RICARDO-AEA

Application Pack

Appliance Exemption from section 21 of the Clean Air Act 1993

Issue 3.0

Introduction

This pack is for manufacturers or marketers of furnaces or boilers who want them classified as “exempt” for use in smoke control areas.

Any solid fuel combustion appliance burning a non-authorised fuel requires exemption before use in UK smoke control areas.

The following appliances do not need exemption:

- those that burn only liquid or gaseous fuels, because these are authorised fuels when used in appliances designed to burn these fuels
- those burning only an authorised solid fuel. A list of authorised fuels is available online: http://smokecontrol.defra.gov.uk/fuels.php
- those only operated as a combustion activity regulated by a permit under the Environmental Permitting Regulations 2010 and listed in Schedule 1 to those Regulations (in summary, appliances with a thermal input of >20MW or lower if burning waste).

1 Making an application for exemption

The practical steps are:

1. applicant completes an online application form

    - the application fee is currently £1225+VAT for the first appliance in a range plus £350+VAT for each additional appliance assessed in the range Additional ranges are charged in the same way. The cost is reduced for appliances that are the same design as a currently exempt appliance but have been rebadged by a different organisation. The price for such appliances is £500+VAT for the first appliance in a range plus £250 for each additional appliance in a range.
    - Ricardo-AEA is funded by Defra to provide up to 1 hour of free advice to applicants including an initial assessment (see step 2).
    - all testing required must be paid for by the applicant.

2. Ricardo-AEA's smoke control team reviews the application and marks it as "initial assessment in progress" on the online tracker

3. Ricardo-AEA will contact the applicant within 15 working days if further information is needed. Once all outstanding information is provided the application will be marked "sufficient information provided for full assessment".

4. Ricardo-AEA will send an agreement (contract) to the applicant. This must be signed and the fee paid before Ricardo-AEA can carry out the assessment. Please note that further requests may be made at this stage, for example, for the applicant to make modifications to user manuals or carry out intermediate output emissions testing.

5. Ricardo-AEA will make a recommendation to either Defra and/or the Devolved Administrations, depending on where you want the exemption to apply.

6. current Defra practice is to make Regulations containing the latest recommended exempt appliances at the beginning of April and October each year – Defra needs to have received the recommendation from Ricardo-AEA at least 10 weeks before each date. The Devolved Administrations do not have a specific timetable for making Regulations.

Enquiries about applications can be made either to smokecontrol@ricardo-aea.com or using the enquiry form here: http://smokecontrol.defra.gov.uk/contactform.php. NB only the first hour of Ricardo-AEA advice is free; thereafter normal Ricardo-AEA consultancy rates apply.

The following documentation/information must be supplied with an application, and all documents must be in English

a) relevant test data, except for changes to the exterior or minor modifications for which no new test data will be needed:

- multiple test results are required at rated or high output as well as reduced output. Table 1, below, sets out the number of tests required at each load. Section 2 advises on the emission limits that must be met
- if the application seeks exemption for the use of more than one non-authorised fuel, test reports must cover each one. (Note. It may be possible to reduce the scope of testing on additional fuels provided that the 'worst' fuel with respect to emissions is fully characterised and there is sufficient test data on all fuels to justify the choice of worst fuel).
- a detailed description of the method used to measure dust emissions.
- if all appliances are different in their design, we require testing of all appliances.
- if no test data is supplied, Ricardo-AEA will advise at initial assessment stage what testing must be undertaken

b) accreditation certificates for the test house/laboratory used – it must be accredited for particulate (dust) emission measurements to ISO17025

c) technical drawings of all of the appliances that have been applied for is required, including dimensions of the firebox/combustion chamber and external dimensions

d) the installation and use manual(s), which must have a reference identifier, version and date marked clearly on it

Table 1 - number of test results required			
Fuel Feed	**Air Control**	**Draught**	**Number of tests at each output**
Manual	Manual/none	Natural Draught	**5**
Manual	Manual	Forced Draught[1]	**5**
Automatic	Automatic	Natural Draught	**5**
Automatic	Manual	Forced Draught[1]	**5**
Manual	Automatic	Natural Draught	**5**
Manual	Automatic	Forced Draught[1]	**3**
Automatic	Automatic	Forced Draught[1]	**3**

1. Mechanically-assisted combustion air (a fan).

The manual must contain:

a) a note on the requirements of the Clean Air Act 1993 and a clear statement of which appliances are suitable for use in smoke control areas if the manual covers exempt and non-exempt appliances (or different appliance versions)

Suggested text:

"The Clean Air Act 1993 and Smoke Control Areas"

Under the Clean Air Act local authorities may declare the whole or part of the district of the authority to be a smoke control area. It is an offence to emit smoke from a chimney of a building, from a furnace or from any fixed boiler if located in a designated smoke control area. It is also an offence to acquire an "unauthorised fuel" for use within a smoke control area

unless it is used in an "exempt" appliance ("exempted" from the controls which generally apply in the smoke control area).

