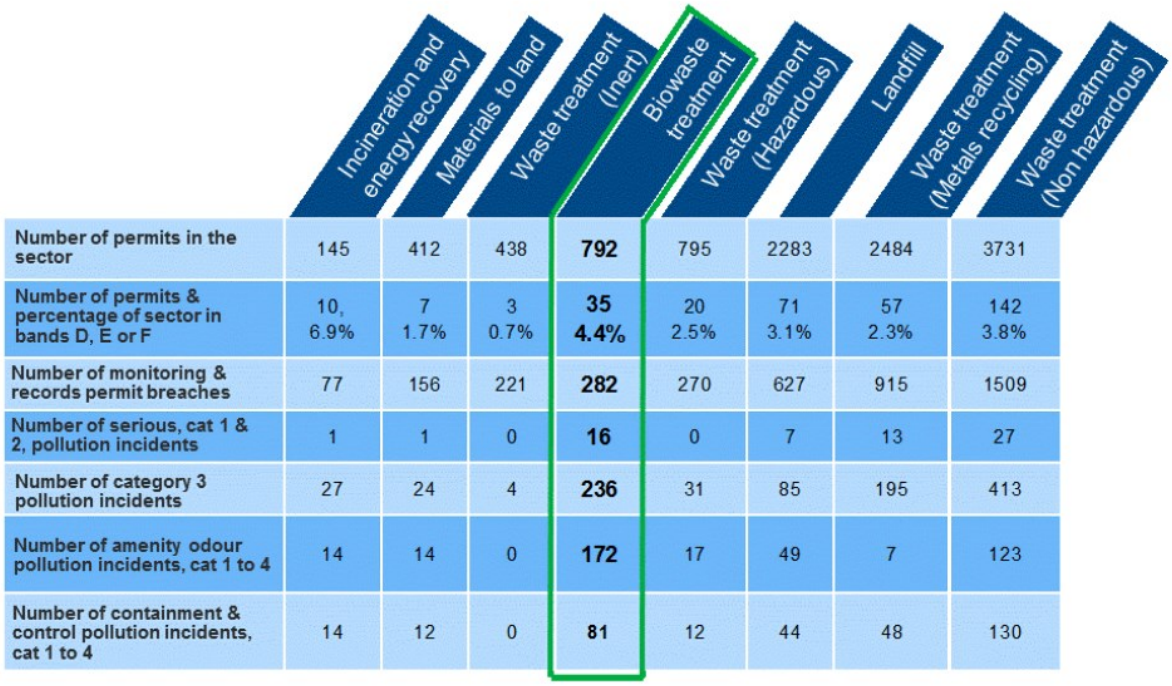


Figure 2: Pollution Incidents- comparison of sectors (2017)



	Incineration and energy recovery	Materials to land	Waste treatment (Inert)	Biowaste treatment	Waste treatment (Hazardous)	Landfill	Waste treatment (Metals recycling)	Waste treatment (Non hazardous)
Number of permits in the sector	145	412	438	**792**	795	2283	2484	3731
Number of permits & percentage of sector in bands D, E or F	10, 6.9%	7 1.7%	3 0.7%	**35 4.4%**	20 2.5%	71 3.1%	57 2.3%	142 3.8%
Number of monitoring & records permit breaches	77	156	221	**282**	270	627	915	1509
Number of serious, cat 1 & 2, pollution incidents	1	1	0	**16**	0	7	13	27
Number of category 3 pollution incidents	27	24	4	**236**	31	85	195	413
Number of amenity odour pollution incidents, cat 1 to 4	14	14	0	**172**	17	49	7	123
Number of containment & control pollution incidents, cat 1 to 4	14	12	0	**81**	12	44	48	130

Figure 3: Comparison break down of performance and incidents for each waste sector

Biowaste treatment can significantly contribute to a sustainable and circular economy. Recovering organic waste for soil benefit replaces a reliance on chemical fertilisers and decreases the dependence on peat. The sector has a positive impact on agriculture by mitigating decreasing soil quality and helping reduce the impact of climate change through carbon sequestration. As important is the potential for energy production from anaerobic digestion (AD). AD can help meet renewable energy targets and decrease the reliance on fossil fuels so helping to further tackle climate change.

However, unless controlled, the negative impacts from emissions (such as odour, bioaerosols and ammonia) and incidents can impact on health, quality of life and the environment. Using correct and considered design, build, maintenance and improving operator competence can reduce these impacts.

