Leeds CITY COUNCIL

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Report of the Director of City Development

Executive Board

Date: 25th August 2010

Subject: Crematoria Mercury Abatement

Electoral Wards Affected:	**Specific Implications For:**
Adel and Wharfedale Beeston and Holbeck Horsforth	Equality and Diversity ☐ Community Cohesion ☐ Narrowing the Gap ☐
☐ Ward Members consulted (referred to in report)	

Eligible for Call In [X] Not Eligible for Call In (Details contained in the report) [ ]

EXECUTIVE SUMMARY

Cremations account for 83% of funerals in Leeds, and there is no sign that this proportion will reduce in the future. There are three crematoria, all owned and operated by the Council and all located to the south, north and west of Leeds. These are Cottingley, Rawdon and Lawnswood.

This report explores a preferred approach for the Council to meet requirements under Government legislation to abate mercury emissions from cremations by 50% on or before 31st December 2012. However, any decision on installing equipment for mercury abatement is closely linked to decisions on the replacement of the existing cremators, which are nearing the end of their service lives at all three of the Council's crematoria.

The report sets out a preferred strategy for mercury abatement, and the required renewal of cremators at each of the three sites when they reach their reliable service term, starting at Rawdon to be operational in 2012 followed by Cottingley in 2016 and Lawnswood in 2018. It is proposed that capital funding for Rawdon will be provided by Prudential Borrowing, with the costs met by continuing the Environmental Surcharge on cremations which was introduced in 2008 for this purpose.

1.0 Purpose of the Report

1.1 The purpose of the report is to consider how the Council meets Government legislation targets on mercury emissions abatement during the cremation process and the requirement to renew its cremation facilities on a phased basis.

1.2 Executive Board is requested to:-

- Note the legislative requirements relating to the need to achieve 50% mercury abatement on cremations and the requirement to implement a solution by 2012
- Consider and approve the preferred option to replace cremators and abate mercury at Rawdon, the need to replace cremators at Cottingley in 2016 and to replace cremators and abate mercury at Lawnswood in 2018.
- Note that to ensure this strategy meets the target of 50% abatement by the end of 2012, it will be necessary to increase the proportion of cremations at Rawdon to 2,800 until abatement is fitted at one of the other cremator sites
- Approve commencement of the procurement process for Rawdon, to be funded through Prudential Borrowing and the continuation of the surcharge on cremations introduced in 2008.
- Note the requirement to monitor any developments in legislation regarding mercury abatement when finalising plans for Cottingley and Lawnswood.
- Agree to a fully funded injection of £2.9m into the Capital Programme to finance Mercury Abatement works financed through the Council exercising its prudential borrowing powers using the fees generated by the Environmental surcharge introduced for this purpose in 2008.

2.0 Background Information

2.1 Leeds is a statutory burial and cremation authority, and the Parks and Countryside service is responsible for the management of three crematoria, 23 cemeteries and 22 closed churchyards. It is the fifth largest burial authority in the country, dealing with approximately 5,600 cremations and the creation of 542 new graves per annum.

2.2 In 2000, legislation was introduced to amend Regulation 37 of the Pollution Prevention (England and Wales) Regulations 2000, SI 1973. Specifically, PG5/2(04) requires that at least 50% of mercury emissions from crematoria should be abated before the 31st December 2012. This can be achieved by installing filtration plant to cremators to extract the mercury and thereby reduce emissions. A trading scheme is also to be introduced which allows operators to sell or buy mercury abatement above or below their 50% requirement, as an alternative way of fulfilling their quota. Failure to comply with the legislation would constitute a breach in the operator's license issued by the Government, and could result in the forced closure of cremators.

2.3 There is a suggestion by the European Regulatory body OSPAR Commission (Oslo and Paris Commission) that 100% abatement may be required by 2020, but currently there is no legislation in place requiring cremation authorities to do so. However the Government is currently reviewing progress on installation of abatement equipment. If there is insufficient progress nationally, it is possible that orders may be introduced requiring selected (probably larger) authorities which have not yet committed to installing equipment to meet a higher target - possibly 100%.

2.4 In 2008, the Government asked authorities what their intentions were on installation of abatement equipment. Leeds advised that it would comply with the 50% mercury emissions abatement by December 2012 and that it was the Council's intention to consider all three crematoria as a single entity and filter accordingly at the most appropriate sites. The crematoria were subsequently down graded from high risk to medium risk installations by Environmental Health.

3.0 Main Issues

3.1 Environmental considerations

3.1.1 The legislation exists to ensure that mercury emissions are reduced over the longer-term in a planned and regulated way. The Council could seek to abate emissions from all its sites at the earliest opportunity. However, the approach taken in this report is to achieve the 50% requirement imposed under legislation It should be noted however that there is a possibility that there will be further legislation which may increase the requirement in future and the Council's long-term planning should therefore have regard to this possibility, to ensure that the Council can continue to meet its legislative requirements.

