# holding coffins over – energy savings 2003-04 to 2011-12

The potential desirability of 'holding over' – not cremating all coffins on the same day as the funeral service – first started being talked about in the 1990s in connection with emerging concerns about the use of the world's resources and sustainability, the environment, and the likely effect on the cost of energy. For understandable reasons this was, and still is, a relatively controversial issue. After hearing Ken West talking on the subject at a Branch Meeting some years ago Charles Howlett was finally convinced of the need to take action, and this is the story of what has happened at Chilterns Crematorium as a result.

On Christmas Eve I was reading some statistics in the winter 2012 edition of *Pharos* showing that 51% of crematoria do not hold cremations over from the previous day (and there are another 5.7% where it isn't known whether they hold over or not). However, at the same time I was interested to read that 40% of crematoria do hold over.

I did some quick calculations, looking at our energy consumption in 2003-04, which was the last year we were still cremating all coffins on the same day as the funeral service, compared with last year 2011-12. The figures are only indicative as we don't have separate meters for the cremators, and also in that time we have doubled the size of the building (our second funeral chapel opened in 2005), replaced the electric under-floor heating system in the original part of the building with radiators (2009), and installed cremator filtration and a heat exchanger (2011). That said, I compared the energy used in KWH in 2003-04 with the energy used in 2011-12 and what it would cost at the current price, as follows:-

| **Year** | **2003-2004** | **2011- 2012** |
|---|---|---|
| No. of cremations | 3,065 | 3,118 |
| Cremation policy | All cremations carried out on the same day as the service | Cremations carried over for up to 72 hours |
| Amount of gas used @ 2.98p per KWH | 2,811,651 KWH = £83,787 | 1,411,442 KWH = £42,060 |
| Amount of electricity used @ 10.30p per KWH | 225,169 KWH = £23,192 | 148,924 KWH = £15,339 |
| Total energy used | 3,036,820 KWH | 1,560,366 KWH |
| **Total cost** | **£106,979** | **£57,399** |

There is a further saving which I am unable to calculate so easily. By holding over we have been able to reduce the number of cremators we need from four to three, saving on maintenance costs. In turn, removing the redundant cremator created the space to install the filtration equipment. Without this space we would have had to build an extension.

As far as the bereaved are concerned, the cremation authority has been able to take into account the effect of the combined savings in capital and running expenses when setting the cremation fee each year, which (currently £490) remains below average for the UK.

### How holding over works

The principle is a fairly straightforward one. When we were cremating all coffins on the day of the funeral we might not get the first coffin until, say, 11.30am, but in order to cremate every coffin received during the rest of the day we often had to switch all four cremators on, and even then staff were working overtime to finish. The energy used to pre-heat the cremators, and during 'idling' time before the next coffin came off the catafalque, was substantial. Worse still, having expended the energy to get the fourth cremator up to working temperature it might only be required for one or two cremations, and then there might be a two day gap before it was needed again. In energy terms this is a very wasteful way of managing the operation of cremators – costly financially, costly in the use of non-renewable resource (energy) and costly for the environment through the excessive production of carbon dioxide.

A much more efficient way to operate a cremator is to put as many cremations through it as you can in a day. To do this you need to start cremating first thing in the morning (I've got our crematorium attendants well trained to make their cup of tea after they've got the first cremations underway!), and you need to have enough coffins available during the day to ensure there is no 'idling' time between cremations. You can only consistently do this by holding coffins over from the previous day's funerals. ▶

### Getting started – consultation and handling potential opposition

I believe one of the main issues that hold cremation authorities back may be concerns about potential opposition and to my knowledge, where this has happened, it usually comes from funeral directors. I can understand this, particularly if funeral directors believe it may affect the service they receive. I also think we human beings are often naturally averse to change, and as 'same day' cremation was first enshrined in the FBCA Code of Cremation Practice as long ago as 1945, and commonly practiced even earlier than that, then holding over is quite a significant change to get used to.

Many months before actual implementation, and with the backing in principle of the Crematorium Management Committee, we started telling people we were thinking about holding over and why – in newsletters, at the annual liaison meeting and an open day. This enabled them to ask questions and raise any potential drawbacks or other issues for discussion. In this way, by the time we put the policy into practice we had been able to allay many of the concerns and everyone had got used to the idea. Once in operation funeral directors quickly realised that, for example, if they made arrangements in advance families could still witness a coffin being charged into a cremator, or when necessary have the cremation ashes ready to take away four hours after the funeral or at 9am the next morning – in other words, 'business as usual'.