Waste should be recovered without:

- risk to water, air, soil, plants or animals
- causing nuisance through noise or odours
- adversely affecting the countryside or places of special interest
- impairing the quality of soil, surface water and ground water

We want a regulatory framework which is fair and achievable but that limits adverse impacts. We want a positive sector reputation, increased use of food waste as a resource, replacement of chemical fertilisers and an ambition for a high quality and value product, confidently promoting and closing the circular and bio economy loop. Following our biowaste call for evidence in 2018 our proposals in this standard rules review offer an opportunity to achieve these objectives.

Plastic contamination

For many years the industry has struggled with high levels of contamination in incoming feedstock. This is particularly so from kerbside collections. We are concerned about plastic contamination because it can end up in the final material. This is then spread to land (see figure 4). More than 80% of plastics found in marine environments have been produced, consumed and disposed of on land. The impact of plastic and its breakdown products in the environment and on human health have yet to be determined. However, we think controlling plastic is fundamental to closing the loop on the circular economy. We what to apply better regulatory controls to improve material destined for land use.

Figure 4: examples of plastic contamination found in compost and digestate.

Consideration of standard rules

To meet governments 25 Year Environment Plan, Clean Air Strategy and vision or a Circular Economy, we want our permitted sites to be efficient. We also want them to carry out sustainable waste recovery activities. This means valuing waste as a resource by recovering and recycling organic waste while not imposing risk to people or the environment. We want to work with industry and the wider community to fulfil our aim. This means we want waste operations to be safe - with no pollution incidents and no residual impact on the environment. We also want to make sure our waste industry is economically viable.

With these objectives in mind we have reviewed evidence on the performance of biowaste operations under standards rules permits. We propose fundamental changes to support the longevity of these particular standard rules. We want to ensure that all facilities are well designed and are built, maintained and operated to expected levels of performance. We will continue, for the next 2 years, to review operator performance and compliance following any changes we make to the permit rules.

Evidence for the review

Incidents

During 2016 to 2017, we dealt with 1,322 incidents from biowaste sites. We have around 780 permitted sites at any given time. On average, we have 16 high category incidents per year (figure 5). The root cause of this is poor maintenance, poor process control and/or lack of or failure to implement a management system. The impact of an incident is often exacerbated by poorly engineered or no containment on site.

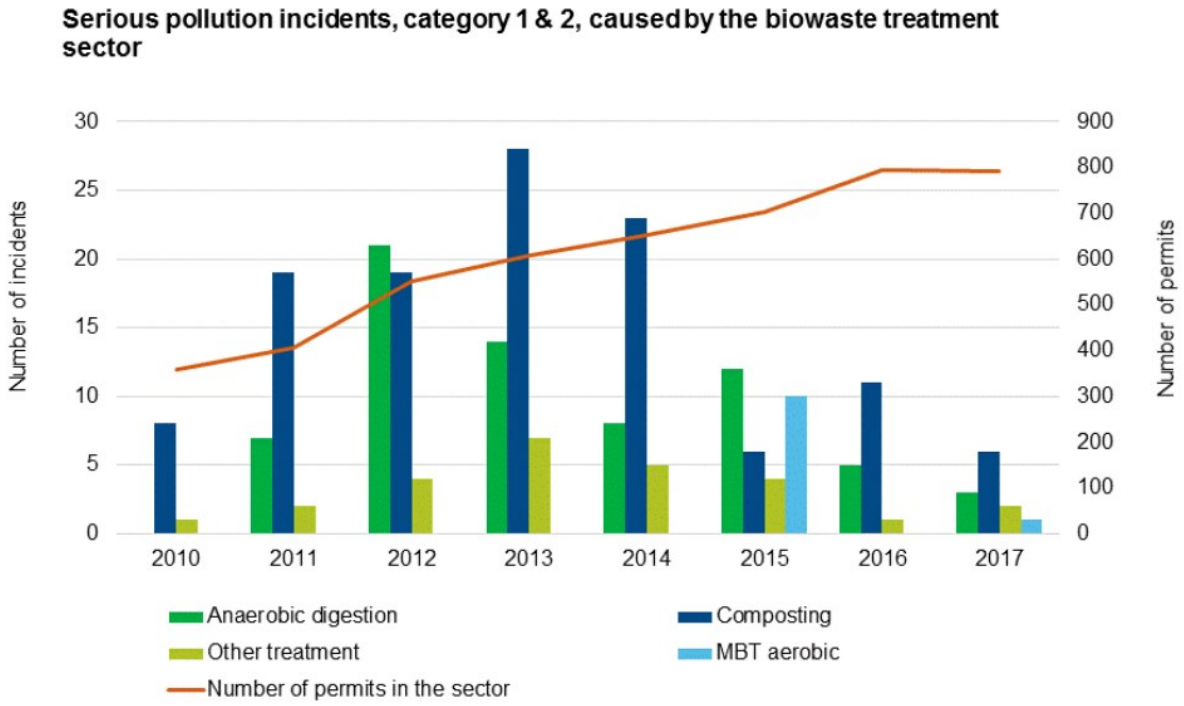


Figure 5: Graph showing serious incident trend for the biowaste sector

Poor performance

The biowaste sector continues to be one of our worst performing sectors. The sector has a significant number of poor performers compared with the size of other sectors per 100 regulated sites. (Figure 6)

