

## Process Guidance Note 3/05(12)

### Statutory guidance for coal, coke, coal product and petroleum coke

September 2012

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Llywodraeth Cymru  
Welsh Government



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**Process Guidance Note 3/05(12)**

**Statutory guidance for coal, coke, coal product  
and petroleum coke**

## Revision of the guidance

The electronic version of this publication is updated from time to time with new or amended guidance. **Table 0.1** is an index to the latest changes (minor amendments are generally not listed).

Table 0.1 - Revision of the guidance		

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# 1. Introduction

## Legal basis

- 1.1 This note applies to the whole of the UK. It is issued by the Secretary of State, the Welsh Assembly Government, the Scottish Government and the Department of the Environment in Northern Ireland, (DoE NI), to give guidance on the conditions appropriate for the control of emissions into the air from coal, coke, coal product and petroleum coke. It is published only in electronic form and can be found on the Defra, DoENI, SEPA and WAG websites. It supersedes PG3/05(04) and NIPG3/5(04).
- 1.2 This guidance document is compliant with the [Code of Practice on Guidance on Regulation](#) page 6 of which contains the "golden rules of good guidance". If you feel this guidance breaches the code or you notice any inaccuracies within the guidance, please [contact us](#).
- 1.3 This is one of a series of statutory notes<sup>1</sup> giving guidance on the Best Available Techniques (BAT)<sup>2</sup>. The notes are all aimed at providing a strong framework for consistent and transparent regulation of installations regulated under the statutory Local Air Pollution Prevention and Control (LAPPC) regime in [England and Wales](#), [Scotland](#) and [Northern Ireland](#). The note will be treated as one of the material considerations when determining any appeals against a decision made under this legislation.
- 1.4 In general terms, what is BAT for one installation in a sector is likely to be BAT for a comparable installation. Consistency is important where circumstances are the same. However, in each case it is, in practice, for regulators (subject to appeal) to decide what is BAT for each individual installation, taking into account variable factors such as the configuration, size and other individual characteristics of the installation, as well as the locality (e.g. proximity to particularly sensitive receptors).
- 1.5 The note also, where appropriate, gives details of any mandatory requirements affecting air emissions which are in force at the time of publication, such as those contained in Regulations or in Directions from the Government. In the case of this note, at the time of publication there were no such mandatory requirements.

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<sup>1</sup> this and other notes in the series are issued as statutory guidance in England and Wales under regulation 64(2) of the Environmental Permitting Regulations. The notes are also issued as guidance in Scotland and statutory guidance in Northern Ireland

<sup>2</sup> further guidance on the meaning of BAT can be found for [England and Wales](#), [Scotland](#), and [Northern Ireland](#).



## **Simplified or standard permits**

- 1.6 Most of the activities covered by this note will have essentially the same characteristics and it is expected that the application form and model permit in **Appendices 1 and 2** will normally be used in order to simplify for business the process of applying for a permit and to simplify for regulators the process of issuing a permit. (See also the relevant LAPPC charging scheme for reduced application and subsistence charges for simplified permits).

If there are good reasons to consider diverging from normal use of the model permit, the starting point for drafting any additional conditions should be the arrowed bullets in the main body of this note.

In the case of activities covered by this note which are mobile plant or which are likely to have an annual throughput of coal greater than 250,000 tonnes in any 12-month period, it is expected that regulators will continue to use standard applications and permits.

Sites with more than one Pt B activity (Part C in Northern Ireland) which in accordance with the relevant charging scheme are to be treated as a single activity will require a full permit not a simplified permit, therefore the whole installation comprising both activities should be subject to a full permit.

- 1.7 For activities covered by this note which are mobile plant or are likely to have an annual throughput of coal greater than 250,000 tonnes in any 12-month period, in Section 4 and Section 5, arrows are used to indicate the matters which should be considered for inclusion as standard permit conditions. It is important to note, however, that this should not be taken as a short cut for regulators to a proper determination of BAT or to disregard the explanatory material which accompanies the arrows. In individual cases it may be justified to:

- include additional conditions;
- include different conditions;
- not include conditions relating to some of the matters indicated.

In addition, conditions will need to be derived from other parts of the note, in particular to specify emission limits, compliance deadlines and mandatory requirements arising from directions or other legislation.

## **Who is the guidance for?**

- 1.8 This guidance is for:

### **Regulators**

- local authorities in England and Wales, who must have regard to the guidance when determining applications for permits and reviewing extant permits;
- the Scottish Environment Protection Agency (SEPA) in Scotland, and district councils or the Northern Ireland Environment Agency, (NIEA), in Northern Ireland.

**Operators** who are best advised also to have regard to it when making applications and in the subsequent operation of their installation.

**Members of the public** who may be interested to know what the Government considers, in accordance with the legislation, amounts to appropriate conditions for controlling air emissions for the generality of installations in this particular industry sector.

### **Updating the guidance**

- 1.9 The guidance is based on the state of knowledge and understanding, at the time of writing, of what constitutes BAT for this sector. The note may be amended from time to time to keep up with developments in BAT, including improvements in techniques, changes to the economic parameters, and new understanding of environmental impacts and risks. The updated version will replace the previous version on the [Defra](#) website and will include an index to the amendments.
- 1.10 Reasonable steps will be taken to keep the guidance up-to-date to ensure that those who need to know about changes to the guidance are informed of any published revisions. However, because there can be rapid changes to matters referred to in the guidance – for example to legislation – it should not be assumed that the most recent version of this note reflects the very latest legal requirements; these requirements apply.

### **Consultation**

- 1.11 This note has been produced in consultation with relevant trade bodies, representatives of regulators including members of the Industrial Pollution Liaison Committee, and other potentially-interested organisations.

### **Policy and procedures**

- 1.12 General guidance explaining LAPPC and setting out the policy and procedures is contained in separate documents for [England and Wales](#), [Scotland](#) and [Northern Ireland](#).

## 2. Timetable for compliance and reviews

### Existing processes or activities

- 2.1 This note contains all the provisions from previous editions which have not been amended or removed. For installations in operation at the date this note is published, the regulator should have already issued or varied the permit having regard to the previous editions. If they have not done so, this should now be done.
- 2.2 The new provisions of this note and the dates by which compliance with these provisions is expected are listed in the **Table 2.1** together with the paragraph number where the provision is to be found. Compliance with the new provisions should normally be achieved by the dates shown. Permits should be varied as necessary, having regard to the changes and the timetable.

Table 2.1 - Compliance timetable		
Guidance	Relevant paragraph/row in this note	Compliance date
There are no new provisions in this note likely of themselves to result in a need to vary existing permit conditions. For a full list of changes made by this note, excluding very minor ones, see <b>Table 6.1</b> .		

- 2.3 Replacement plant should normally be designed to meet the appropriate standards specified for new installations/activities.
- 2.4 Where provisions in the preceding guidance note have been deleted or relaxed, permits should be varied as necessary as soon as reasonably practicable. It is expected that local authorities will aim to vary existing permits so as to convert them into the model permit format in **Appendix 2** within 12 months of the publication of this note
- 2.5 For new activities, the permit should have regard to the full standards of this guidance from the first day of operation.
- 2.6 For substantially changed activities, the permit should normally have regard to the full standards of this guidance with respect to the parts of the activity that have been substantially changed and any part of the activity affected by the change, from the first day of operation.

## Permit Reviews

- 2.7 Under LAPPC, the legislation requires permits to be reviewed periodically but does not specify a frequency. It is considered for this sector that a frequency of once every eight years ought normally to be sufficient for the purposes of appropriate Regulations<sup>3</sup>. Further guidance on permit reviews is contained in the appropriate Guidance Manual for [England and Wales](#), [Scotland](#) and [Northern Ireland](#). Regulators should use any opportunities to determine the variations to permits necessitated by **paragraph 2.2** above in conjunction with these reviews.
- 2.8 Conditions should also be reviewed where complaint is attributable to the operation of the process and is, in the opinion of the regulator, justified.

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<sup>3</sup> For details see [England and Wales General Guidance Manual](#) chapter 26, [Scotland, Practical guide](#) section 10, Northern Ireland [Part B Guidance](#) page 9, [Northern Ireland Part C](#) Guidance chapter 17.

### 3. Activity description

#### Regulations

- 3.1 This note applies to LAPPC installations for the Coal, Coke, Coal Product and Petroleum Coke. The activities for regulation are listed in **Table 3.1**.

<b>Table 3.1 - Regulations listing activities</b>			
<b>LAPPC</b>	<b>England and Wales</b>	<b>Scotland</b>	<b>Northern Ireland</b>
	<b>EPR Schedule 1 reference</b>	<b>PPC Schedule 1 reference</b>	<b>PPC Schedule 1 reference</b>
Part B	<a href="#">Section 3.5 Part B</a>	<a href="#">Section 3.5, Part B</a>	n/a
Part C	n/a	n/a	<a href="#">Section 3.5 Part C</a>

The links are to the original version of the Regulations. A consolidated version is not available on [www.legislation.gov.uk](http://www.legislation.gov.uk)

- 3.2 This note refers to processes where coal, coke or coal products undergo any of the following: size reduction, screening, grading, blending, packing, loading or unloading. It also refers to the loading or unloading of petroleum coke.
- 3.3 This note covers loading and unloading of coal, as well as grading, blending and washing operations, at open cast mines and sites where coal is recovered from spoil. The stripping of overburden and the handling of spoil are not considered to be prescribed processes and are therefore not referred to in this note.