3.2 **Mercury Abatement Trading.**

3.2.1 The Federation of Burial and Cremation Authorities has prepared a burden sharing scheme (the Crematoria Abatement of Mercury Emissions Organisation, or CAMEO) under which a mercury levy on cremations would be transferred from operators with a shortfall of abatement capacity and shared among operators with surplus. In addition, DEFRA has issued guidance that crematorium operators can trade spare capacity and shortage of capacity directly with one other authority. The Council has to balance the benefit of avoiding the capital cost of abatement, the opportunity of selling surplus capacity (with the corresponding risk of market rates being unremunerative) and the risk of having to pay a disproportionate price for "buying" abatement credits (with the corresponding possibility that if there is national overcapacity, market rates will be low).

3.2.2 As yet, there is no certainty as to the market conditions which will prevail. However it is predictable that the rates will be highly geared, i.e. if there is oversupply, rates could be low, while if there is undercapacity, rates could be high. Under these circumstances, and other things being equal, the risk minimisation approach of abating about 50% of cremations is probably the most commercially advantageous position. Relying on meeting the legal requirement by purchasing all the necessary credits would leave the Council exposed commercially; moreover this approach may not even be deliverable, as the Government may intervene. Finally, there will be a need to replace the cremators over the next few years in any case: this strategy would not avoid capital expenditure. This is of course, linked to the procurement strategy and building costs.

3.3 Location of crematoria.

3.3.1 The three crematoria are located to the South, North and West of Leeds at Cottingley, Rawdon and Lawnswood. The capacity and location of the existing cremators is considered sufficient to meet the long-term demand for the city with the number of families that choose to take funerals across the local authority boundary to a neighbouring site being relatively insignificant.

3.3.2 The three crematoria in Leeds are all owned and operated by the Council. They use different makes of cremators, none of which meet the legislative requirements for mercury abatement. The table below sets out key details of the sites. There are

Site	Number of Cremators	Cremations per annum	Future service life of cremators
Rawdon Crematorium	3	1,900	2011/12
Cottingley Crematorium	2	1,400	2015/16
Lawnswood Crematorium	3	2,300	2017/18
Total	8	5,600	

burials and cremations at Lawnswood and Cottingley, but only cremations at Rawdon.

3.3.3 The size and distribution of crematoria in the city is historic and whilst the position could be reviewed, it is felt that, following discussions with Funeral Directors, the provision of facilities at present is balanced and appropriately located for the size of the city.

3.4 Replacement of cremators

3.4.1 The working life of a cremator is approximately 25 years. The table at 3.3.2 above shows that all Leeds' cremators are nearing the end of their operating lives. Abatement equipment can be fitted to existing cremators but if these are due for replacement in the near future, there are strong reasons relating to service continuity and risk to undertake both tasks together. Above all, as manufacturers focus on fitting abatement equipment to their own cremators, the procurement decision for abatement is unavoidably linked to the decision for the cremator itself. In addition, the opportunity to bring a larger package of works to the market is likely to bring forward a more attractive competitive response. For the same reason, it is proposed that all cremators at any one site would be replaced at one time.

3.4.2 Executive Board is asked to note that there are new technologies being promoted as alternatives to cremation, for example the Resomator that uses a chemical decomposition process. While these may offer acceptable, cost effective and environmentally friendly alternatives to cremation, in the absence of a firm date for their being licensed for use in the UK it is not possible to include them in a procurement strategy at this time. The position can however be kept under review as the procurement process develops.

3.5 Capacity required

3.5.1 Cremations account for 83% of funerals in Leeds compared to 72% nationally, but the trend is upwards, and there is no sign that this proportion will reduce in the foreseeable future. For as long as the Council provides sufficient capacity it is unlikely that a competitive provider will set up in the district, in view of the high capital costs of doing so. The case for installing abatement equipment and for renewing cremators can be made with reasonable confidence on future demand, apart from the local issues discussed above in relation to site location.

3.5.2 City-wide, Leeds undertakes 5,600 cremations per year. In managing these and considering the future operational requirements of the service, it is anticipated that this level of provision could be achieved with one less cremator city wide a reduction from 8 to 7. This would either be at Rawdon or Lawnswood, which both have 3 cremators currently, rather than at Cottingley which only has 2.