### Holding over in practice

#### 1. Administration

We are fully transparent about our holding over policy – it is in accordance with the ICCM's Guiding Principles of Cremation (up to 72 hours) displayed in our office reception area, printed in various items of literature and on our web site, and most significantly it is on our application form where the applicant is asked to sign a 'statement of understanding' (see fig.1 page 48) acknowledging, amongst other things, the fact that not all coffins are cremated on the day of the funeral. We always insist that we have this 'statement of understanding' signed in every case, to the extent that when we get funerals coming from outside our 'normal' area we ask funeral directors to download the form from our website, or we send it to them by email or fax.

#### 2. Coffin storage

When I was first considering holding over I went to visit one of the pioneers of the process, Kevin Browne, at Bramcote Crematorium in Nottinghamshire, to see what he was doing. There are obvious ethical and practical concerns – nothing is more likely to bring the policy into disrepute than to have coffins stacked around the crematory in a higgledy-piggledy fashion and without any regard to the potential onset of decomposition.

With regard the latter point, Kevin was able to put my mind at rest. Although he had installed refrigeration he said that in practice it had proved largely unnecessary. Kevin pointed out that the majority of bodies are either embalmed, which delays the onset of decay at normal room temperatures, or stored at the funeral directors in a mortuary refrigerator. In the case of the latter, a closed coffin is a relatively effective insulator, keeping a body cool for some time after it has been removed from the refrigerator. Conversely, placing a coffin in a refrigerator at the crematorium for 24/36 hours is unlikely to have much affect on the body inside. All in all it seems that for the relatively short timescales involved refrigeration is not necessary/effective and therefore, in view of the fact that it also uses a lot of energy, its installation could be considered counterproductive.

In the light of what I learnt we decided not to install a mortuary refrigerator. Instead we built a bespoke insulated enclosure, pictured above, with a roller-shutter door, containing racking for 9 coffins and a small air conditioner sufficient to lower the temperature if coffins are held for more than 36 hours in very hot summer weather. In practice not many coffins are held for this long, particularly in the summer (and when do we ever get hot summer weather in England?!) so, as Kevin predicted, the air conditioner has been little used without any problems being experienced.

After checking the nameplate, coffins are placed on the racking with the signed instructions to cremate taped onto them.

The crematorium attendants also check to ensure any special instructions are adhered to e.g. the cremation ashes required by a particular time, and use a simple marking system (a coloured felt-tip pen) to ensure coffins held longest are cremated before those only recently stored.

### 3. Planning cremator use

At the beginning of each week the crematorium attendant on cremating duty uses the 'cremators calculator' form (see fig.2 page 50) to work out how many cremators he needs to use and when. At Chilterns the four crematorium attendants work on a 4 week rota, with staggered start and finishing times, enabling the crematory to be staffed for 12 hours each week day (and 9 hours on Saturday). We have learnt from experience that using both the automatic pre-heat and automatic close-down facility we can carry out six and often seven cremations a day in a cremator.

Remembering that for maximum efficiency we need to keep a cremator cremating all day, then using the 'calculator' form the attendant can work through different scenarios with one, two (or three) cremators to see how many coffins this leaves at the end of each day to keep the cremator(s) working the next morning before the funerals begin. If the calculation shows that we need to start a second (or third) cremator for only one day's cremating then a few hours overtime are worked instead – hence the columns for 14 and 16 hours on the form – because from trials we have carried out we know that the cost of gas for pre-heating and running a cremator from cold for only one day exceeds the cost of six to eight hours overtime.

*Cremator No.2 and to the immediate left of it can be seen the end of the boiler which was slotted into the space vacated by the redundant No.1 cremator. To the very left is the edge of the screen surrounding the filter which stands in the space previously required to charge No.1 cremator.*

In practice usually only one cremator is used at the beginning of the week, with a second started up on Wednesday or Thursday depending how busy we are; both are then used for the rest of the week. The last time all three cremators were needed for any length of time was in January/February 2009 (which was before Steve Gould from Bournemouth Crematorium taught us how to use 'auto stop'). In effect, in 2003-2004 we carried out 3,000+ cremations in four cremators and now we are carrying out the same number of cremations in two cremators.