#### Useful process definitions

**Overburden** - earth or rock overlying the valuable deposit.

**Spoil** - overburden incorporating some valuable deposit that has not been completely separated from the overburden.

**Size reduction** - crushing of larger sizes to provide the smaller sizes mostly required by industry. The following are examples of different types of crusher:

- Pick breaker - designed to imitate the action of miners picks.
- Bradford breaker - massive cylindrical screen with fins fitted longitudinally inside the screen. Cylinder rotates raising the lumps of coal which fall, break and are screened.
- Other commonly used crushers include jaw crushers, corrugated roll crushers and toothed roll crushers.

**Screening** - a sieving operation to separate the coal into fractions of different size - the coal is passed over bars, perforated plates, or wire mesh screens, so that sizes smaller than the openings fall through.

**Grading** - the selection of fractions of particular size - slightly more accuracy required **than for screening but similar techniques used.**

**Blending** - mixing of different coal types to modify the properties of the coal.

**Loading** - may be into hoppers, train carriages, canal barges, ships or road vehicle carriers. May be loose material or bagged material.

**Unloading** - from any of the above.

**Coal cleaning processes** - there are different types of "cleaning" process which may be used to segregate coal, "middlings" (inferior coal), "discard" (shales and stone) and inorganic impurities. Removal of inorganic impurities reduces the amount of ash formed when the coal is burned. There are dry processes and wet processes.

- 3.4 Dry processes eliminate the cost of drying wet coal and the difficulty of disposing of slurries of water and fine coal or dust. However, coal often does not arrive dry, dust arising from the process can be a hazard and close screening is necessary to achieve good separation.
- 3.5 Dry processes include the use of pneumatic tables, spiral separators and the Berrisford process. They use the difference in density, dry friction and resiliency between the coal product and the unwanted impurity, for separation.
- 3.6 Wet processes use the difference in density, size and shape between the coal product and the unwanted impurity, for separation. They include the following:

**Dense medium separator** - dense medium is usually a suspension of closely graded mineral particles in water, for example sand (Chance process), barites (Barvoys process) and magnetite (Tromp).

Separation occurs by virtue of the different densities of the different types of material which means they have a different buoyancy in the dense medium, which has a known specific gravity. All dense medium washers can treat material with a wide range of particle size, the lower limit usually being the size of the mineral particles being used in the dense medium.

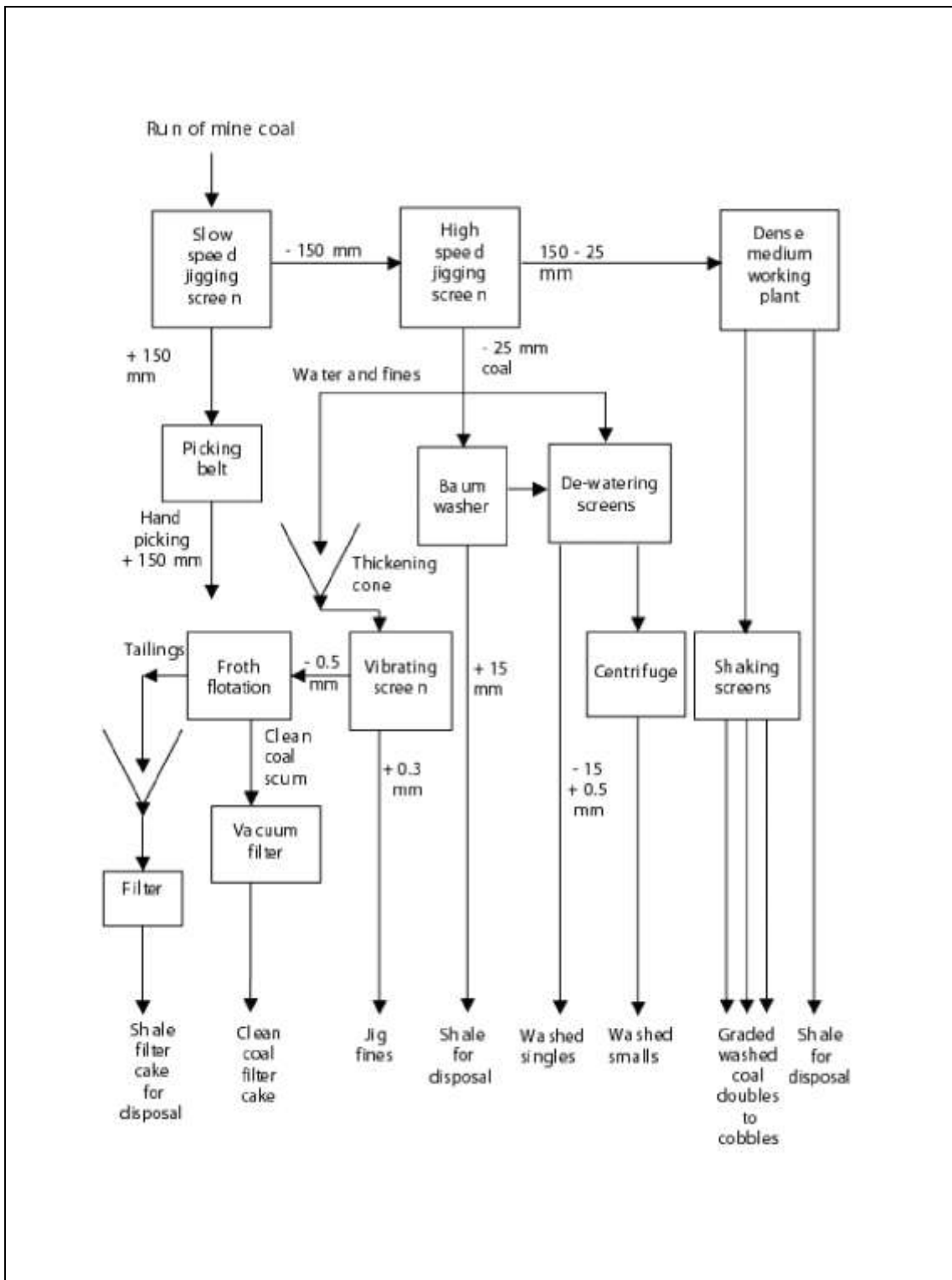
In the **Tromp process** which uses a magnetite medium (a natural iron ore mixed with water) a three product separation is possible due to a gradation in specific gravity due to settlement of the heavy mineral, varying from 1.53 at the top to 1.83 at the base. Coal middlings remain suspended within the bath and are removed by a gentle horizontal cross flow of the medium onto an elevator. Heavy shale or pyrites settle to the base.

**Baum jig** - the separation process uses a combination of water and air in stages. A bed of coal resting on a perforated plate (which is a vibrating jig) is subjected to the action of periodic upward and downward currents of water produced by the action of compressed air. The dirty coal flows onto the jig at one end. The dirt passes through the holes in the jig and falls to the bottom of the washer and is removed by elevator. The clean coal is vibrated along the plate and falls off at the far end over a weir.

**Froth flotation process** - this is used for cleaning fine coal dusts, e.g. clean coal from shale in fractions <0.5 mm can be separated in this way. It uses the principle of differential wettability. Coal particles are wetted by bubbles of froth, made by agitating air and water in the presence of certain oils and frothing agents. The bubbles adhere to the coal particles which then float. The shale and dirt particles are not wetted and sink. The clean fine coal forms a scum at the top of the frothing chamber which is removed by paddles and subjected to vacuum filtration to form a filter cake.

- 3.7 **De-watering process** - washed coals >15 mm are de-watered by passing over shaker screens fitted with wire sieve bottoms. Small sizes are de-watered by draining in bunkers, or by the use of centrifuges. Vacuum filters are used for fine clean coal. Pressure filters are used for thickened shale suspensions (tailings).
- 3.8 **Tailings** - Fine slurry of concentrated shale solids/water mixture are held in thickening tanks. They are pressure de-watered to form a pressed cake ready for disposal.
- 3.9 At port facilities there may be a number of processes operated by different people but involving the use of common equipment supplied by a third party, for example a Port Authority. In these circumstances, each operator should have their own authorisation and it is for the operators to ensure that they meet the requirements of their authorisation. In other cases, one person or a Port Authority may operate all coal handling processes at a port. In these circumstances, only one authorisation is required for each location.
- 3.10 **Unloading of ships** - may be carried out using continuous ship unloaders, grab cranes located on the quayside or on the ship or using front end loaders in the ships hold to transfer material.