The Secretary of State for Environment, Food and Rural Affairs has powers under the Act to authorise smokeless fuels or exempt appliances for use in smoke control areas in England. In Scotland and Wales this power rests with Ministers in the devolved administrations for those countries. Separate legislation, the Clean Air (Northern Ireland) Order 1981, applies in Northern Ireland. Therefore it is a requirement that fuels burnt or obtained for use in smoke control areas have been "authorised" in Regulations and that appliances used to burn solid fuel in those areas (other than "authorised" fuels) have been exempted by an Order made and signed by the Secretary of State or Minister in the devolved administrations.

Further information on the requirements of the Clean Air Act can be found here : http://smokecontrol.defra.gov.uk/

Your local authority is responsible for implementing the Clean Air Act 1993 including designation and supervision of smoke control areas and you can contact them for details of Clean Air Act requirements"

b) details of any modification to the air controls to assure smokeless operation if the test report indicates that this is needed

c) which fuels (and their specifications) can be used in the appliance

Suggested Text:

"The **ABC Appliance** has been recommended as suitable for use in smoke control areas when burning **XYZ fuels**."

Additional Text is required to be included in the instruction manuals for manual batch-fired natural draught appliances, such as room heaters and stoves. This will address potential poor operation of the appliance that could cause smoke emission:

- **Refuelling on to a low fire bed**

If there is insufficient burning material in the firebed to light a new fuel charge, excessive smoke emission can occur. Refuelling must be carried out onto a sufficient quantity of glowing embers and ash that the new fuel charge will ignite in a reasonable period. If there are too few embers in the fire bed, add suitable kindling to prevent excessive smoke

- **Fuel overloading**

The maximum amount of fuel specified in this manual should not be exceeded, overloading can cause excess smoke.

The following text may be required depending on appliance operation and instructions:

- **Operation with door left open**

Operation with the door open can cause excess smoke. The appliance must not be operated with the appliance door left open except as directed in the instructions.

- **Dampers left open**

Operation with the air controls or appliance dampers open can cause excess smoke. The appliance must not be operated with air controls, appliance dampers or door left open except as directed in the instructions.

2 Emission Limits

The emission limits applicable to appliances varies depending on the size of the appliance. These are also available graphically in Appendix 2

2.1 Appliances ≤44kW output

The smoke emission limits for appliances that are between 0kW and 44kW are based upon limits provided in BS PD 6434:1969. Emissions should not exceed 5g/h + 0.1g per 0.3kW output of the appliance.

(Output(kW) x 0.3333) + 5 = Emission limit (g/h)

Table 2 Permitted smoke emission ≤44kW output BS PD6434:1969

Appliance output (kW)	5	10	15	20	25	30	35	40	45
Permitted smoke emission (g/h)	6.7	8.3	10	11.7	13.3	15	16.7	18.3	20

2.2 Appliances between 44kW and 240kW output

Emission limits for appliances with an output between 44kW and 240kW are interpolated between the limit at 44kW in BS PD 6434 and the limit at approximately 240kW in the Clean Air Act (Emission of Grit and Dust from Furnaces) Regulations (SI 1971/162). Ricardo-AEA also applies a concentration limit of 150 mg/m^3 (dry gas at STP - 0°C, 101.3 kPa and at stack O_2); emissions in excess of this concentration are typically visible and may give rise to complaints.

(Output(kW) x 2.42) – 86.9 = Emission limit (g/h)

Table 3 Permitted smoke emission for appliances between 44kW and 240kW

Appliance output (kW)	50	75	100	125	150	175	200	225
Permitted smoke emission (g/h)	34	95	155	216	276	337	397	458

Note that the test method for grit and dust (BS3405:1983) is not a current Standard, for the purposes of Exemption, Ricardo-AEA applies the limits to total particulate matter emission.

