



## Environmental protection

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Additional guidance from the Department for Environment, Food and Rural Affairs, and from the Welsh Assembly Government

AQ12 (05)

### PG5/2(04): Well-maintained cremators

#### Introduction

Paragraph 6.33 of PG5/2(04) specifies that effective preventative maintenance should be employed and that additional advice on good maintenance practice would be forthcoming. This additional guidance note meets that commitment.

This note also corrects some errors in the recently published PG5/2(04). The corrections are listed at the end of this note.

#### Well-maintained cremators

The following is a checklist for local authorities when inspecting crematoria and for crematoria operators. Not all items will necessarily require consideration at every inspection. Overall, compliance with the checklist should be evidence of a good standard of maintenance.

#### Cremator maintenance

Maintenance of an existing crematorium will need to cover the following:

- inspecting, repairing and replacing brick, flue, control software and hardware, monitoring equipment, etc.
- regular maintenance and inspection by service engineer
- operator maintenance - daily, weekly, monthly, by number of cremations, etc.

#### Maintenance arrangements

##### Contract

- is there an external contract for maintenance and servicing? Who with: manufacturers, combustion engineers?
- is it structured? Does it cover preventative, and responsive work? Does it set response times?
- if not, what are the arrangements, who carries them out, how qualified (qualifications/experience) are they to deal with the 'usual' problems? unusual problems? how long does it take to fix problems? How does the paperwork support the arrangements?

##### Paperwork

- are there structured inspections by the service engineer? with paperwork to set expectations? and documented faults and remedies? and advice on operator maintenance standards?

#### Some practical suggestions to help check if a cremator is "well maintained"

Regulators may find the following points useful to raise when they inspect cremators, and where appropriate to inspect themselves. The questions should help to elicit information from the operator, and service engineer if present, about how the cremator operates when it is fully compliant. (Inspections when the engineer is present can be informative.) Answers

will give an indication of whether the cremators have problems and how the operator/ engineer adjusts operations as and when problems arise.

Do the operatives note the CO, particulate and oxygen readings on the emissions monitoring system when the cremator is in pre-heat (i.e. just burners running)?

Do the operatives observe the primary burner flame (with the loading door shut) so they can spot if the flame significantly changes?

Where are the analyser manufacturer's instructions and what do they say about calibration and its frequency? When were the analysers calibrated last? are all the analysers working correctly?

How does the control system correct for any excursion in primary chamber behaviour? Eg low oxygen, high CO. Do the primary burners and primary air respond to low oxygen or high CO or both (eg do they turn off?)

How the control system deals with different weights of a cremation? (What is the largest size, weight of cremation accepted, and how are they managed - manual or automatic? Loaded into a colder primary chamber?.)

Is the sealing and paintwork in general checked regularly for "smoke" marks, which are likely to be a sign of pressurisation? These marks will give clues to cleanliness of combustion.

Similarly, is the area around the loading door checked regularly for scorch or smoke stains?

Are the ductworks checked regularly for any signs of leaks (as far as is accessible)?

The regulator might watch the stack at the loading of a coffin to see if there is any smoke?

The regulator might watch the stack at 10 to 20 minutes into cremation, (coffin collapses) - is there smoke at the stack and check for smell around the grounds and in the cremator room?

Regulators should, as a matter of course, check the data logger when they visit to see whether there were any emission limit exceedances which were not reported in accordance with PG5/2(04).

(For electrical cremators some of these points will need to be adapted)

## Dustiness

How much dust is there in the ducts and flues? How long since they were cleaned out? How are they cleaned out? The box below contains a very simple guide to describing dustiness and its variations, but is only one possible approach.

### Simple dustiness guide

*Health and safety note: remember to ascertain safety before opening ducts and flues. Gas temperature, pressure, constituents of any outflows or duct contents are important, as are surface temperatures, sharp edges etc. The operator and/or manufacturer/service engineers will probably have already assessed risk for such operations.*

This is a rule of thumb guide to describing dustiness and its variations:

#### Colour

#### Thickness of deposit might be gauged

- dust shows on dry fingertip [dust free latex glove? rub gently]
- thick enough to write in with a finger [how lit: from room, by torch?]
- finger drawn through dust makes a furrow
- thick enough to measure with a ruler

#### Extent of deposit

- in square ducts, in corners, patches on the base
  - less than a beer mat
  - more than a beer mat
  - most of the surface
- in round ducts
  - continuous,

- long patches
- short patches

### Errors in PG5/2(04)

We regret that a number of errors have been found in the published guidance note, and the following corrections are required:

Paragraph 2.1: the date should be 1 April 1998, not 1996

Table 2, row 5: the fifth column cross-reference should be to paragraph 6.15, not 6.16

Table 2, row 6: the final column should refer to rows 6 and 8, not 6, 7 and 8

Table 2, after row 8: in the note after row 8, the reference should be to row 9, not to row 8

Paragraph 5.9, second arrow: this should read "for temperature and oxygen the operator should report...."

Paragraph 5.9, second arrow: delete the fourth bullet including the text "residence time, 4 weekly / monthly minimum

Paragraph 5.10: this should refer only to rows 6 and 8

Table 3, in the row concerning PCCD/F: this should say in column 1 " Replaces row 9 in Table 2" ]

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