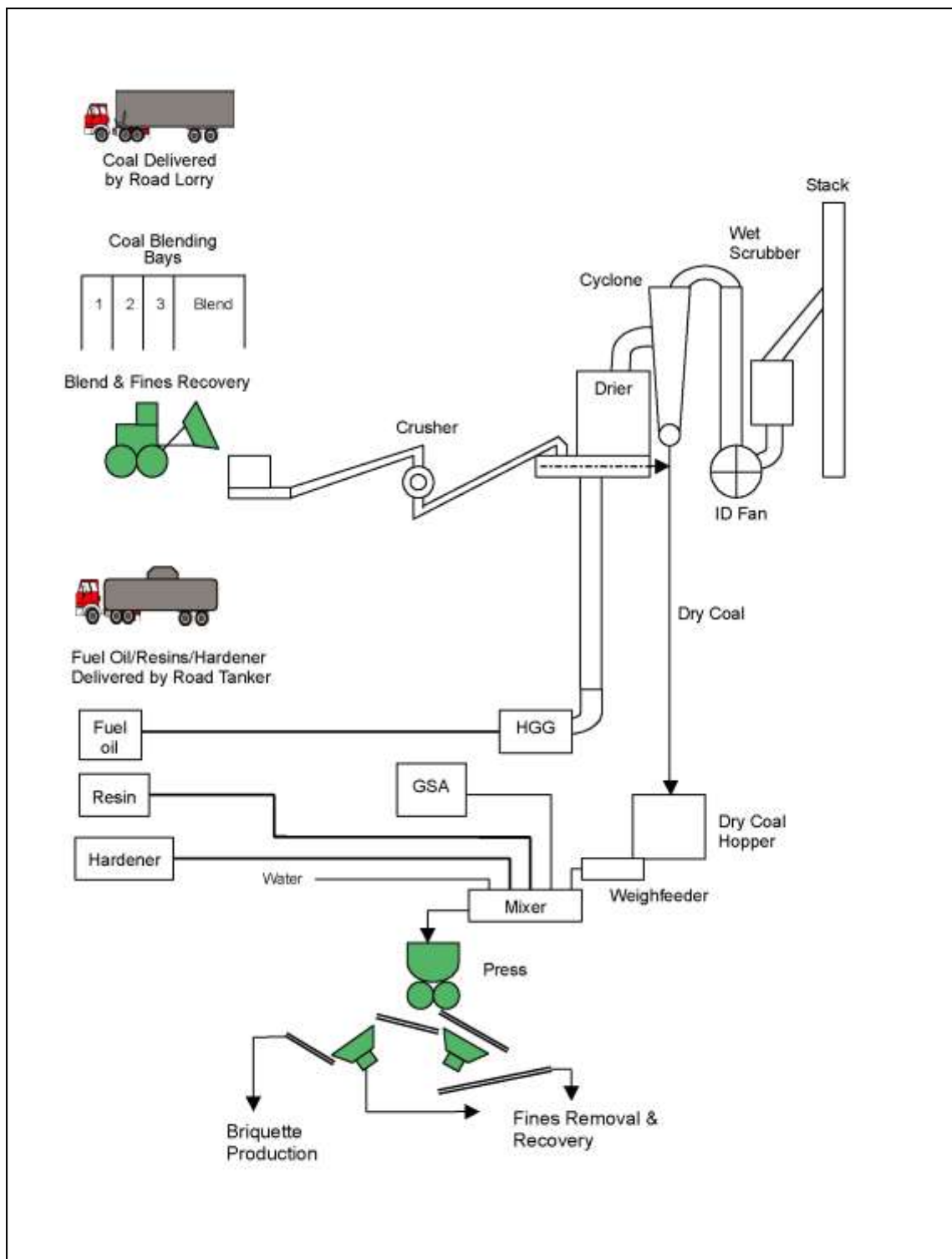
**Figure 3.1: Example flow sheet for coal preparation**



3.11 Actual processes vary a great deal. A flow diagram is a helpful tool when describing the variety of activities on site. **Figure 3.1** is merely an example.



**Figure 3.2: Typical example of a coal briquetting works**



## 4. Emission limits, monitoring and other provisions

- 4.1 Emissions of the substances listed **Table 4.1** should be controlled.
- 4.2 The emission limit values and provisions described in this section are achievable using the best available techniques described in **Section 5**. Monitoring of emissions should be carried out according to the method specified in this section or by an equivalent method agreed by the regulator. Where reference is made to a British, European, or International standard (BS, CEN or ISO) in this section, the standards referred to are correct at the date of publication. (Users of this note should bear in mind that the standards are periodically amended, updated or replaced). The latest information regarding the monitoring standards applicable can be found at the [Source Testing Association](#) website. Further information on monitoring can be found in Environment Agency publications [\(M1\)](#) and [\(M2\)](#).
- 4.3 All activities should comply with the emission limits and provisions with regard to releases in **Table 4.1**.

The reference conditions for limits in Section 4 are: 273.1K, 101.3kPa, without correction for water vapour content, unless stated otherwise.

- 4.4 The aim is to prevent an emission or an accumulation of dust from the site which is harmful or offensive or detrimental to the amenity of the neighbourhood. This aim includes sites that are not near to residential property, as well as those that are. **Table 4.1** contains a provision "no visible emission across the site boundary where harm or a nuisance may be caused ....".

Thus, it is particularly important that attention is paid to any boundaries which are close to, adjacent to or upwind of residential or other sensitive areas. However, even when there is no visible emission across the site boundary it is possible that invisible quantities of coal dust may escape from a variety of sources as fugitive emissions, and accumulate off the site in an unacceptable manner.

For this reason non-continuous BS dust gauge monitoring is required to assess the quantity of emissions. Sticky boards or slides may also be used on site positioned strategically, for example downwind of stockpiles and process areas, to demonstrate that controls are functioning fully. Off site monitoring may be used to provide information relating to the actual quantities of dust accumulating off site. Scanning electron microscopy may be required to identify the source of dust collected in some circumstances.

**Table 4.1 – Emission limits, monitoring and other provisions**

Row	Substance	Source	Emission limits/provisions	Type of monitoring	Monitoring frequency
1	Particulate matter	Whole Process	No visible airborne emission to cross the site boundary where harm or nuisance may be caused	Operator observations	At least daily
2	Particulate matter	Whole site for fugitive emissions	No visible airborne emission to cross the site boundary	As required to ensure dust control measures are working – low tech methodologies such as deposition gauges or sticky slides may be used	As required
				BS dust gauge sites strategically, in agreement with the regulator to measure dust emitted. Shall include wind direction and speed measurement	In agreement with regulator
3	Particulate matter	Arrestment equipment, or any point where dust contaminated air is extracted from the process to atmosphere, with exhaust flow >300m <sup>3</sup> /min.	50mg/m <sup>3</sup>	Recorded indicative monitoring	Continuous
				Isokinetic sampling	At least once to demonstrate compliance, then as necessary to provide a reference for the continuous indicative monitor
4	Particulate matter	Arrestment equipment, or any point where dust contaminated air is extracted from the process to atmosphere, with exhaust flow >100m <sup>3</sup> /min.	No visible emission. Arrestment equipment should be provided with a design guarantee that the equipment can meet 50mg/m <sup>3</sup>	Indicative monitoring to demonstrate that the arrestment equipment is functioning correctly	Continuous
5	Particulate matter	Arrestment equipment, or any point where dust contaminated air is extracted from the process to atmosphere, with exhaust flow <100m <sup>3</sup> /min.	No visible emission	Operator observation Or Indicative monitoring	At least daily Or Continuous

## **Monitoring, investigating and reporting**

- 4.5 The operator should monitor emissions, make tests and inspections of the activity. The need for and scope of testing, (including the frequency and time of sampling), will depend on local circumstances.
- The operator should keep records of inspections, tests and monitoring, including all non-continuous monitoring, inspections and visual assessments. Records should be:
    - kept on site;
    - kept by the operator for at least two years; **and**
    - made available for the regulator to examine.
  - If any records are kept off-site they should be made available for inspection within one working week of any request by the regulator.

## **Information required by the regulator**

- 4.6 The regulator needs to be informed of monitoring to be carried out and the results. The results should include process conditions at the time of monitoring.
- The operator should notify the regulator at least 7 days before any periodic monitoring exercise to determine compliance with emission limit values. The operator should state the provisional time and date of monitoring, pollutants to be tested and the methods to be used.
  - The results of non-continuous emission testing should be forwarded to the regulator within 8 weeks of completion of the sampling.
  - Adverse results from any monitoring activity (both continuous and non-continuous) should be investigated by the operator as soon as the monitoring data has been obtained. The operator should:
    - identify the cause and take corrective action;
    - clearly record as much detail as possible regarding the cause and extent of the problem, and the remedial action taken;
    - re-test to demonstrate compliance as soon as possible; and inform the regulator of the steps taken and the re-test results.

## Visible Emissions

- 4.7 The aim should be to prevent any visible airborne emission from any part of the process exiting the site. This aim includes all sites regardless of location. Monitoring to identify the origin of a visible emission should be undertaken and a variety of indicative techniques are available.
- Where ambient monitoring is carried out it may also be appropriate for the regulator to specify recording of wind direction and strength;
  - Where combustion units are in use for dryers then the combustion process should be controlled and equipment maintained as appropriate.
- 4.8 Emissions from combustion processes should in normal operation be free from visible smoke. During start up and shut down the emissions should not exceed the equivalent of Ringelmann Shade 1 as described in British Standard BS 2742.
- All other releases to air, other than condensed water vapour, should be free from persistent visible emissions;
  - All emissions to air should be free from droplets;
  - There should be no visible emissions of airborne dust from the process or its operations across the site boundary causing harm or nuisance.

Where there are problems that, in the opinion of the regulator, may be attributable to the installation, such as local complaints of visual emissions or where dust from the installation is being detected beyond the site boundary, the operator should investigate in order to find out which part of their operation(s) is the cause.

If this inspection does not lead to correction of the problem then the operator should inform the regulator who will determine whether ambient air monitoring is necessary. Ambient monitoring may either be by a British Standard method or by a method agreed with the regulator.

Whilst problems are ongoing, a visual check should also be made at least once per day/shift, by the operator, when an installation is being operated. The time, location and result of these checks, along with weather conditions such as indicative wind direction and strength, should be recorded. Once the source of the emission is known, corrective action should be taken without delay and where appropriate, the regulator may want to vary the permit in order to add a condition requiring the particular measure(s) to be undertaken.

## Abnormal Events

- 4.9 The operator should respond to problems which may have an adverse effect on emissions to air.
- In the case of abnormal emissions, malfunction or breakdown leading to abnormal emissions the operator should:
    - investigate and undertake remedial action **immediately**;
    - adjust the process or activity to minimise those emissions; **and**
    - promptly record the events and actions taken.
  - The regulator should be informed without delay, whether or not there is related monitoring showing an adverse result:
    - if there is an emission that is likely to have an effect on the local community; or
    - in the event of the failure of key arrestment plant, for example, bag filtration plant or scrubber units
  - The operator should provide a list of key arrestment plant and should have a written procedure for dealing with its failure, in order to minimise any adverse effects.