2.3 Appliances between 240kW output and 20,000kW

The emission limit for appliances between 240kW output and 20,000kW (20MW) net thermal input are based on the Clean Air Act (Emission of Grit and Dust from Furnaces) Regulations (SI 1971 No 162). Ricardo-AEA also applies a concentration limit of 150 mg/m^3 (dry gas at STP 0°C, 101.3 kPa and at stack O_2); emissions in excess of this concentration are typically visible and may give rise to complaints..

Please note, the emission limit is not a linear scale. Please refer to Table 3.

Table 4 Permitted smoke emission for appliances > 240kW output

Appliance output (kW)	242	293	586	879	1172	1466	2198	2931
Permitted smoke emission (g/h)	499	603	1211	1814	2418	3026	3856	4536
Appliance output (kW)	4397	5862	7328	8793	11724	14655	29310†	
Permitted smoke emission (g/h)	6046	7562	9072	10614	13608	16783	29938	

†An appliance output of 29MW is in excess of the 20MW input limit and other regulations will apply

Appliances larger than 20MW (20,000kW) Thermal input fall under the Environmental Permitting Regulations and therefore Clean Air Act emission limits do not apply .

3 Acceptable test methods

3.1 Overview

The UK test procedure for the measurement of particulate from solid fuelled appliances is BS PD 6434:1969 in conjunction with BS3841 Part 2 and measurement of appliance output (see below) however this test procedure is intended primarily for residential, manually stoked, batch-fed appliances operating under natural draught. The principles of BS PD 6434 are applied to other types of appliances but with amendments to reflect suitability of test methods and operating characteristics of appliances.

The overall aim is to assure that appliances can be operated in a Smoke Control Area '*without producing any smoke or a substantial quantity of smoke*' (Section 21 of the Clean Air Act 1993).

BS PD 6434 provides a protocol for assessing smoke emission across the range of appliance operation and under a range of conditions. Alternative particulate measurement procedures/methods can be considered if they are undertaken at a suitable/accredited laboratory or test house and can be considered equivalent.

3.2 BS PD 6434 and BS3841 Part 2

These set out the test protocol and test method respectively for assessing whether residential appliances are suitable for exemption. The main features of BS PD 6434 are detailed below. BS3841-2 describes measurement procedure incorporating an electrostatic precipitator or a full flow dilution tunnel approach[1].

[1] The electro-static precipitator or dilution tunnel is mounted on top of a chimney section, all the flue gases generated by the appliance pass through the precipitator or dilution tunnel.

Table 5 BS PD 6434 Test protocol summary	
Test	**Comment**
5 emission tests at rated output	
5 emission tests at minimum output	
5 emission tests at intermediate output	Required only if the mean result of minimum and high output tests gives a gravimetric smoke emission of ≥ 75% of the permitted value then intermediate output tests are required
Emission tests during Ignition tests	Not generally required for continuously operated appliance
Emission tests to assess range of emission during reasonable misuse (misuse tests).	This has typically included emission testing under the following scenarios : Overloading Door left open Refuelling onto a low firebed (slow restart/fails to light) Air controls left open (high output) However, clear instructions to the operator to avoid such conditions testing under these scenarios can be used in place of measurements
Continuous opacity monitoring	Used to assess peak emissions.
Output	Needed to verify test conditions and to determine emission limit. Measurement by harmonised EN Standard or from determination of fuel use and apply efficiency data from type testing.

3.3 Acceptable test protocols and methods

Independent of the test method used, the chimney draught must be recorded for all high and minimum output tests.

3.3.1 Non-Automatic Appliances <45kW

The preferred test protocol is BS PD 6434:1969 using the methods detailed in BS 3841 Part 2:1994.

Ricardo-AEA will accept alternative test methods providing a suitable number of tests at each load have been provided (see Table 1).

- We accept the Norwegian standard NS 3058 Part 1 and Part 2 using a dilution tunnel, typically, test reports in compliance with this test protocol will not detail enough tests to satisfy the requirements of the clean air act exemption process. In this instance we will request additional tests to meet the requirements shown in Table 1.

- The United States Environmental Protection Agency (USEPA) Methods 28 and 5G using dilution tunnel is acceptable. This test protocol will require further test results to meet the requirements in Table 1.

- German DINplus testing can be acceptable; these tests do not capture the condensable particulate material. As a result, Ricardo-AEA will apply **a safety factor of 20 times the dust emission measurement**. This test protocol will require further

test results to meet the requirements in Table 1 (e.g. 5 replicate measurements at rated and minimum output for a manually fed appliance).

3.3.2 Automatic boilers

Fully automatic boilers with automatic air controls and a forced draught system will require 3 tests at full and minimum load (Table 1) from recognised EN or ISO particulate emission test methods.