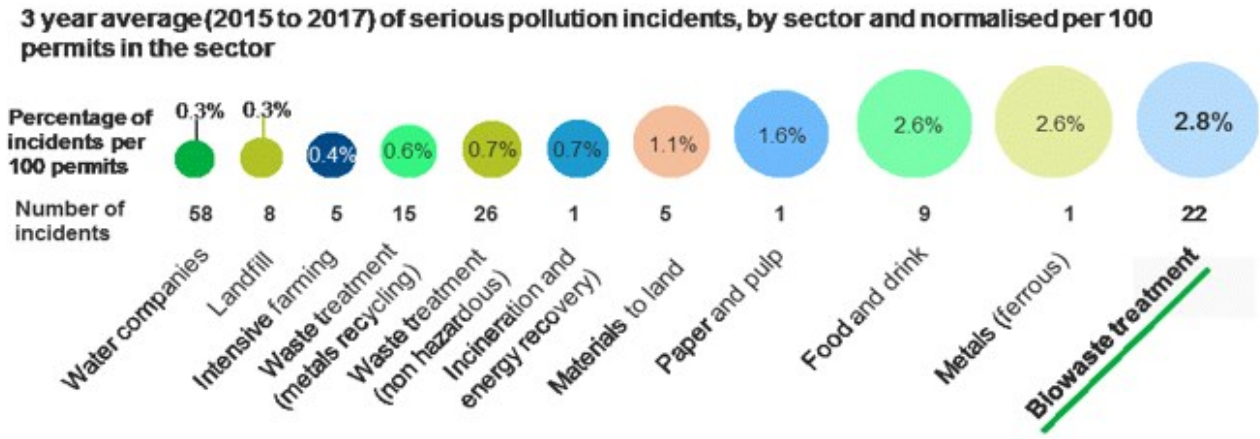


Figure 6: Average over three years of waste sector performance per 100 sites

Root Causes

Over 3 years we have identified the root causes of failings - see Figure 7. We found that these were mainly due to operators:

- having inadequate design or poor construction standards
- having lack of adequate operational process control
- failing to have or follow an effective management system
- having deficient maintenance systems
- having inadequate pre-acceptance and acceptance checks and unacceptable levels of feedstock contamination