## Start up and shutdown

- 4.10 Higher emissions may occur during start-up and shut-down of a process. These emissions can be reduced, by minimising, where possible, the number of start-ups and shutdowns and having adequate procedures in place for start-up, shutdown and emergency shutdowns.
- All appropriate precautions must be taken to minimise emissions during start-up and shutdown.

## Continuous Monitoring

- 4.11 Continuous monitoring can be either “quantitative” or “indicative”. Quantitative monitoring within the coal sector normally only relates to monitoring of point source emissions. With quantitative monitoring the discharge of the pollutant(s) of concern is measured and recorded numerically. For pollution control this measurement is normally expressed in milligrams per cubic metre of air, (mg/m<sup>3</sup>). Where discharge of the pollutant concerned is controlled by measuring an alternative parameter, (the “surrogate” measurement), this surrogate is also expressed numerically.

Continuous indicative monitoring is where a permanent device is fitted, for example, to detect leaks in a bag filter, but the output, whether expressed numerical or not, does not show the true value of the discharge. When connected to a continuous recorder it will show that emissions are gradually (or rapidly) increasing, and therefore maintenance is required. Alternatively it can trigger an alarm when there is a sudden increase in emissions, such as when arrestment plant has failed.

- 4.12 Where continuous indicative monitoring has been specified the information provided should be used as a management tool. Where used the monitor should be set up to provide a baseline output when the plant is known to be operating under the best possible conditions and emissions are complying with the requirements of the permit. Where used to trigger alarms the instrument manufacturer should be able to set an output level which corresponds to around 75% of the emission limit. Thus the alarms are activated in response to this significant increase in pollutant loading above the baseline, so that warning of the changed state is given before an unacceptable emission occurs. The regulator may wish to agree the alarm trigger level.
- 4.13 Where continuous monitoring is required, it should be carried out as follows:
- All continuous monitoring readings should be on display to appropriately trained operating staff;
  - Instruments should be fitted with audible and visual alarms, situated appropriately to warn the operator of arrestment plant failure or malfunction;
  - The activation of alarms should be automatically recorded;
  - All continuous monitors should be operated, maintained and calibrated (or referenced, in the case of indicative monitors) in accordance with the manufacturers' instructions, which should be made available for inspection by the regulator. The relevant maintenance and calibration (or referencing, in the case of indicative monitors) should be recorded;
  - Emission concentrations may be reported as zero when the plant is off and there is no flow from the stack. If required a competent person should confirm that zero is more appropriate than the measured stack concentration if there is no flow;
  - Any continuous emissions monitor CEM used should provide reliable data >95% of the operating time, (i.e. availability >95%). A manual or automatic procedure should be in place to detect instrument malfunction and to monitor instrument availability.

## **Calibration and compliance monitoring.**

- 4.14 Compliance monitoring can be carried out either by use of a continuous emissions monitor (CEM), or by a specific extractive test carried out at a frequency agreed with the regulator.
- 4.15 Where a CEM is used for compliance purposes it must be periodically checked, (calibrated), to ensure the readings being reported are correct. This calibration is normally done by carrying out a parallel stand-alone extractive test and comparing the results with those provided by the CEM.
- 4.16 For extractive testing the sampling should meet the following requirements:
- For batch processes, where the production operation is complete within, say, 2 hours, then the extractive sampling should take place over a complete cycle of the activity;
- 4.17 Should the activity either be continuous, or have a batch cycle that is not compatible with the time available for sampling, then the data required should be obtained over a minimum period of 2 hours in total.
- For demonstration of compliance where a CEM is used no daily mean of all 15-minute mean emission concentrations should exceed the specified emission concentration limits during normal operation (excluding start-up and shut-down); **and**
  - No 15-minute mean emission concentration should exceed twice the specified emission concentration limits during normal operation (excluding start-up and shut-down);
  - For extractive testing, no result of monitoring should exceed the emission limit concentrations specified.
- 4.18 Exhaust flow rates should be consistent with efficient capture of emissions, good operating practice and meeting the requirements of the legislation relating to the workplace environment.
- The introduction of dilution air to achieve emission concentration limits should not be permitted.

Dilution air may be added for waste gas cooling or improved dispersion where this is shown to be necessary because of the operational requirements of the plant, but this additional air should be discounted when determining the mass concentration of the pollutant in the waste gases.



## **Varying of monitoring frequency**

- 4.19 Where non-continuous quantitative monitoring is required, the frequency may be varied. Where there is consistent compliance with emission limits, regulators may consider reducing the frequency. However, any significant process changes that might have affected the monitored emission should be taken into account in making the decision.
- 4.20 The following should be considered when deciding whether compliance is consistent:
- a. the variability of monitoring results, for example, results which range from 30 - 45 mg/m<sup>3</sup>, against an emission limit of 50 mg/m<sup>3</sup> might not qualify for a reduction in monitoring.
  - b. the margin between the results and the emission limit, for example, results which range from 45 - 50 mg/m<sup>3</sup> when the limit is 50 mg/m<sup>3</sup> might not qualify for a reduction in monitoring.

Consistent compliance should be demonstrated using the results from at least;

- three or more consecutive annual monitoring campaigns; **or**
- two or more consecutive annual monitoring campaigns supported by continuous monitoring.

Where a new or substantially changed process is being commissioned, or where emission levels are near to or approach the emission concentration limits, regulators should consider increasing the frequency of testing.

- 4.21 A reduction in monitoring frequency should not be permitted where continuous quantitative or indicative monitoring is required. These types of monitoring are needed to demonstrate at all times when the plant is operating, that either the emission limits are being complied with or that the arrestment equipment is functioning correctly.

## **Monitoring of unabated releases**

- 4.22 Where emission limit values are consistently met without the use of abatement equipment, the monitoring requirement for those pollutants should be dispensed with subject to the "Varying of monitoring frequency" paragraphs above.

## Representative sampling

- 4.23 Where monitoring is not in accordance with the main procedural requirements of the relevant standard, deviations should be reported.
- 4.24 Whether sampling on a continuous or non-continuous basis care is needed in the design and location of sampling systems in order to obtain representative samples for all release points.
- Sampling points on new plant should be designed to comply with the British or equivalent standards, (see **paragraph 4.2**).
  - The operator should ensure that relevant stacks or ducts are fitted with facilities for sampling which allow compliance with the sampling standards.

## Emissions from arrestment plant

- 4.25 There are specific design requirements that apply to arrestment plant. There are also monitoring and recording requirements for emissions from arrestment plant handling dry dust which discharges **externally**, other than that serving silos (these are addressed elsewhere in this note). Purchasers of new or replacement plant should specify the design criteria on ordering, and ensure that the plant is capable of meeting the limit. The design criteria should be made available to the regulator for inspection. The plant should be operated and maintained in such a way that it works within the design parameters at all times.
- Arrestment plant with an exhaust flow of over 300 m<sup>3</sup> / min should be continuously indicatively monitored and recorded for particulate matter. It should be designed to achieve the limit of 50 mg/m<sup>3</sup> for particulate matter when functioning correctly.
  - Arrestment plant with an exhaust flow of 100 m<sup>3</sup> / min or less should be designed and maintained to prevent visible emission of dust. Checks should be made and recorded on a daily basis to ensure the correct functioning of the plant.
  - Where emissions do not exceed 50 mg/m<sup>3</sup> without arrestment plant being needed, and this is demonstrated by a single isokinetic sampling exercise continuous monitoring should not be required.
  - Where arrestment plant is designed to meet a specific emission limit, the specification should be available for inspection by the regulator. The plant thereafter should be maintained to meet this specification.
  - All replacement arrestment plant, including that serving silos, should meet the standards required of new plant.
  - Where particulate matter emissions are abated using a wet scrubber, the scrubber should be regularly inspected and maintained. Action should be taken to deal with any blockages that occur due to

accumulation of solids, for example adding flocculating agents to the liquor to settle the solids out.

- Where wet arrestment plant is used, the liquor circulation should be monitored by suitable instrumentation such as a variable orifice meter, to provide continuous indication of liquor flow.
- Where a bypass of arrestment plant is installed for safety reasons, the bypass should be kept closed during normal operation. The local enforcing authority should be advised of the frequency of opening for safety checks. Every opening of the bypass should be automatically recorded and all reasons for, and the duration of, opening of the bypass should be recorded.

## 5. Control techniques

### Summary of best available techniques

- 5.1 The **Table 5.1** provides a summary of the best available techniques that can be used to control the process in order to meet the emission limits and provisions in **Section 4**. Provided that it is demonstrated to the satisfaction of the regulator that an equivalent level of control will be achieved, then other techniques may be used.