Ricardo-AEA will accept alternative national Standard test methods providing a suitable number of tests at each load have been provided (see Table 1).

Ricardo-AEA will accept EN303-5 including extra test results for minimum output (Table 1), note that this standard does not specify a test method. The test method must be detailed in the test report.

3.3.3 Pizza Ovens, Air heaters, other appliances

Before you send your appliances for testing, contact Ricardo-AEA at smokecontrol@ricardo-aea.com **and submit details of the appliance.** We can advise on the requirements, these can be submitted to your testing laboratory.

You can use Table 1 to determine the number of tests at each load, if the operating output of the appliance is fixed then we require 5 tests at one load.

For pizza ovens Ricardo-AEA will generally require one ignition test and a minimum of two 'warm up' tests to determine the time taken to reach a stable operating temperature. Five tests at the defined, stable operating temperature are also required. Please note there must be as many warm up tests carried out as required to reach the defined stable temperature.

Where a pizza oven shows results that are not satisfactory during warm up testing, Ricardo-AEA require that the manual details the following text in the lighting instructions:

The pizza oven should be used with an authorised fuel or gas lance until the defined operating temperature is reached. Note that the temperature must be defined in the manual.

3.4 Additional measurements

In addition to smoke or particulate measurements, other parameters need to be measured to assure compliance with Clean Air Act requirements. The main additional measurement is the appliance output (because emission limits are defined based on the output of the appliance and because measurements are required across the operating range of the appliance). In addition, the following components are all relevant measurement parameters:

- Oxygen (O_2)
- Carbon monoxide (CO)
- Volatile organic compounds (VOC) or organic gaseous carbon (OGC)
- Carbon dioxide (CO_2)
- Temperature
- Flow
- Fuel analysis

There are EN and/or ISO Standards to cover these measurements.

The UK test procedure for the measurement of particulate from solid fuelled appliances is BS PD 6434 however other particulate measurement procedures/methods can be considered if they are undertaken at a suitable/accredited laboratory or test house. Test reports from other national testing Standards and EN303 Part 5 (for solid fuel boilers) can be considered although test data for both rated output and minimum output operation must be provided.

Typically, appliances are either manually or automatically controlled. Test reports for automatically controlled appliances are required to be provided in full and contain three tests individually reported for each output level. Manually controlled appliances show much higher variation between tests, for this reason we require five tests at each load. Ricardo-AEA can provide guidance on testing requirements where fewer tests have been undertaken or, testing has not been undertaken at all load conditions. Ricardo-AEA requires details of the test protocol that the test house follow to identify whether the method is suitable for the assessment process.

Appliances that have been tested to EN303-5 may be suitable for exemption however all appliances need to be assessed to become exempt appliances. EN303-5 does not include particulate tests at reduced output, these are required for exemption.

Harmonised EN Standards for residential solid fuel appliances (for example inset appliances - EN13229 and stoves - EN13240). These Standards do not include particulate emission tests so compliance with such standards does not provide evidence of compliance with UK smoke control legislation.

Some European testing can be used in the assessment process for appliances however this is dependent on the scope and number of tests, the completeness of the test report, the method used in the testing and the collection media that was used to collect particulate material. Applicants must use test organisations that are accredited to ISO 17025 for measuring particulate (dust) emission.

Table 6 shows a list of acceptable test protocols and standards. Please note that the method used must be detailed, the number of tests must comply with that shown in Table 1 and detailed section 5.3.

3.5 Appliance ranges

Note that it is possible to asses a family or range of appliances without assessing each appliance in the range. For a range of appliances (using a scaled up version of the same firebox and air controls) testing of all appliances is not necessary. In general, we apply criteria for defining a range based on EN303-5; we require test reports for the smallest and largest appliances in a range with sufficient testing in between at a minimum ratio of 2:1. Note that different criteria apply for domestic appliances which may be assessed under criteria defined in the appropriate appliance harmonised Standard (for example EN 13240).

Example of a range

In a boiler range where the appliances are scaled up and have rated outputs of 20kW, 30kW, 40kW, 60kW and 80kW the minimum number of appliances that would need to be tested to a suitable method would be the 20kW, 40kW and 80kW.

