

**Furnace Finance Ltd**

**working with**

**Lloyds TSB Asset Finance**



Report produced for

Crematorium  
and  
Council

July 2006

*Options for acquiring new cremation equipment under the terms of  
a Managed Equipment Service contract.*

## Background

Furnace Finance Limited (FFL) has been formed to help crematoria to finance crematorium equipment by means of a service contract under which the crematorium pays a fixed cost per cremation for the provision and maintenance of the equipment. Lloyds TSB is working closely with FFL to provide the funding for such an arrangement. FFL provides the service element through Facultatieve Technologies Ltd. (FTL) who have a nationwide network of service engineers and are the market leaders in supplying crematorium equipment. For this reason, FFL only finance Facultatieve equipment.

## Legislative issues

Regulations pertaining to cremator emissions are currently undergoing a radical change; Emissions limits have been significantly reduced in respect of some pollutants and new limits introduced in respect of hitherto unregulated flue gas constituents, the most noteworthy being Mercury. Compliance with the new emissions limits can be achieved by filtering the flue gases exiting from cremators (“abating”).

Abatement of flue gases means removing much of the potentially harmful chemical content including Mercury, Dioxins and acid gases; in simple terms, abated emissions are ‘cleaner’ than unabated.

DEFRA has stated that the cremation industry must abate 50% of cremations by 2012 and 100% by 2020. Abatement is therefore not a question of if, but when. Only one crematorium (Ollerton, Nottinghamshire) is operating abated plant in the UK so far although several European countries have been installing filters for up to ten years. Many cremation authorities are adopting a “wait and see” attitude; this is potentially a risky strategy since:-

- a) DEFRA have stated that if they do not see evidence that abatement plant is being installed on a phased basis, they will insist that certain crematoria abate.
- b) Production capacity for the specialist filtration equipment is limited. If too many authorities leave their orders too late, market forces will mean that prices will increase as demand exceeds supply.

The good news, however, is that abatement is a very positive process which contributes to reducing atmospheric pollution. Green policies are now very mainstream politics and the public are very aware of environmental issues. Early adopters of abatement therefore have an opportunity to present themselves as “environmentally friendly” and can potentially charge more for their service. The bereavement industry is fully aware that abatement will inevitably result in increased charges.

## How many cremations can a cremator manage?

The new installation at Ollerton crematorium comprises one FTIII and a single filter. It is anticipated that this could handle up to 1200 cremations per year by using flexible working practices and ‘holding over’ coffins to allow optimum efficiency (see below)

### Cremator maintenance

Cremators typically need to be re-lined every five years at a cost of approximately £17,000. The hearth needs to be replaced approximately every two to three years at a cost of some £6,000. Cremators are usually serviced three or four times per year and consumables such as thermocouples are replaced periodically. Maintenance can therefore be quite costly over the life of a cremator and some years will be much more expensive than others. Furnace Finance offers a way to smooth out this cashflow by wrapping most of the costs associated with cremator operation into one price per cremation thus offering administrative simplicity and budgetary certainty since the cost is fixed for the life of the contract – ten years. The type of structure is known as a Managed Equipment Service Contract and is becoming popular in the NHS sector as a means of financing expensive machines such as scanners, linear accelerators etc. The FFL agreement includes the following

- annual servicing of cremators
- annual boiler clean
- emergency breakdown/call out
- hearth replacement every two and a half years
- refractory replacement every five years
- supply & replacement of filter media
- supply of consumables (excluding gas and electricity)
- supply of filter reagent .

disposal of spent reagent is not currently included since the exact cost has not been established; however, it is anticipated that this will soon be an inclusive service and will only add about £1 to the cost per cremation

## TYPICAL CONFIGURATION

### Scope of work

Supply and install:-

1 x FTII standard width cremator

1 x FTIII extra-width cremator

1 x Facultatieve double filter abatement system (incl. auto-cleaning boiler)

1 x ash-transfer cabinet and cremulator

1 x push-loader

### Economics

Option	civils	crems. per year	cost per crem.	annual costs
1	nil	1600	<b>£78.64</b>	£125,824.00

### Evaluation of costs vs. revenues

The cost per cremation is fixed for ten years and during this period it is anticipated that the Council will increase fees charged annually. Based on the assumptions set out below, it can be seen that the annual surplus will grow by substantially over the life of the contract.

annual increase %age	5.00%
initial cremation fee	£375.00
Furnace Finance Cost	£78.64
annual no. cremations	1600

year	cremation fee	FF cost	net	income	expenditure	surplus
2006	£375.00	£78.64	£296.36	£600,000	£125,824	£474,176
2007	£393.75	£78.64	£315.11	£630,000	£125,824	£504,176
2008	£413.44	£78.64	£334.80	£661,500	£125,824	£535,676
2009	£434.11	£78.64	£355.47	£694,575	£125,824	£568,751
2010	£455.81	£78.64	£377.17	£729,304	£125,824	£603,480
2011	£478.61	£78.64	£399.97	£765,769	£125,824	£639,945
2012	£502.54	£78.64	£423.90	£804,057	£125,824	£678,233
2013	£527.66	£78.64	£449.02	£844,260	£125,824	£718,436
2014	£554.05	£78.64	£475.41	£886,473	£125,824	£760,649
2015	£581.75	£78.64	£503.11	£930,797	£125,824	£804,973
						£4,774,468

### Other savings

FTL cremators operating with abatement can perform a cremation in less time, using less fuel, than older equipment. When a cremator operates continuously, each subsequent cremation uses less fuel than the previous one due to heat build-up and fewer heating and cooling cycles. Hence holding over and cremating three full days per week for example will use less fuel than cremating intermittently every day. Waste heat from abatement plant can be recovered and used to heat crematorium buildings thus saving on heating fuel. This is a technique widely practised in Scandinavia and elsewhere in continental Europe.

### VAT

In certain circumstances there may be a VAT saving by entering into a FFL contract. Purchasing new equipment might cause the Council to exceed its VAT ceiling resulting in irrecoverability of all VAT. By paying for the equipment as it is used, the input VAT may well be recoverable as the limit will not be breached.

### Documentation

A draft of the FFL document is appended to this report for your consideration.

### Next Steps

Once the Council has decided that it wishes to upgrade the crematoria, the procurement process must be commenced. FFL will offer full co-operation with the Council to ensure that this process is carried out as efficiently as possible while complying with all necessary statutes and in an open manner allowing all qualified competitors to bid.

## Appendix

### Assumptions

Costs used in preparing these indicative quotations have been taken from Facultatieve's standard pricing. It is in the nature of this type of complex chemical engineering equipment that every installation is different and actual pricing may differ from the figures used.

The costs used cover the supply of the following equipment:-

<b>equipment / option</b>	<b>1</b>
FTII cremator (standard width)	1
FTIII cremator (extra width)	1
single filter including autoclean boiler	0
double filter including autoclean boiler	2
ash transfer and cremulator	1
push loader	1
re-wiring	0
heat exchanger	0
Misc. building works incl. flue	0
re-decoration	0
ventilation	0
finishes/sanitaryware	0
refrigeration	0
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