<b>Table 5.1 – Summary of control techniques</b>	
<b>Sources of dust</b>	<b>Control techniques</b>
Stockpiles	Suppression <ul style="list-style-type: none"> <li>• water and/or suppressants</li> <li>• well positioned spray guns</li> <li>• sufficient coverage by sprays</li> </ul> Wind dynamics management <ul style="list-style-type: none"> <li>• use of fencing, bunding, profiling etc.</li> </ul> Appropriate siting <ul style="list-style-type: none"> <li>• within open cast site</li> <li>• away from residential</li> </ul> Covering <ul style="list-style-type: none"> <li>• dust covers</li> </ul>
Conveyors	Containment <ul style="list-style-type: none"> <li>• windboards</li> </ul> Appropriate siting <ul style="list-style-type: none"> <li>• within open cast site</li> <li>• away from site boundary especially if near residential or other sensitive receptors</li> </ul>
Conveyor transfer points and stocking	Reduced drop heights
Handling / transfers	Containment
Loading, unloading and transfer points	Suppression Reduced drop heights
Double handling transfer points	Site and process design
Crushing processes etc.	Containment Appropriate siting Bag filters
Roadways including haulage roads	Suppression Site and process design
Vehicles - bodies and wheels	Wheel-wash and under-body vehicle Wash

## Techniques to control emissions from contained sources

- 5.2 Emissions from the process operations covered by this note comprise very fine particulate matter, in the form of dust. The main principles for preventing dust emissions are containment of dusty processes and suppression of dust using water or proprietary suppressants. Suppression techniques need to be properly designed, used and maintained in order to be effective. For example, where water is used for dust suppression, processes should have an adequate supply of water and all water suppression systems need adequate frost protection. To demonstrate an adequate water supply on tanks that are not fed from the mains a low level alarm should be fitted.
- 5.3 Best available techniques are required to control dust emissions, for example from reception and storage of coal, internal transportation (whether in vehicles, front loaders or on conveyors), processing, loading and unloading. Potential fugitive emissions from roads and other surfaces also need to be controlled. Protection of external sources, such as stockpiles and external conveyors, from wind whipping is necessary. There are various methods that may be used to this end.

The control techniques described below address the sources of particulate matter listed in **Table 5.1**.

### Processing

- 5.4 Emissions from the **crushing, grinding or screening** processes are likely to include particulate matter of a wide size range, from very fine dust to relatively coarse particles. The control of dust emissions from these processes is mainly by the use of enclosures. **Wetting** may also be used. If these processes are not fully enclosed in a building, then appropriate **siting** of the equipment to reduce the environmental impact of dust from the process is necessary.

### Techniques to control fugitive emissions

- 5.5 Fugitive dust emissions should be prevented whenever practicable. When this is not practicable emissions should be controlled at source by measures agreed between the regulator and the operator. Examples include correct storage of raw materials, organising the process in such a way that spillage is avoided, and maintaining high standards of internal and external housekeeping. To make buildings as dust tight as necessary to prevent visible emissions, self-closing doors and close-fitting entries and exits for conveyors are among the options that may be used. Attention should be paid to preventing and cleaning up deposits of dust on external support structures and roofs, in order to minimise wind entrainment of deposited dust. If necessary, emissions should be controlled and abated using suitable arrestment equipment.
- All equipment and machinery should be kept clean and in good working condition. It should be cleaned as necessary to avoid dust emission.

- All process buildings should be made as dust tight as is necessary to prevent visible emissions.
- All process buildings should have entrapped dust removed regularly , according to a written maintenance programme, to minimise fugitive emissions.
- All new buildings housing processing machinery should be externally clad with materials that prevent entrapment of dusty materials.
- Where local exhaust ventilation is used, emissions should be ducted to suitable arrestment plant.
- Dusty wastes should be stored in closed containers and shall be disposed of in a manner to prevent fugitive dust emissions.
- The method of collection of product or waste from dry arrestment plant should be such that dust emissions are minimised.
- A high standard of housekeeping should be maintained.
- All spillages which may give rise to dust emissions should be cleaned up promptly, normally by wet handling methods. Dry handling of dusty spillages should not be permitted other than in fully enclosed buildings. (N.B. Dry handling of dusty spillages within fully enclosed buildings may not be acceptable under COSHH.) In the event of a major spillage it should be dealt with on the same day that it occurs, and measures to minimise emissions, such as wetting the surface to create a crust, should be taken immediately.

## **Conveying**

5.6 There are various ways of keeping conveyor belts and the surrounding areas clean. For example, where chevron belts are used, catch plates may be fitted to contain dust falling from the underside of the belt at the turning point. From a health and safety perspective this is not always possible and hoses and sprinklers is a possible alternative. New conveyors can be designed to minimise free fall at discharge points. A chute, or similar equipment, at the point of discharge from a conveyor reduces dust arising. Arrestment plant might be a suitable control option if dusty emissions arise from conveyor transfer points. The conditions relating to conveyors should not be applied where material has been screened to remove particles under 3 mm in size, unless visible dust emissions have been observed from the conveyors. The following conditions should only be applied where emissions to the external environment are likely to arise:

- Where dusty materials are conveyed, the conveyor and any transfer points should be provided with adequate protection against wind whipping i.e. enclosed on at least one side and above. All transfer points should be enclosed to such an extent as to minimise the generation of airborne dust.

- Conveyors should be fitted with effective means for keeping the return belt clean and for collecting materials removed by this cleaning operation.
- Conveyor belts should not be overloaded.
- Where the free fall of material gives rise to external dust emissions, techniques should be used at the point of discharge to minimise this, for example the use of a chute or similar equipment.
- Planned preventative maintenance schedules should include conveyor systems.
- Conveyor systems should be inspected at a frequency agreed between the operator and the regulator (which will depend upon the frequency of use of the conveyor). Any defects should be recorded and rectified immediately.
- When dust emissions from conveyors are visible, dust suppression equipment should be used or the plant should be vented to suitable arrestment equipment, as agreed with the regulator.

## Stockpiles

- 5.7 The application of water can reduce the value of solid fuel products; it may also cause contravention of other regulations, for example those made under Weights and Measures Act. In these circumstances the use of **wetting agents** to reduce the amount of water required may be beneficial. Wetting agents may also be useful where materials which do not retain water well, such as petroleum coke, need to be controlled.
- 5.8 In some circumstances it may be appropriate to use proprietary **coating agents, agglomeration agents** or **foams**, as well as water, to suppress dust. The latter two types of material are normally applied before the coal is added to the stockpiles and may provide better dust control than water or coating agents where stockpile disturbance is giving rise to dust problems.
- 5.9 Dust lifted by air currents from the surface of **stockpiles** is likely to consist mainly of the finer sized particles. Knowledge of the prevailing winds on a site may enable stockpiles to be positioned to take best advantage of any natural features on the site. **Fencing** or **bunding** can also be used to protect the stockpiles. The **dynamics of the wind** can be managed by astute **profiling** of stockpiles, or by the use of structures such as wind fencing. The wind is slowed down and this reduces the energy it possesses to lift dust from the stockpiles. In some instances, **wetting** the piles is an important option, for example when the weather is such that dust emissions are likely. Appropriate **siting** of stockpiles is a useful control to avoid, or at least minimise, the likelihood of dust being blown into residential areas. When setting up new stockpiles, the positioning should be based upon such factors as the prevailing winds, proximity of neighbours and site operations.

- 5.10 Where, in the opinion of the regulator, stockpiles are the cause of unacceptable deposits off site, then measures further to those outlined in **paragraph 5.9** above that might be considered (consistent with BAT), are to restrict the size, number or location of the stockpiles or to require that fully enclosed storage facilities are provided. Mammoth silos contain many compartments in which different types of coal may be stored and also provide internal blending facilities. The cost of these silos is such that they would not be considered appropriate for sites where no problems arise from stockpiles. Other types of fully enclosed bulk storage facilities include flat storage warehouses or dome enclosed warehouses.
- 5.11 Gantry reclaimers or bottom reclaimers should be considered for use in new installations. Such techniques represent BAT for larger processes.
- All coal product storage areas should have a consolidated surface which should be kept in good repair.
  - Stockpiles should be clearly delineated to deter vehicles from running over coal at the stock edge.
  - Dust emissions should be minimised from stockpiles of small coal (power station coal or similar) by, for example, profiling and/or compaction. Long term stocks of small coal should be aerodynamically shaped and re-compacted when necessary. This should ensure that surfaces are as near smooth as possible and all peaks and ridges where dust may arise are levelled out.
  - Some fuels may be damaged by compacting. When necessary to control dust emissions from stockpiles of such fuels, methods such as storage in three-sided bays, limiting the height of stockpiles, covers or dust suppressants should be used. Wind breaks on stock piles in conjunction with bunding or fencing around the pile, or strategic siting of stockpiles and strategic arrangement of stockpiles comprising different sized coals may be useful techniques to reduce the potential for dust arising.
  - Stocking areas should be wetted where necessary to minimise dust emissions. Fixed water sprays should be installed for long term stocking areas. The spray system should be such that water is sprayed over the whole stockpile area and any roadways, as appropriate.
  - Unused stocking areas should be cleaned or regularly wetted until brought back into use.
  - A method of stockpiling should be employed which minimises dust emissions. Minimisation of drop height is very important in stockpiling. This may be achieved in some cases by use of adjustable feeders or by use of a chute or similar equipment.
  - The reclamation of coal from stockpiles should be carried out in a manner which, to the extent that it is practicable, retains the profile of the stockpile and does not cause undue roughness.



## **Loading and unloading**

- 5.12 It is good practice for the operator to ensure that potentially dusty materials being delivered to the site are sheeted or held in closed containers before being admitted to the site. In loading and unloading areas, appropriate dust control measures may include the following:
- enclosure fitted with extract ventilation to arrestment plant;
  - semi-enclosure fitted with water sprinklers across the open end, to minimise fugitive emissions.
- 5.13 Double handling should be avoided if possible. This aspect needs to be designed into the process.
- The loading and unloading of road vehicles and trains should be carried out so as to minimise the generation of airborne dust.

## **Roadways and vehicles**

- 5.14 In designing a new process, minimising vehicle movement in the site layout will enable increased control of these areas which give rise to the potential for fugitive emissions.
- 5.15 The use of physical design systems such as landscape bunds, vegetation or wind fences may help to minimise dust emissions from the site.
- 5.16 Vehicle exhausts directed above the horizontal are preferred as these avoid the impact of the exhaust raising dust when travelling on internal roadways. Vehicle tailgates in good repair and tightly fitting also reduce potential for dust emissions.
- 5.17 The following measures should be used to minimise dust leaving the site via vehicles.
- Roadways and other areas where there is regular movement of vehicles should be kept clean, for example, by use of broom sweepers on metalled surfaces, or wet, for example by the use of a bowser. They should be kept clean or wet in order to prevent or minimise dust emissions.
  - Internal haul roads should be well maintained using a grader and clearly delineated so that vehicle movements are restricted to travelling over haul roads; dust suppression measures should be concentrated in these areas.
  - All road going coal laden vehicles, or vehicles carrying other dusty material, should be effectively sheeted or the material should be in closed containers - for example, bags or drums.
  - Vehicles should not be overfilled.

