
**Meeting of Executive Member for
Neighbourhood Services and Advisory Panel**

8 June 2006

Report of the Report of the Director of Neighbourhood Services

CREMATORIUM MERCURY EMISSIONS

Summary

1. New regulations have been introduced which require abatement technology to be installed in cremators to minimise the emission of mercury from crematoriums. This report seeks advice from Members on the options for modifying the existing equipment.

Background

2. Mercury is a product contained in the flue gases from crematoria resulting from the vaporisation of dental fillings. The government has estimated that if unabated mercury emissions from crematoria would rise by two thirds by 2020 when this source will be by far the biggest single contributor to mercury emissions in this country.
3. Emissions from crematoria are released from relatively low flue stacks which may lead to fairly localised dispersion of pollutants. However it is recognised that the problem arising from mercury emissions is from long range transportation and for this reason national targets for abatement have been set.
4. Crematoria have been regulated under Part 1 of the Environmental Protection Act since 1991. Substantial improvements to emissions have been made over the subsequent years applying statutory guidance PG5/2. These requirements did not however address emissions of mercury.
5. This omission has now been taken into account by the Department of Environment, Food and Rural Affairs (DEFRA) who have introduced an update on the process guidance in the form of PG5/2(04) and AQ1(05) note on 'Control of Mercury Emissions from Crematoria'. The aim of the new requirements is for the crematoria industry to reduce the emissions of mercury to the atmosphere by 50% before the end of 2012.
6. DEFRA have confirmed that the industry may adopt several options to achieving the 50% reduction prior to 2012. The options available being:

- Operators may either upgrade their existing crematoria or emissions trade (see paragraphs 7-11 below) or a combination of both to achieve 50% reduction of mercury emissions.
 - A single crematorium can abate 50% of its cremations and not trade.
 - Private sector companies can trade within the sector provided they can provide evidence of achieving 50% reduction in mercury emissions.
 - Local authorities with 2 or more crematoria can trade internally provided they can provide evidence of achieving 50% reduction in mercury emissions.
 - Two or more operators could form their own trading arrangement provided they can provide evidence of achieving 50% reduction in mercury emissions.
 - Operators may trade (buy or sell abated cremations) through the CAMEO burden sharing scheme or any other scheme that may be developed.
7. CAMEO (Cremation Abatement of Mercury Emissions Organisation) is a burden sharing agreement which has been established by The Federation of British Cremation Authorities.
 8. The aim of the scheme is to safeguard the industry in which 23% of existing crematoria cannot physically install abatement plant and to minimise additional costs for the bereaved.
 9. It has been agreed that CAMEO will form a trading company in 2011, commence to shadow burden sharing in 2012 and go live in 2013. All partners will contribute to the scheme and those that abate more than 50% of their cremations will receive income from the combined revenue.
 10. Cremation authorities are required to advise their regulator under the Environmental Protection Act no later than 1 June 2006 whether they will be installing mercury abatement equipment or opting for burden sharing (i.e. emissions trading).
 11. If following notification in June 2006, not enough crematoria have made the decision to install abatement equipment and a 50% reduction of mercury emissions cannot be demonstrated, then an alternative option of targeting those crematoria with the highest number of cremations will be applied by DEFRA. It has been estimated that this would be 30% of all crematoria and would likely include York.

Mercury Abatement Equipment

12. The development of mercury abatement equipment for crematoria is somewhat new but similar technology has been used in other industries for many years. There are essentially two systems, one based on powder

injection and the other on a filter bed. Both require the disposal of the contaminated spent reagent.

13. There are 4 main manufacturers of equipment and each one very similarly priced. Current average costs for installations being £250k for a single unit, £380k for a double unit or £425k for a triple unit. In addition to this capital investment, there would be on-going revenue operational costs of £10-£15 per cremation.
14. All manufacturers abatement is bulky and many crematoria may have difficulty in fitting it into existing buildings and limited options to extend.

York Crematorium

15. York Crematorium has 3 cremators which were installed in 1992. They are not fitted with mercury abatement technology.
16. The layout of the building is such that mercury abatement equipment could be fitted within the existing building enclosure if one of the cremators was removed. The crematorium is capable of operating with 2 cremators by altering work patterns but this would put extreme pressure on equipment. There is also space externally for the building of an extension to the plant room should that be required.
17. As the operator of the York Crematorium, the City of York Council is required to advise DEFRA through its regulator (City of York Council Environmental Protection Unit) of its intentions in relation to mercury abatement before 1 June 2006. Due to the alterations to the dates of Council meetings, this has not been possible but the regulator has received a copy of this report and is aware a decision will be made at this meeting.