*View of the crematory with the Evans 300/2 cremators installed in 1997 and on the left the screen around the retrofitted filtration plant installed in 2011. The screen is for aesthetic reasons when mourners come into the crematory to witness the coffin being charged.*

## Conclusion

I remember when we first started consulting about holding over a funeral director had particular concerns about the security of bodies being held at our premises overnight. I discussed this with him. I pointed out that bodies were also held at his premises and I asked him about his security arrangements. Did he have a monitored intruder alarm system? Did he have a monitored fire alarm system? When he said that he didn't, as we did, I politely suggested that perhaps in security terms the sooner his bodies were transferred to our premises the better! He got the point, and to be fair I think when he thought about it he realised that it was just that he'd been a funeral director for a long time and 'same day' cremation was what he was used to.

I'm happy for our procedures and storage facilities to be inspected at any time – I believe them entirely ethical. So far, in eight years, no negative incidents have occurred as a result of the policy and no one has complained. The economic and environmental arguments for holding over are increasingly compelling and so I wonder why 50% of the countries crematoria are still not doing it?

**Charles Howlett**

Holding coffins over – energy savings 2003-04 to 2011-12 figure 1.

# CHILTERNS CREMATORIUM
# INFORMATION ABOUT OUR SERVICES

## Cremation Procedure

The Chilterns Crematorium abides by the Institute of Cemetery and Crematorium Management's Guiding Principles for Cremation and The Charter for The Bereaved. Copies of these documents are available from your Funeral Director or by contacting the Crematorium on 01494 724263, or looking on the web site www.chilternscrematorium.co.uk.

## Cremation within 72 hours

Cremators use a lot of gas and electricity. For technical reasons excessive energy can be used if all cremations are carried out on the same day as the funeral service. In order to reduce costs and the impact on our environment by ensuring better use of energy and minimizing carbon dioxide emissions ('greenhouse gas') the cremation may be delayed, sometimes by up to three days, although **the majority of cremations are carried out on the same day or the day after the funeral service.**

## Recycling of Metals

All metals remaining following cremation will be sent for recycling. Disposing of these metals by recycling helps to reduce the impact on our environment, avoids the use of non-renewable resources and complies with waste-management legislation. The metals recovered are recycled through a national scheme with the net profits going to death related charities. Please see the Recycling of Metals leaflet provided by the Crematorium for further information. Should you wish to dispose of the metals in any other way then please tick the box and the metals will be returned to you. ☐

## Floral Tributes

An area is provided at the Crematorium for the display of floral tributes following a funeral service, where they can remain until they are disposed of by staff on Monday mornings, or as soon as possible thereafter following Public Holidays. However, please note that unfortunately the Joint Committee and its staff **cannot accept any responsibility for floral tributes left at the crematorium** before, during, or after a funeral service.

## Commemoration

Details of commemoration will be sent to the applicant for cremation a few days after the funeral service. Please be aware that you are under no obligation to purchase any memorial, and the letter is sent for your information only. If you **do not** require this information please tick the box. ☐

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## STATEMENT OF UNDERSTANDING

I have read and understood the information above about cremation procedure, cremation within 72 hours, recycling of metals, floral tributes and commemoration.

Date…… Signature of Applicant……

## Holding coffins over – energy savings 2003-04 to 2011-12 figure 2.

**CHILTERNS CREMATORIUM**
**USE OF CREMATORS CALCULATOR**

For week beginning …… Calculated on ……. Time…….
Allow 2 hours per cremation cycle, 12 hours minimum day, start cremators with highest retained heat from the previous week and once started use continuously for the remainder of the week.
Number of coffins carried over from the previous week **……..**

| Number of Working Hours | | | 12 | | 14 | | 16 | |
|---|---|---|---|---|---|---|---|---|
| Day | Total crems & time first coffins available | No of cremators | No of crems | C/O | No of crems | C/O | No of crems | C/O |
| MON | | 0 | | | | | | |
| | | 1 | | | | | | |
| | | 2 | | | | | | |
| | | 3 | | | | | | |
| TUES | | 0 | | | | | | |
| | | 1 | | | | | | |
| | | 2 | | | | | | |
| | | 3 | | | | | | |
| WED | | 0 | | | | | | |
| | | 1 | | | | | | |
| | | 2 | | | | | | |
| | | 3 | | | | | | |
| THURS | | 0 | | | | | | |
| | | 1 | | | | | | |
| | | 2 | | | | | | |
| | | 3 | | | | | | |
| FRI | | 0 | | | | | | |
| | | 1 | | | | | | |
| | | 2 | | | | | | |
| | | 3 | | | | | | |
| SAT | | 0 | | | | | | |
| | | 1 | | | | | | |
| | | 2 | | | | | | |
| | | 3 | | | | | | |