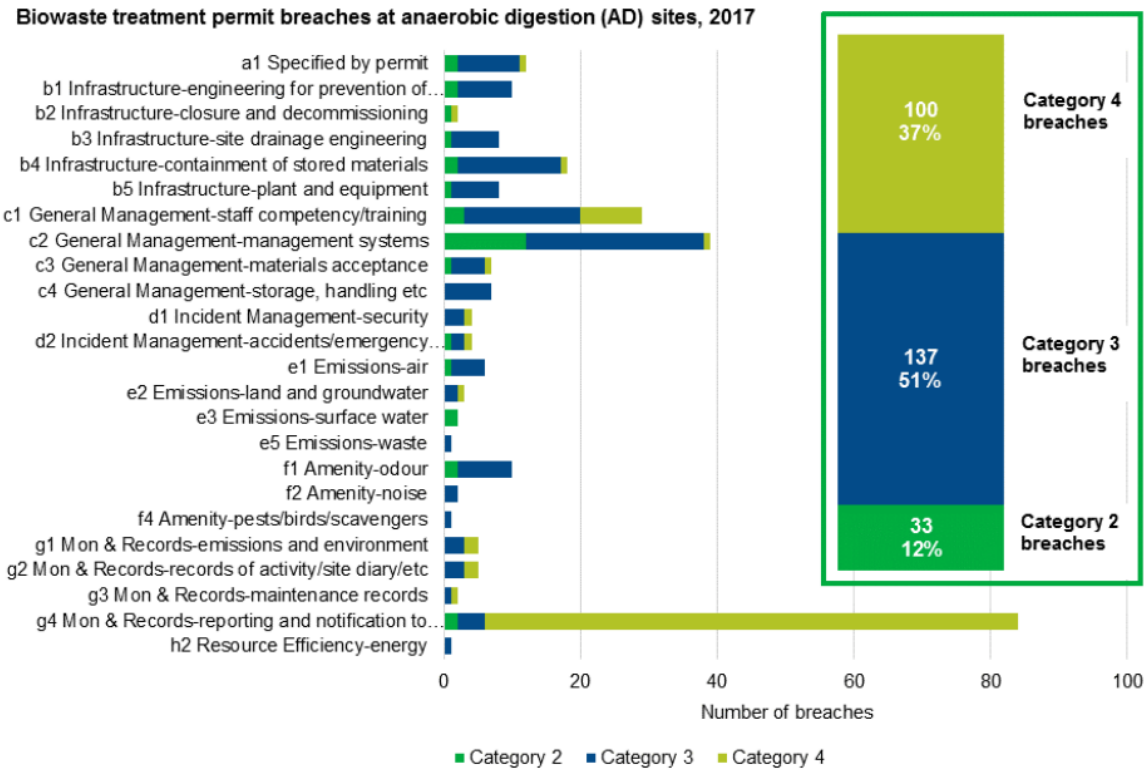


Figure 7: Permit breaches for AD sites (2017)

We know from our data that failures and non-compliance root causes are similar for compost sites (figure 8).

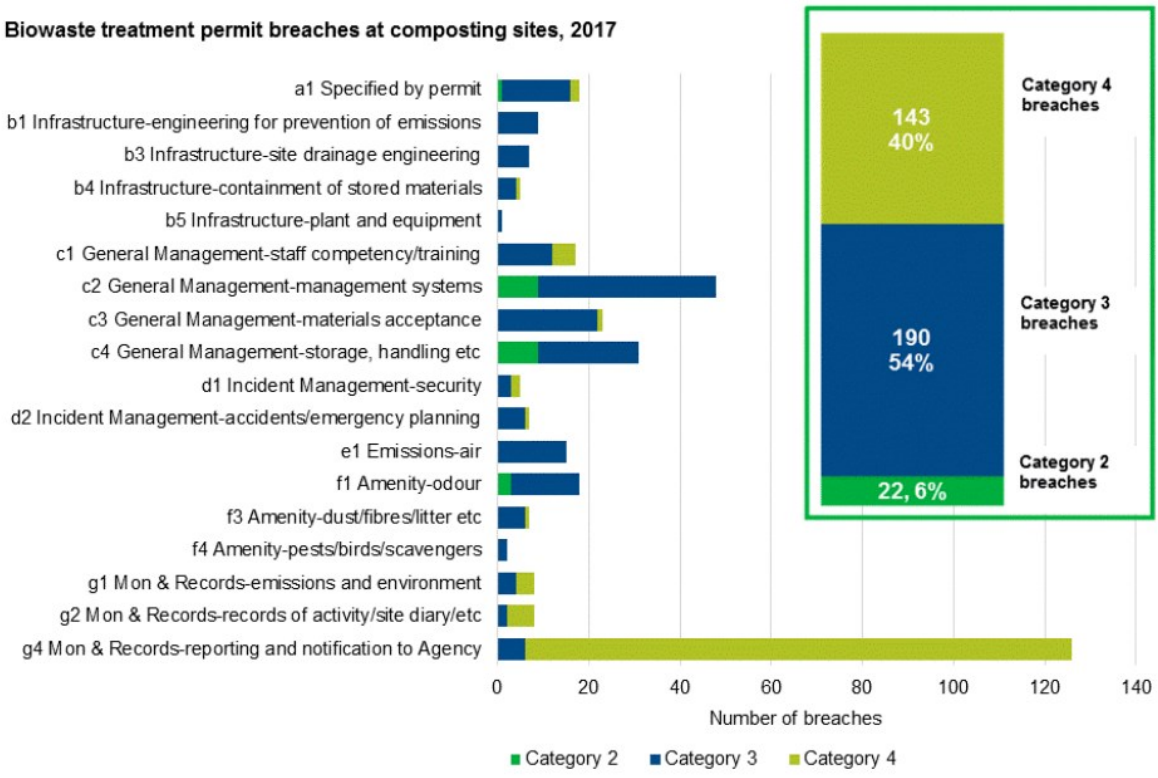


Figure 8: Permit breaches for composting sites (2017)

We have worked closely with industry trade bodies to find solutions to compliance issues and in autumn 2018 we asked industry to provide alternative evidence-backed proposals.

We have published our response to industry comments on our call for evidence and the results of our three year anaerobic digestion audit programme.

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