- Effective under-vehicle washing facilities should be provided and used and the surrounding area hard surfaced. Particular attention should be given to the cleaning of vehicle wheels. Vehicles should stay long enough in the wheel wash to ensure that the wheels and underside have been properly cleaned.
- A hard surface should be provided between the under-vehicle washing facility and the site exit and for other areas where there is regular movement of vehicles.

### **Additional requirements relating to the handling of coal etc. at ports**

These requirements are to be used for port operations in addition to those detailed above.

- 5.18 Regular monitoring of wind speed and direction is particularly important where vessels are being loaded or unloaded with cranes and grabs. Operations should cease when high winds cause unacceptable levels of dust to be emitted from the working area. The determination of the acceptability or otherwise of emissions is made by the process operator, with regard to the environmental reasons for such a decision. Experience of such events may allow a specific wind speed/direction condition to be used for determining when operations should cease, in agreement with the regulator.
- 5.19 High-pressure water sprays may be used around receiving hoppers to minimise visible dust emissions.
- Grabs should have tight fitting jaws and be of a suitable design for the materials being discharged. Top dust covers should be used for very powdery coal, which contains a preponderance of coal smaller than 3mm.
  - Continuous ship unloaders should be used wherever practicable (normally only at port facilities dedicated to coal unloading with suitable coal stock). Where continuous ship unloaders are not used, discharge direct to a conveyor, a hopper or a vehicle should normally take place, thereby removing the need for the material to be "double-handled" at the quayside, and reducing the potential for crushing and degradation of the product.
  - When loading ships, chutes or other techniques should be used to minimise drop heights

## Air Quality

### Ambient air quality management

- 5.20 In areas where air quality standards or objectives are being breached or are in serious risk of breach and it is clear from the detailed review and assessment work under Local Air Quality Management that the permitted process itself is a significant contributor to the problem, it may be necessary to impose tighter emission limits. If the standard that is in danger of being exceeded is not an EC Directive requirement, then industry is not expected to go beyond BAT to meet it. Decisions should be taken in the context of a local authority's Local Air Quality Management action plan. For example, where a permitted process is only responsible to a very small extent for an air quality problem, the authority should not unduly penalise the operator of the process by requiring disproportionate emissions reductions. Paragraph 59 of the [Air Quality Strategy 2007 \[Volume 1\]](#) gives the following advice:

“...In drawing up action plans, local authority environmental health/pollution teams are expected to engage local authority officers across different departments, particularly, land-use and transport planners to ensure the actions are supported by all parts of the authority. In addition, engagement with the wider panorama of relevant stakeholders, including the public, is required to ensure action plans are fit-for-purpose in addressing air quality issues. It is vital that all those organisations, groups and individuals that have an impact upon local air quality, buy-in and work towards objectives of an adopted action plan.”

## Management

### Management techniques

- 5.21 Important elements for effective control of emissions include:
- proper management, supervision and training for process operations;
  - proper use of equipment;
  - effective preventative maintenance on all plant and equipment concerned with the control of emissions to the air; **and**
  - ensuring that spares and consumables - in particular, those subject to continual wear – are held on site, or available at short notice from guaranteed local suppliers, so that plant breakdowns can be rectified rapidly. This is important with respect to arrestment plant and other necessary environmental controls. It is useful to have an audited list of essential items.

### **Appropriate management systems**

- 5.22 Effective management is central to environmental performance; It is an important component of BAT and of achieving compliance with permit conditions. It requires a commitment to establishing objectives, setting targets, measuring progress and revising the objectives according to results. This includes managing risks under normal operating conditions and in accidents and emergencies. It is therefore desirable that installations put in place some form of structured environmental management approach, whether by adopting published standards (ISO 14001 or the EU Eco Management and Audit Scheme [EMAS]) or by setting up an environmental management system (EMS) tailored to the nature and size of the particular process. Operators may also find that an EMS will help identify business savings.
- 5.23 Regulators should use their discretion, in consultation with individual operators, in agreeing the appropriate level of environmental management. Simple systems which ensure that LAPPC considerations are taken account of in the day-to-day running of a process may well suffice, especially for small and medium-sized enterprises. Regulators are urged to encourage operators to have an EMS for all their activities, but it is outside the legal scope of an LAPPC permit to require an EMS for purposes other than LAPPC compliance. For further information/advice on EMS refer to the appropriate chapter of the appropriate Guidance Manual for [England and Wales](#), [Scotland](#) and [Northern Ireland](#).

### **Training**

- 5.24 Staff at all levels need the necessary training and instruction in their duties relating to control of the process and emissions to air. In order to minimise risk of emissions, particular emphasis should be given to control procedures during start-up, shut down and abnormal conditions. Training may often sensibly be addressed in the EMS referred to above.
- All staff whose functions could impact on air emissions from the activity should receive appropriate training on those functions. This should include:
    - awareness of their responsibilities under the permit;
    - steps that are necessary to minimise emissions during start-up and shutdown;
    - actions to take when there are abnormal conditions, or accidents or spillages that could, if not controlled, result in emissions.
  - The operator should maintain a statement of training requirements for each post with the above mentioned functions and keep a record of the training received by each person. These documents should be made available to the regulator on request.

## **Maintenance**

5.25 Effective preventative maintenance plays a key part in achieving compliance with emission limits and other provisions. All aspects of the process including all plant, buildings and the equipment concerned with the control of emissions to air should be properly maintained. In particular:

- The operator should have the following available for inspection by the regulator:
  - a written maintenance programme for all pollution control equipment; and
  - a record of maintenance that has been undertaken

## 6. Summary of changes

The main changes to this note, with the reasons for the change, are summarised in **Table 6.1**. Minor changes that will not impact on the permit conditions e.g. slight alterations to the Process Description have not been recorded.

<b>Table 6.1 - Summary of changes</b>			
<b>Section/ paragraph/ row</b>	<b>Change</b>	<b>Reason</b>	<b>Comment</b>
<b>Introduction</b>			
	Simplification of text	Make Note clearer	
	Addition of links	Change to electronic format	Removes need for extensive footnotes/references
<b>Emission limits, monitoring and other provisions</b>			
	No significant changes		
<b>Control techniques</b>			
5.11	Requirement to agree location of all new stockpiles with regulator rescinded.		

## 7. Further information

### **Sustainable consumption and production (SCP)**

Both business and the environment can benefit from adopting sustainable consumption and production practices.

Estimates of potential business savings include:

- £6.4 billion a year UK business savings from resource efficiency measures that cost little or nothing
- 2% of annual profit lost through inefficient management of energy, water and waste
- 4% of turnover is spent on waste.

When making arrangement to comply with permit conditions, operators are strongly advised to use the opportunity to look into what other steps they may be able to take. Regulators may be willing to provide assistance and ideas, although cannot be expected to act as unpaid consultants.

### **Health and safety**

Operators of processes and installations must protect people at work as well as the environment:

- requirements of a permit or authorisation should not put at risk the health, safety or welfare of people at work
- equally, the permit or authorisation must not contain conditions whose only purpose is to secure the health of people at work. That is the job of the health and safety enforcing authorities

Where emission limits quoted in this guidance conflict with health and safety limits, the tighter limit should prevail because:

- emission limits under the relevant environmental legislation relate to the concentration of pollutant released into the air from prescribed activities
- exposure limits under health and safety legislation relate to the concentration of pollutant in the air breathed by workers
- these limits may differ since they are set according to different criteria. It will normally be quite appropriate to have different standards for the same pollutant, but in some cases they may be in conflict (for example, where air discharged from a process is breathed by workers). In such cases, the tighter limit should be applied to prevent a relaxation of control.

## **Further advice on responding to incidents**

The UK Environment Agencies have published [guidance](#) on producing an incident response plan to deal with environmental incidents. Only those aspects relating to air emissions can be subject to regulation via a Part B (Part C in NI) permit, but regulators may nonetheless wish to informally draw the attention of all appropriate operators to the guidance.

It is not envisaged that regulators will often want to include conditions, in addition to those advised in this PG note, specifying particular incident response arrangements aimed at minimising air emissions. Regulators should decide this on a case-by-case basis. In accordance with BAT, any such conditions should be proportionate to the risk, including the potential for harm from air emissions if an incident were to occur. Account should therefore be taken of matters such as the amount and type of materials held on site which might be affected by an incident, the likelihood of an incident occurring, the sensitivity of the location of the installation, and the cost of producing any plans and taking any additional measures.



# Appendix 1 - Application form

## Application for a permit for coal, coke, coal product and petroleum coke processes

Local Authority Pollution Prevention and Control  
Pollution Prevention and Control Act, 1999  
Environmental Permitting (England and Wales) Regulations 2010

### Introduction

#### When to use this form

Use this form if you are applying for a permit to a Local Authority to operate a coal, coke, coal product and petroleum coke installation as defined in Schedule 1 to the Environmental Permitting Regulations.

The appropriate fee must be enclosed with the application to enable it to be processed further. When complete, send the form and the fee and any additional information to:

*\*Insert local authority address\**

#### If you need help and advice

We have made the application form as straightforward as possible, but please get in touch with us at the local authority address given above if you need any advice on how to set out the information we need.