Consultation

18. No consultation has taken place.

Options

Option A

19. To do nothing. This would place the Council in breach of its statutory obligations.

Option B

20. To seek a trading agreement through the CAMEO scheme.

This option would not require the Council to undertake capital borrowing in the near future. However should, as a result of the returns provided, burden sharing is not seen to achieve the national 50% abatement target DEFRA may decide to enforce abatement on the larger operators.

This option would not see the Council contributing directly to the greater environmental objectives, but would be paying to pollute.

An estimated cost would be £50-55k per annum.

Option C

21. Install abatement equipment to deal with 50% of cremations.

If adopted the Council would be meeting the minimum standards laid down in legislation. It would require the removal of one cremator and the installation of mercury abatement to one of the remaining two cremators.

There would be a capital cost roughly estimated to be £250k for the new equipment and an increased revenue costs of between £20-£30k per annum to run the equipment.

No revenue could be derived from the CAMEO scheme.

Option D

22. Install abatement equipment to deal with 100% of cremations and remove one cremator, so as to install the equipment.

This option would see the Council meeting the highest targets of the government's commitment to mercury abatement and would satisfy any future legislative requirements. It would require the removal of one cremator and the installation of mercury abatement to both of the remaining two cremators. There would be a capital cost roughly estimated to be £380k for the new equipment and an increased revenue cost of between £20-£30k to run the equipment. The Council could also engage in the CAMEO trading scheme and obtain a potential income of up to £55k in trading off its surplus abated cremations. The operation of only two cremators would require an enhanced programme of preventative repair and maintenance to minimise the risk of breakdown. This is estimated to be in the order of £15 per cremation.

Option E

23. Install abatement equipment to deal with 100% of cremations and retain three cremators.

This option would see the Council meeting the highest targets of the government's commitment to mercury abatement and would satisfy any future legislative requirements. It would require the building on of additional plant room at a cost of up to £100k. There would also be capital cost involved of an estimated £425k to install abatement equipment to all 3 cremators. There would be an increased revenue cost of between £20-£30k to run the equipment. The Council could also engage in the CAMEO trading scheme and obtain a potential income of up to £55k in trading off its surplus abated cremations.

Analysis

24. The analysis relating to the options has been included in the options above.

Corporate Objectives

25. The regulation of mercury emissions supports the corporate aim of "... taking pride in the City, by improving quality and sustainability and creating a safe and clean environment".

Implications

26. **Financial:** The financial implications of each of the options have been included in this report. They are based on figures provided by the Federation of British Cremation Authorities in the guidance and information on mercury abatement.
27. The potential for this capital expenditure has been previously identified and included in the medium term financial forecast for the Council. Specific bids will need to be made through the 2007/08 budget process when full costs of any scheme have been obtained.
28. **Human Resources (HR):** There are no HR related issues associated with this report.
29. **Equalities:** There are no equality related issues associated with this report.
30. **Legal:** The council will be in breach of its statutory obligation if Option A is approved.
31. **Crime and Disorder:** There are no crime and disorder issues associated with this report.
32. **Information Technology (IT):** There are no IT issues associated with this report.
33. **Other:** There are no other issues associated with this report.

Risk Management

34. If Option A is approved, the council will be at risk of breaching its statutory obligation and of future operation of the crematorium.

Recommendations

35. That the Advisory Panel advise the Executive Member that:
- (a) the Council indicates to its regulator under the Environmental Protection Act (City of York Council Environmental Protection Unit) that it intends to install mercury abatement equipment, and
 - (b) that the preferred option be either Option D or Option E as indicated in paragraph 22 and 23;

- (c) that officers be instructed to proceed with obtaining accurate costings for the approved option, which will form part of the budget submission for 2007/08.

Reason: to enable to Council to meet the highest targets of the government's commitment to mercury abatement and satisfy future legislative requirements.

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Report Approved

Date 17.5.06

Report Approved

Date

Specialist Implications Officers(s):

Wards Affected:

All

For further information please contact the author of the report

Background Papers:

DEFRA Process Guidance Note 5/1/(04)
DEFRA AQ notes AQ 1(05) AQ 13(05) AQ 24(05)

Annexes

None