3.5.2 The required minimum 50% abatement translates into at least 2,800 abated cremations per annum. None of the three crematoria currently handles this many cremations, but it would be possible to achieve this at a three cremator site with modifications to working practices, through proactive dialogue and management with Funeral Directors, increasing cremations at one site to 2,800. Despite these disadvantages, this possibility introduces important flexibility into the procurement

strategy as the legislative requirement can be met at one site in the short to medium term.

3.6 Way Forward – Assessment

3.6.1 Having discounted abating mercury through the burden sharing scheme CAMEO and in recognising the requirement to abate mercury by 50% on or before December 2012, the Council needs to determine how it wishes to progress. In considering the replacement and abatement strategy for the City's three crematoria, options have been appraised in the context of the following objectives:-

- To achieve the mercury abatement of at least 2,800 cremations per annum by the end of 2012
- The requirement to replace cremators on a phased basis relative to their operational life at Rawdon by 2011/12, at Cottingley by 2015/16 and at Lawnswood by 2017/18
- To utilise the Environmental Surcharge on cremations, introduced in 2008, to fund the delivery of replacement cremators with associated abatement

3.6.2 In assessing the most pragmatic solution to the objectives listed above, there are several considerations to be taken into account:-

- The 3 cremators at Rawdon require replacement by 2012, at an approximate cost of £350k, whether mercury abatement is fitted here or not
- 3 cremators will be required to meet the 2,800 cremations per year abatement target
- Cottingley, with its 2 cremators, is unsuitable for mercury abatement equipment, as the cremators are fitted below ground level and fitting abatement equipment would require significant building modifications and consequently incur greater costs
- Bringing forward any cremator replacement at Lawnswood, before its operational requirement of 2018 will forego the opportunity to maximise the usage of its facilities
- The Lawnswood Crematorium building is listed and any modification approvals could be more complex, costly and time consuming to deliver

3.7 Preferred Approach

3.7.1 On balance, taking into account the considerations listed above, it is proposed to address the mercury abatement legislative requirements faced by the Council by installing 3 new cremators and mercury abatement equipment at Rawdon Crematorium by 2012. This approach defers procurement of the works and equipment at Cottingley and Lawnswood to a date when, more information may be known regarding any requirement to abate to 100% by 2020, which would also fit better with the existing lifespan of the cremation equipment at these sites This will also allow Lawnswood to be reduced from 3 cremators to 2 allowing the provision of 7 in total across the City.

3.7.2 In proposing to phase the abatement, the three cremators at Rawdon will be replaced and a triple cremation flue gas filtration system will be installed in the cellar. There would be no requirement to extend the current building. Some civil works would be required to fit the filtration system and there would be a need to upgrade the electrical supply to accommodate the new equipment.

3.7.3 In pursuing this option, consideration must be given to how the Council focuses a greater number of cremations to Rawdon to achieve the 50% threshold. This will be

achieved through proactive dialogue with Funeral Directors. In order to address this, informal discussions with undertakers within the city have been undertaken.

3.8 Consultation

3.8.1 Informal discussions have been undertaken with local Funeral Directors regarding mercury abatement and how the Council achieves the 50% threshold at Rawdon Crematorium. Initial feedback received, indicates that due to the balanced location of crematoria across the city, Funeral Directors feel that any operational changes will not have any detrimental impact on service provision and income.

4.0 Implications For Council Policy And Governance

4.1 The work described in this report will contribute to the following strategic outcomes:

- Strategic outcome: Environment – Reduced ecological footprint through responding to environmental and climate change and influencing others.
- Strategic outcome: Environment – Cleaner, greener and more attractive city through effective environmental management and changed behaviours.

5.0 Legal And Resource Implications

5.1 In anticipation of the mercury abatement legislation requirements, the Council introduced an Environmental Surcharge in November 2008, which was set at £30 and was increased to £32 in January 2010, to build up funding for the introduction of abatement equipment. The fund value is £220k as at March 2010 and it is proposed to use the current fund arrangement to finance the Prudential Borrowing costs over a 20 year period for each crematoria. In 2009 the Federation of Burial and Cremation Authorities (FBCA) indicated that a levy charge of £40 per cremation would be appropriate to assist in delivering the abatement requirements. This will be taken into consideration when setting the charges for the cemetery and crematoria service at the beginning of the year and when final costs for the scheme are known. However based on a 20 year timeframe the Environmental surcharge, index-linked at 2% per annum will generate a fund of £2.9 million to finance the mercury abatement works required across the City.

5.2 Due to the specialist nature of this work it is proposed to deliver the scheme, whereby the provision of the plant and the ancillary building works required are integrated into a single design and build contract. This approach transfers risk to the successful contractor/supplier and also ensures better management of interfaces between new plant installation and building works. The early estimated costs of the abatement works and replacement of cremators at Rawdon and Lawnswood (reducing Lawnswood down to 2 cremators) and the replacement of the cremators at Cottingley.