For the purposes of Section H of the form, a relevant offence is any conviction for an offence relating to the environment or environmental regulation.

LAPPC application form: to be completed by the operator		
For Local Authority use		
Application reference	Officer reference	Date received

**A**     **The basics**

**A1**     **Name and address of the installation (not required for mobile plant)**

Postcode	Telephone
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**A2**     **Details of any existing environmental permit or consent** *(for waste operations, include planning permission for the site, plus established use certificates, a certificate of lawful existing use, or evidence why the General Permitted Development Order applies.)*

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**A3**     **Operator details** *(The 'operator' = the person who it is proposed will have control over the installation in accordance with the permit (if granted).)*

Name:
Trading name, if different:
Registered office address:
Principal office address, if different:
Company registration number:

**A4 Any holding company?**

Is the operator a subsidiary of a holding company within the meaning of section 1159 of the Companies Act 2006? If “yes” please fill in details of the ultimate holding company.

No  Yes

Name:  Trading name, if different:
Registered office address:   Principal office address, if different:
Company registration number:

**A5 Who can we contact about your application?** *It will help to have someone who we can contact directly with any questions about your application. The person you name should have the authority to act on behalf of the operator - This can be an agent or consultant.*

Name and position: _____
Telephone: _____
Email: _____

**B**     **The installation**

**B1**     **Is the installation annual throughput less than 250,000tonnes per annum?**

Yes    No

If you answered **No** to question B1 this installation is not suitable for a simple permit.

**B2**     **Do the activities carried out at your installation include:** (tick all that apply)

- |                           |                              |                             |
|---------------------------|------------------------------|-----------------------------|
| a) coal stockyard         | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| b) ship loading/unloading | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| c) open cast pit          | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| d) coal briquetting       | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| e) other                  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

**B3**     **Why is the application being made?**

new installation

change to existing installation means it now needs a permit

**B4**     **Site maps – please provide:**

- **A location map with a red line round the boundary of the installation**

Document reference: \_\_\_\_\_

- **A site plan or plans showing where all the relevant activities are on site:**

- a) where the processing plant will be installed
- b) the areas and buildings/structures designated for materials and waste storage and the type of storage
- c) the conveyors and transfer points
- d) any directly associated activities or waste operations.

To save applying for permit variations, you can also show where on site you might want to use for storage etc. in the future.

Document reference: \_\_\_\_\_

**B5 Are there any sites of special scientific interest (SSSIs) or European protected sites nearer than any of the following distances to the proposed installation?**

- 1km - where the installation involves mineral or cement and lime activities

Yes  No

**If yes, is the installation likely to have a significant effect on the special scientific interest or European protected sites?**

Yes  No

**If yes, please write on a separate sheet or enclose a relevant document explaining what the implications are for the purposes of the Conservation (Natural Habitats etc) Regulations 1994 (see appendix 2 of Annex XVII of the [general guidance manual](#))**

Document Reference: \_\_\_\_\_

**B6 Will emissions from the activity potentially have significant environmental effects (including nuisance)?**

Yes  No

**If yes, please list the potential significant local environmental effects (including nuisance) of the foreseeable emissions on a separate document.**

Document Reference: \_\_\_\_\_

**If yes, please enclose a copy of any environmental impact assessment which has been carried out for the installation under planning legislation or for any other purpose.**

Document Reference: \_\_\_\_\_



**C7 Will any material be stored in the open (unenclosed) other than material wholly comprised of one or more of the following: >3mm material, sand, scalpings, road sub base (MOT) material that has been conditioned before deposit, conditioned crusher-run or blended material?** *[informs condition 5]*

Yes  No

**C8 Do you have belt conveyors:** *[informs condition 8]*

Yes  No

**If yes, which of the following facilities will be provided to convey any coal/fuel (tick all that apply)** *[informs condition 8]*

- a) deep trough ground-level conveyor
- b) fully-enclosed conveyor
- c) pneumatic handling system
- d) bucket elevator
- e) wind boards
- f) other – please specify \_\_\_\_\_

**C9 How do you manage dust emissions from your coal stockpiles?** *[informs condition 6 & 7]*

Do you have small coal?:  Yes  No

**If yes, do you profile stockpiles of small coal?** *[informs condition 6]*

Yes  No

Do you compact your stockpiles of small coal? *[informs condition 5 & 6]*

Yes  No

Do you store fuels which may be damaged by compacting? *[informs condition 5 & 6]*

Yes  No

**If yes, what techniques do you use to control dust emissions ? (tick all that apply)** *[informs condition 18]*

- a) three-sided bays
- b) limiting the height of stockpiles
- c) covers, dust suppressants
- d) wind breaks with bunding or fencing
- e) strategic location
- f) strategic sizing arrangements

**C10 Which of the following methods will be used to minimise emissions at belt conveyor transfer points, including free fall of material? (tick all that apply)**  
*[informs condition 8]*

- a) enclosed
- b) enclosed and ducted to arrestment equipment
- c) fitted with a chute
- d) drop heights minimised
- e) other - please specify \_\_\_\_\_

**C11 Which of the following techniques will be used to clean belt conveyors**  
*(tick all that apply)* *[informs condition 8]*

- a) belt scrapers
- b) catch plates
- c) other techniques for keeping the return belt clean and collecting the material removed by the cleaning – *please specify:*  
 \_\_\_\_\_

**C12 How will potentially dusty materials (including any raw materials, finished products and waste), arrive at or leave the site? (tick all that apply)**  
*[informs Condition 9, 10 & 11]*

	Raw Materials	Finished Products	Waste
Road			
Rail			
Other			

**C13 How will potentially dusty materials, (including any raw material, finished products and waste) be transported within the site (tick all that apply)**  
*[informs condition 18]*

- a) tanker
- b) fully-enclosed transport
- c) ‘canopied’ rail wagons
- d) sheeted transport
- e) water suppression applied to the transported material
- f) aqueous polymer suppression applied to the transported material
- g) bagged
- h) other – please specify \_\_\_\_\_

**C14 Do you have any quarry roads as part of the installation?**  
*[informs condition 18]*

- Yes  No



**C15 Which techniques will you use to ensure that all vehicles leave the site with clean wheels and clean underbody?** *[informs condition 13]*

- a) body and wheel wash
- b) wheel wash
- c) hose and brush
- d) hard surface between the under-vehicle washing facility and the site exit
- e) other – please specify: \_\_\_\_\_

**C16 Do you have internal haul roads?** *[informs condition 12]*

Yes  No

**If yes, are internal haul roads maintained using a grader?** *[informs condition 12]*

Yes  No

**C17 Are internal haul roads clearly delineated so that vehicles are restricted to haul roads?** *[informs condition 12]*

Yes  No

**C18 Do you load or unload ships?** *[informs condition 10]*

Yes  No

**If yes, do you unload ships using continuous ship unloaders?** *[informs condition 10]*

Yes  No

**C19 Do you load/unload ships using grabs?** *[informs condition 10]*

Yes  No

**If yes, do grabs discharge onto:** (tick all that apply) *[informs condition 10]*

- a) conveyors?
- b) into a hopper?
- c) into a vehicle?
- d) onto the quayside?

**C20 Do you have environmental management procedures and policy?** *[informs condition 3, 16 & 17]*

Yes  No

**D Anything else**

Please tell us anything else you would like us to take account of.

Document Reference \_\_\_\_\_

**E Application fee**

You must enclose the [relevant fee](#) with your application.

If your application is successful you will also have to pay an annual subsistence charge, so please say who you want invoices to be sent to.

## **F      Protection of information**

### **F1      Any confidential or national security info in your application?**

If there is any information in your application you think should be kept off the public register for confidentiality or national security reasons, please say what and why. [General guidance manual](#) chapter 8 advises on what may be excluded. *(Do not include any national security information in your application. Send it, plus the omitted information, to the Secretary of State or Welsh Ministers who will decide what, if anything, can be made public.)*

Document Reference \_\_\_\_\_

### **F2      Please note: data protection**

The information you give will be used by the Council to process your application. It will be placed on the relevant public register and used to monitor compliance with the permit conditions. We may also use and or disclose any of the information you give us in order to:

- consult with the public, public bodies and other organisations,
- carry out statistical analysis, research and development on environmental issues,
- provide public register information to enquirers,
- make sure you keep to the conditions of your permit and deal with any matters relating to your permit
- investigate possible breaches of environmental law and take any resulting action,
- prevent breaches of environmental law,
- offer you documents or services relating to environmental matters,
- respond to requests for information under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004 (if the Data Protection Act allows)
- assess customer service satisfaction and improve our service.

We may pass on the information to agents/representatives who we ask to do any of these things on our behalf.

### **F3      Please note: it is an offence to provide false etc information**

It is an offence under regulation 38 of the EP Regulations, for the purpose of obtaining a permit (for yourself or anyone else), to:

- make a false statement which you know to be false or misleading in a material particular,
- recklessly make a statement which is false or misleading in a material particular
- intentionally to make a false entry in any record required to be kept under any environmental permit condition
- with intent to deceive, to forge or use a document issued or required for any purpose under any environmental permit condition.

If you make a false statement:

- we may prosecute you, and
- if you are convicted, you are liable to a fine or imprisonment (or both).

## H Declarations A and B for signing, please

*These declarations should be signed by the person listed in answer to question A3. Where more than one person is identified as the operator, all should sign. Where a company or other body corporate is the operator, an authorised person should sign and provide evidence of authority from the board.*

**Declaration A:** I/We certify

**EITHER** – As evidence of my/our competence to operate this installation in accordance with the EP Regulations, no offences have been committed in the previous five years relating to the environment or environmental regulation.