Table 6 Alternative standards						
Reference	**Measurement method or test protocol**	**Description**	**Automatic appliances**	**Manual appliances**	**Compliance with CAA Requirements**	**Comments**
BS PD 6434	Test protocol	Recommendations for the design and testing of smoke reducing solid fuel burning domestic appliances	Yes	Yes	Yes	
BS 3841-2	Measurement method	Determination of smoke emission from manufactured solid fuels for domestic use. Methods for measuring the smoke emission rate	Yes	Yes	Yes	
NS 3058-2	Measurement method	Enclosed wood heaters smoke emission Part 2 Determination of smoke emission	No	Yes	No	Further testing required at rated and minimum output
USEPA 28	Measurement protocol	Certification and auditing of wood heaters	No	Yes	No	Further testing required at rated and minimum output
USEPA 5G	Measurement method	Determination of particulate matter emissions from wood heaters (Dilution tunnel sampling location)	No	Yes	No	Further testing required at rated and minimum output
USEPA 5H	Measurement method	Determination of particulate matter emissions from wood heaters from a stack location	Yes	Yes	No	Further testing required at rated and minimum output

Table 6 Alternative standards						
Reference	**Measurement method or test protocol**	**Description**	**Automatic appliances**	**Manual appliances**	**Compliance with CAA Requirements**	**Comments**
EN13284-1	Measurement method	Stationary source emissions. Determination of low range mass concentration of dust. Manual gravimetric method	Yes	Yes	No	Further testing required at rated and minimum output. Use on dilution tunnel for manual appliances
ISO 9096	Measurement method	Stationary source emissions -- Manual determination of mass concentration of particulate matter	Yes	Yes	No	Further testing required at rated and minimum output Use on dilution tunnel for manual appliances
EN 303-5	Measurement method	Heating boilers: Heating boilers for solid fuels, hand and automatically fired, nominal heat output of up to 300 kW - Terminology, requirements, testing and marking	Yes	Yes	No	Further testing required at minimum output, details of particulate test method need to be specified
Onorm M 5861-1	Measurement method	Manual determination of particles concentrations in flowing gases. Gravimetric Method general requirements	Yes	Yes	No	Further testing required at rated and minimum output Use on dilution tunnel for manual appliances
BS EN 12809	Other Measurement method	Residential independent boilers fired by solid fuel - Nominal heat output up to 50 kW - Requirements and test methods	Yes	Yes	No	Does not include particulate emission tests

Table 6 Alternative standards						
Reference	**Measurement method or test protocol**	**Description**	**Automatic appliances**	**Manual appliances**	**Compliance with CAA Requirements**	**Comments**
BS EN 13229	Other Measurement method	Inset appliances including open fires fired by solid fuels - Requirements and test methods	Yes	Yes	No	Does not include particulate emission tests
BS EN 13240	Other Measurement method	Room heaters fired by solid fuel - Requirements and test methods	Yes	Yes	No	Does not include particulate emission tests
BS EN 12815	Other Measurement method	Residential cookers fired by solid fuel - Requirements and test methods	No	Yes	No	Does not include particulate emission tests
BS EN 14785	Other Measurement method	Residential space heating appliances fired by wood pellets - Requirements and test methods	No	Yes	No	Does not include particulate emission tests
BS EN 15250	Other Measurement method	Slow heat release appliances fired by solid fuel - Requirements and test methods	No	Yes	No	Does not include particulate emission tests
BS EN 15821	Other Measurement method	Multi-firing sauna stoves fired by natural wood logs - Requirements and test methods	No	Yes	No	Does not include particulate emission tests

4 Certification and Marketing

Certificates are not issued for exempt appliances. A comprehensive list of exempt appliances can be found online here: http://smokecontrol.defra.gov.uk/appliances.php

To find the relevant statutory instrument for appliances that have not yet been updated onto the website yet, visit the legislation.gov.uk website online here: http://www.legislation.gov.uk/ and type in 'Smoke control areas' into the search box provided

Note that it is not possible for appliance manufacturers to use a Defra logo on marketing for any products that have met the requirements for exemption.

5 Changes to exempt appliances following completion

If changes are required to the text in the S.I, such as manufacturer name or company address, these details should be sent to correspondence.section@defra.gsi.gov.uk

Please state the details of the current exemption, in such case as a manufacturer name change, it would be prudent to state that you wish the appliance to be listed as both the old and the new manufacturer name.

If a manufacturer of an exempt appliance wishes to sell the design to, and/or manufacture the appliance on behalf of a separate organisation, Ricardo-AEA require a new application to be made. These should include the details of the original appliance/manufacturer, technical drawings and the new manuals with the relevant branding. Ricardo-AEA are happy to use the original test report providing Ricardo-AEA are confident that the appliance is identical in operation to the exempt appliance stated. Such applications will be charged as detailed in section 1.