5.3 The works proposed at Rawdon Crematorium, which will be undertaken as phase one will consist of:-

- Construction works to the basement area, ground floor area and general works relating to asbestos removal, planning and building regulations
- Removal of the existing cremators
- Supply and installation of 3 new cremators with abatement filters
- Upgrading of the electrical supply
- Contingencies, contract administration etc

5.4 The estimated costs of these works inclusive of fees, are shown below. These will be detailed more fully in the in the DCR that is forecast to come to Executive Board in 2011. However, it is intended to draw down £1,650,000 as capital to facilitate the delivery of works to Rawdon Crematoria as phase one of the works required for mercury abatement city-wide

Total for the required associated building Works	200,000
Total for the Cremator replacement and Mercury Abatement Installation	1,450,000
TOTAL for RAWDON	**1,650,000**

5.6 Risk assessment

5.6.1 The key risks associated with the recommended strategy are:

- Some exposure to achieving the 50% abatement target until abatement equipment is fitted at Lawnswood, a period of about six years. There would be little or no spare capacity for breakdown, maintenance shutdown etc during this period. However a shortfall could be redressed from the emissions trading scheme and as it would be a low figure, the commercial risk is considered to be correspondingly low.
- No room for slippage if abatement equipment is to be installed by the 2012 deadline. This applies to all options. It is proposed to use a project manager from Asset Management to run the procurement, to minimise the risk, and to offer it as a design and build project, to avoid the complexities and potential delays that would arise from separate procurements of building works, abatement equipment and cremators.
- High cost due to high demand from councils seeking to install equipment ahead of the deadline. The recommended strategy minimises this risk by spreading procurement packages.
- Loss of scale economies in procurement overheads and in market response – the recommended strategy has the highest exposure to this risk of the options. Nevertheless it is a substantial procurement in its own right and limits the Council's exposure to service continuity issues.

5.6.2 In recognising these risks, the project will have a risk log which will be maintained and monitored during the lifetime of the project and these issues will be reported to the Project Board

5.7 Project Programme

5.7.1 An initial outline timetable of works is set out as follows:

Description	**Timescale**
Executive Board approval	August 2010
Development of Output Specification and sketch design development	Sept – Nov 2010
Work package tendered	Dec - Feb 2011
Award of contract	March 2011
Development of works to Stage D and Submission of Planning Application	March – May 2011
DCR to Executive Board	May 2011
Successful contractor/supplier undertakes detailed design	May – August 2011
Start on site	August 2011
Completion/Handover	May 2012

6.0 Conclusion

6.1 Leeds is a statutory burial and cremation authority, and the Parks and Countryside service is responsible for the management of three crematoria, 23 cemeteries and 22 closed churchyards. It is the fifth largest burial authority in the country, dealing with approximately 5,600 cremations and the creation of 542 new graves per annum.

In 2000, legislation was introduced to amend Regulation 37 of the Pollution Prevention (England and Wales) Regulations 2000, SI 1973. Specifically, PG5/2(04) requires that at least 50% of mercury emissions from crematoria should be abated before the 31st December 2012.

6.2 The Council is proposing to achieve this target of 2,800 cremations per annum through the installation of abatement equipment when the cremators at Rawdon Crematorium reach the end of their usage in 2012, through the generation of funds by Prudential Borrowing, utilising the environmental surcharge introduced in 2008 for this purpose. This would require some operational management to achieve it, but allows all of the city's abatement to take place on one site.

7.0 Recommendation

7.1 Executive Board is requested to:

(i) note the legislative requirements relating to mercury abatement and the need to implement a solution by 2012.

(ii) approve the preferred approach to replace cremators and abate mercury at Rawdon by December 2012.

(iii) to agree the longer-term strategy to replace cremators at Cottingley in 2016 and to replace cremators and consider future abatement for mercury at Lawnswood in 2018, subject to further detailed business cases and funding plans being brought forward.

(iv) note that to ensure this strategy meets the target of 50% mercury abatement by the end of 2012, it will be necessary to increase the proportion of cremations at Rawdon until abatement is fitted at Lawnswood.

(v) approve initiation of the design and development of the specification for Rawdon, to be funded from Prudential Borrowing and a continuing surcharge on cremations.

(vi) Agree to a fully funded injection of £2.9m into the Capital Programme to finance Mercury Abatement works financed through the Council exercising its prudential borrowing powers using the fees generated by the Environmental surcharge introduced for this purpose in 2008.

(vii) Request that a Design and Cost Report is brought back to Executive Board once a more detailed cost estimate for the Rawdon works has been developed.

BACKGROUND PAPERS

Pollution Prevention (England and Wales) Regulations 2000,