**OR-** The following offences have been committed in the previous five years which may be relevant to my/our competence to operating this installation in accordance with the regulations:

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Signature: \_\_\_\_\_ Name: \_\_\_\_\_

Position: \_\_\_\_\_ Date: \_\_\_\_\_

**Declaration B:** I/We certify that the information in this application is correct. I/We apply for a permit in respect of the particulars described in this application (including the listed supporting documentation) I/we have supplied. *(Please note that each individual operator must sign the declaration themselves, even if an agent is acting on their behalf.)*

Signature: \_\_\_\_\_ Name: \_\_\_\_\_

Position: \_\_\_\_\_ Date: \_\_\_\_\_

Signature: \_\_\_\_\_ Name: \_\_\_\_\_

Position: \_\_\_\_\_ Date: \_\_\_\_\_

## Appendix 2 - Model Permit

This appendix contains a model permit for Coal, Coke, Coal Product and Petroleum Coke installations – see [relevant para in intro] of this note and para 3.6 of the [General Guidance Manual on Policy and Procedures](#) .

### Notes:

- text in the model permit written in *italics* is advice to regulators.
- text in the model permit in square brackets offers choice to regulators or indicates where information needs to be inserted from the application.
- text bracketed with asterisks (eg \*Alarms shall be tested at least once a week\*.) may be omitted by a regulator where the past performance of the plant gives the local authority sufficient reassurance about operator compliance – “earned recognition”.
- the model permit has been drafted for local authorities in England and Wales. Regulators in Scotland and Northern Ireland will need to amend the legal heading and, where appropriate, references to ‘Council’
- references to ‘installation’ will need to be substituted with ‘mobile plant’ in relevant cases, and other amendments made accordingly
- the purpose of the activity description is to set down the main characteristics of the activity, including any directly associated activities, so it is clear to all concerned what is being authorised by the permit and therefore what changes would need further approval. Regulators are advised to include a description of any key items of arrestment and monitoring equipment the operator intends to use or is using.
- it should normally be sufficient for records relating to simplified permits to be kept for no more than 18 months. Where, however, as a result of a ‘low risk’ rating, inspections are undertaken less often, regulators may want to specify a period which ensures the records are available at the next inspection.

[ ] COUNCIL  
POLLUTION PREVENTION AND CONTROL ACT 1999  
Environmental Permitting Regulations 2010 (as amended)

Permit ref. no:

Name and address of person (A) authorised to operate the installation ('the operator')

Registered number and office of company (if appropriate)

Address of permitted installation (B)

The installation boundary and key items of equipment mentioned in permit conditions are shown in the plan attached to this permit.

**Activity description**

The operator (A) is authorised to operate the activity<sup>4</sup> at the installation (B) subject to the following conditions.

**Conditions**

**Emissions and monitoring**

1. No visible particulate matter shall be emitted beyond the installation boundary.
2. The emission requirements and methods and frequency of monitoring set out in Table 1 shall be complied with. Sampling shall be representative.

Any monitoring display required for compliance with the permit shall be visible to operating staff at all times. Corrective action shall be taken immediately if any periodic monitoring result exceeds a limit in Table 1, or if there is a malfunction or breakdown of any equipment which might increase emissions. Monitoring shall be undertaken or repeated as soon as possible thereafter and a brief record shall be kept of the main actions taken.

*Where continuous monitors are fitted to show compliance with a numerical limit in Table 1: All continuous monitors fitted to show compliance with the permit shall be fitted with a [visible] [audible] alarm warning of arrestment failure or malfunction. They shall [activate when emissions reach [75%] of the relevant emission limit in Table 1 and] record automatically each activation. \*Alarms shall be tested at least once a week.\**

<sup>4</sup> listed in [ ] in Part 2 of Schedule 1 to the Environmental Permitting Regulations  
PG3/05 Publication version

3. The design guarantee shall be available for arrestment plant or any point where dust contaminated air is extracted from the process to atmosphere with a flow between 100m<sup>3</sup>/min to 300m<sup>3</sup>/min.
4. All plant and equipment capable of causing, or preventing, emissions and all monitoring devices shall be calibrated and maintained in accordance with the manufacturer's instructions. \*Records shall be kept of such maintenance.\*

#### **Coal stockpiles delivery and storage**

5. Coal shall only be stored in [specify storage location] as detailed on the plan attached to this permit and shall be subject to suppression and management techniques to minimise dust emissions.
6. Long term stockpiles of [small] coal shall have no peaks or ridges. Stockpile profile shall be retained after reclamation.
7. Unused stocking areas shall be cleaned or regularly wetted until brought back into use.

#### **Belt conveying**

8. All dusty materials, including wastes, shall be conveyed using [specify conveyor, level of enclosure and enclosure type]. All transfer points shall be fitted with [specify dust control technique].

#### **Loading, unloading and transport (road and rail)**

9. No coal or finished products shall arrive on or leave the site other than by use of [specify transport type and dust control technique]. Vehicles should not be overfilled.

#### **Loading, unloading and transport (ships)**

10. Top dust covers shall be used on grabs when handling coal which contains a preponderance of coal smaller than 3mm.
11. Do not unload onto the quayside.

#### **Roadways and transportation**

12. Roadways and other areas where there is regular movement of vehicles shall be kept clean or wet. Internal haul roads shall be maintained and clearly delineated.
13. All vehicles must have clean wheels and clean underbody before leaving the site.
14. A hard surface shall be provided between the under-vehicle washing facility and the site exit.

#### **Techniques to control fugitive emissions**

15. *[If no process buildings, delete condition.]* The fabric of process buildings shall be maintained dust tight and doors shall be kept closed when not in use maintained so as to minimise visible dust emissions. *[select according to visible dust potential of each process building.]*

## **Records and training**

16. Written or computer records of all tests and monitoring shall be kept by the operator for at least [ ] months. They [and a copy of all manufacturers' instructions referred to in this permit] shall be made available for examination by the Council. \*Records shall be kept of operator inspections, including those for visible and odorous emissions.\*
17. Staff at all levels shall receive the necessary training and instruction to enable them to comply with the conditions of this permit. Records shall be kept of relevant training undertaken.

*The following two conditions are not needed for PPC permits which transferred automatically into the environmental permitting regime by virtue of regulation 69(6) of the 2007 Regulations and regulation 108(4) of the 2010 Regulations. Where permits are issued on or after 6 April 2008 the next two conditions will not automatically apply and need specific inclusion in the permit where required.*

## **Best available techniques**

18. The best available techniques shall be used to prevent or, where that is not practicable, reduce emissions from the installation in relation to any aspect of the operation of the installation which is not regulated by any other condition of this permit.
19. If the operator proposes to make a change in operation of the installation, he must, at least 14 days before making the change, notify the regulator in writing. The notification must contain a description of the proposed change in operation. It is not necessary to make such a notification if an application to vary this permit has been made and the application contains a description of the proposed change. In this condition 'change in operation' means a change in the nature or functioning, or an extension, of the installation, which may have consequences for the environment.



**Table 1 - Emission limits, monitoring and other provisions**

Row	Substance	Source	Emission limits / provisions	Type of monitoring	Monitoring frequency
1	Particulate matter	Whole Process	No visible airborne emission to cross the site boundary where harm or nuisance may be caused	Operator observations	At least daily
2	Particulate matter	Whole site for fugitive emissions	No visible airborne emission to cross the site boundary	As required to ensure dust control measures are working – low tech methodologies such as deposition gauges or sticky slides may be used	As required
				BS dust gauge sites strategically, in agreement with the regulator to measure dust emitted. Shall include wind direction and speed measurement	In agreement with regulator
3	Particulate matter	Arrestment equipment, or any point where dust contaminated air is extracted from the process to atmosphere, with exhaust flow >300m <sup>3</sup> /min.	50mg/m <sup>3</sup>	Recorded indicative monitoring	Continuous
				Isokinetic sampling	At least once to demonstrate compliance, then as necessary to provide a reference for the continuous indicative monitor
4	Particulate matter	Arrestment equipment, or any point where dust contaminated air is extracted from the process to atmosphere, with exhaust flow >100m <sup>3</sup> /min.	No visible emission. Arrestment equipment should be provided with a design guarantee that the equipment can meet 50mg/m <sup>3</sup>	Indicative monitoring to demonstrate that the arrestment equipment is functioning correctly	Continuous
5	Particulate matter	Arrestment equipment, or any point where dust contaminated air is extracted from the process to atmosphere, with exhaust flow <100m <sup>3</sup> /min.	No visible emission	Operator observation Or Indicative monitoring	At least daily Or Continuous

6	Droplets, persistent mist and fume	All emissions to air (except steam and condensed water vapour)	No droplets, no persistent mist, no persistent fume,	Visual observations	*On start-up and on at least two more occasions during the working day*
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Notes:

\*All periodic monitoring results shall be checked by the operator on receipt and sent to the Council within 8 weeks of the monitoring being undertaken.\*

a) The reference conditions for limits in Table 1 are: 273.1K, 101.3kPa, without correction for water vapour content, unless stated otherwise.

b) All periodic monitoring shall be representative and shall use standard methods.

c) The emission limits do not apply during start-up and shut down. All emissions shall be kept to a minimum during these periods.

## **Right to Appeal**

You have the right of appeal against this permit within 6 months of the date of the decision. The Council can tell you how to appeal [*or supply details with the permit*]. You will normally be expected to pay your own expenses during an appeal.

You will be liable for prosecution if you fail to comply with the conditions of this permit. If found guilty, the maximum penalty for each offence if prosecuted in a Magistrates Court is £50,000 and/or 6 months imprisonment. In a Crown Court it is an unlimited fine and/or 5 years imprisonment.

Our enforcement of your permit will be in accordance with the [Regulators' Compliance Code](#).