Appendices

Appendix 1: Application Form

Appendix 2: Emission limit graphs

Appendix 3: Contact details

Appendix 4: Useful web links

Appendix 1 – Application Form

Please complete the application form below

Contact Details	
Name*	
Company Name*	
Address 1*	
Address 2*	
Address 3	
Address 4	
Post Code*	
Telephone*	
Facsimile	
Mobile	
Email*	
Website	
VAT No	

*Mandatory Field

Appliance and Model Numbers Nominal ratings and Fuels

Complete the form as necessary below including as much information as you can. If you need more space, please contact us separately or use the comments box below.

#	Name/Range	Model Number(s)	Nominal Rating (kW)	Fuels with which the appliance will be exempt
1				
2				
3				
4				

Countries

Please indicate to which countries you wish to apply for exemption:

Please Tick All Relevant	Country
	All
	England
	Scotland
	Wales
	Northern Ireland

Application Documents

To ensure your application is processed as quickly as possible, please provide the following information/documents and indicate how you will provide them to us. You may upload documents online if you use the online application form (See Appendix 2), send by email or put paper documents in the post. Please indicate here how you will send the documents.

Please Tick all that apply:

Document	Online	Email	Post	None
Technical drawings of the appliance(s) (See Note 1)				
Manuals (installation, operation, maintenance) (See Note 1)				
Test reports including particulate emissions tests (See Note 2)				
Accreditation certificates if test reports submitted (See Note 3)				
Pictures and/or brochures of the appliance				

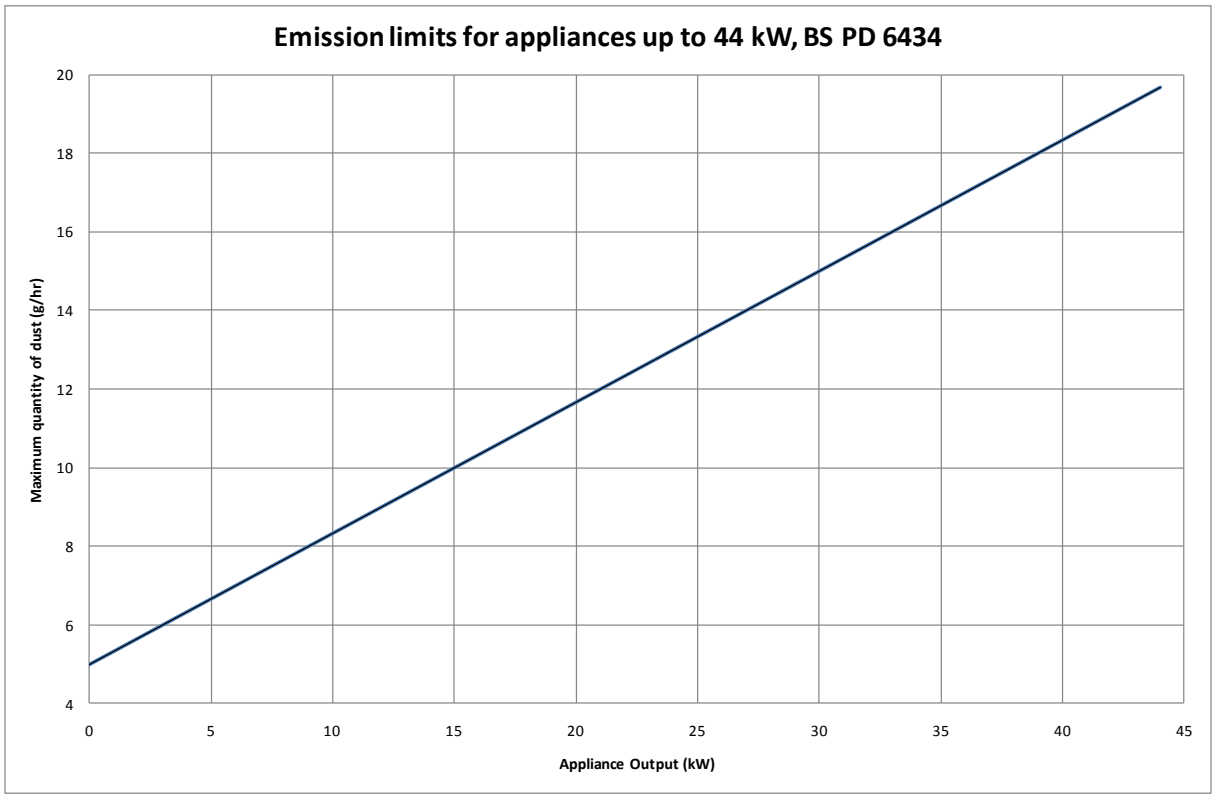
Notes about the options above:

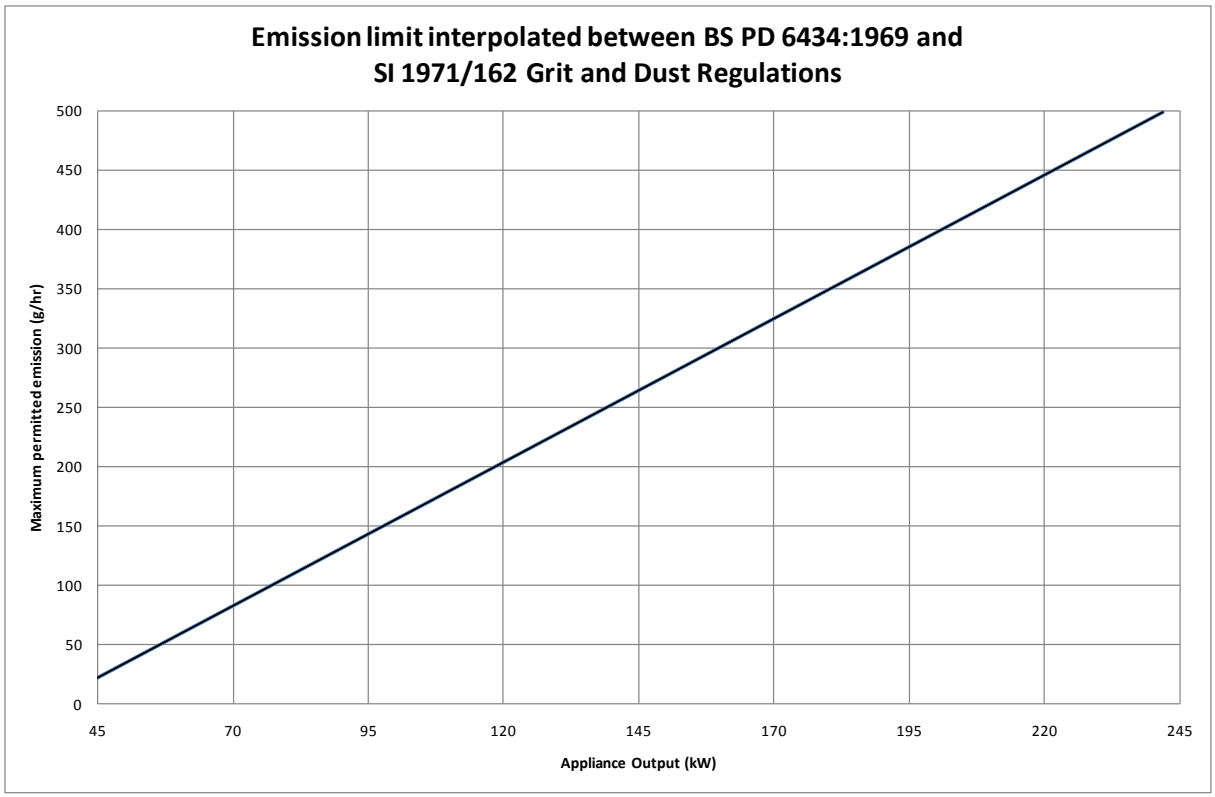
Note 1: these are required

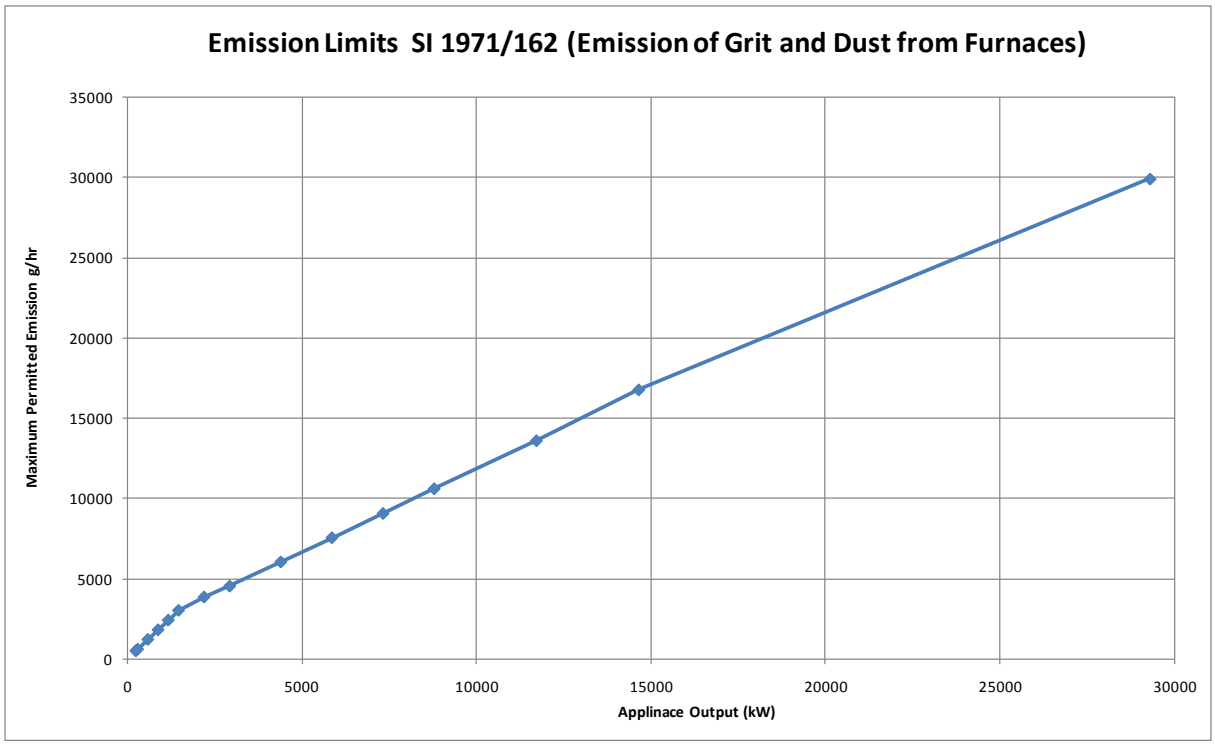
Note 2: may reduce the cost of exemption if provided and are acceptable

Note 3: these are required if test reports submitted

Appendix 2 – Emission limit graphs






Emission Limits SI 1971/162 (Emission of Grit and Dust from Furnaces)
Maximum Permitted Emission g/hr
35000
30000
25000
20000
15000
10000
5000
0
0
5000
10000
15000
20000
25000
30000
Applinace Output (kW)

Appendix 3 - Contacts

During your application the fastest way to contact the Smoke Control Areas team and get answers to your questions is to send an email to smokecontrol@ricardo-aea.com.

Following recommendation, queries should be forwarded to Defra or the Devolved Administrations using the contact details below:

Administration	Contact
England	Department for Environment, Food and Rural Affairs Atmosphere and Local Environment Area 5E Ergon House c/o Nobel House 17 Smith Square London, SW1P 3JR Email: air.quality@defra.gsi.gov.uk Tel: 08459 33 55 77
Scotland	Air, Noise and Nuisance Team The Scottish Government Air Quality Team 1-G North Victoria Quay Edinburgh, EH6 6QQ Email: air.quality@scotland.gsi.gov.uk
Northern Ireland	Air & Environmental Quality Unit Climate and Waste Division Department of the Environment (Northern Ireland) Calvert House 23 Castle Place Belfast, BT1 1FY Email: epdwebteam@doeni.gov.uk
Wales	Welsh Assembly Government Radioactivity and Pollution Prevention Branch Cathays Park Cardiff CF10 3NQ Email: RPPMailbox@Wales.Gsi.Gov.UK

Appendix 4 – Useful web links

- Ricardo-AEA maintain the smoke control area pages within the Defra website. The following links to this and other websites may be useful during your application.

- The smoke control pages in the defra website are available here: http://smokecontrol.defra.gov.uk/

- An online application form is available here: http://smokecontrol.defra.gov.uk/applicationform.php

- Guidance for appliance manufacturers is available here: http://smokecontrol.defra.gov.uk/guidance.php?a=a

- An indication of UK smoke control areas is available here: http://smokecontrol.defra.gov.uk/locations.php

- A list of authorised fuels is available here: http://smokecontrol.defra.gov.uk/fuels.php

- A list of exempt appliances is available here: http://smokecontrol.defra.gov.uk/appliances.php

- Smoke control orders and other legislation is available here: http://www.legislation.gov.uk/

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