



· INSTITUTE · OF · HISTORIC ·  
BUILDING · CONSERVATION

*Making Heritage Work*

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16 July 2010

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Dear Ms Kosandiak

**DRAFT BS EN 15759-1 CONSERVATION OF CULTURAL PROPERTY - INDOOR CLIMATE  
PART 1: HEATING PLACES OF WORSHIP**

The Institute of Historic Building Conservation (IHBC) is the professional body of the United Kingdom representing conservation specialists and historic environment practitioners in the public and private sectors. The Institute exists to establish the highest standards of conservation practice, to support the effective protection and enhancement of the historic environment, and to promote heritage-led regeneration and access to the historic environment for all.

Thank you for inviting us to participate in this consultation.

The Institute is pleased to see the development of a methodology for the process of determining and designing heating systems for places of worship but we have a number of criticisms of the current draft which we would like to see addressed.

**Getting the right balance between heating and ventilation considerations.**

Clearly these two aspects of internal climate design are inextricably linked. The Institute does not think it is very satisfactory to deal with them in separate documents as proposed.

**Energy efficiency.**

The Institute is perplexed that nothing is said about this (beyond a passing reference or two) as it is surely one of the most important considerations, not just in relation to climate change issues but also because faith communities tend to need to be very conservative of their resources. Specific points we think should be covered are:

- Renewable energy sources. Places of worship often have grounds which could allow ground-source systems to be developed. The proviso should be given that burials and archaeological deposits may need to be investigated. More commonly, these days, air-source systems are employed. These typically require careful siting and

design but avoid disruption to ground that is typical of ground-source systems. Care is also required in the siting and design of other 'green' power sources.

- Using fabric as a heat-sink. Many places of worship have massive structural elements which can, with the maintenance of the right temperature profile, store energy over lengthy periods.
- Intelligent control systems. These are essential for any zoned system particularly where intermittent use is likely.
- Life-cycle cost analysis to optimize installation, maintenance and fuel costs.

### **Getting the right balance between technical, preservation and aesthetic considerations.**

The document correctly states that aesthetics are an important consideration and that the whole process should be an iterative one to ensure that all aspects under consideration receive appropriate attention. Unfortunately it does this at the end and not in the introduction which implies that the process may be reduced to a simple 4-stage one that the document suggests. We think these points should be emphasized in the Introduction.

In order to achieve an optimal climate specification for preservation standards, the document, at paragraph 4.2, mentions the need to identify specific elements of fabric and artefacts which may have conflicting requirements and on which specific expert advice may be necessary. The Institute feels that reference should be made here, or by referral to an appendix, to artefacts that may need consideration and expert advice. We are particularly thinking of temperature and humidity sensitive artefacts such as organs, fine woodwork and wall paintings, but a more complete list would be useful.

Given the ubiquity of organs, fine woodwork and paintings in places of worship, it would be even more useful to have generic advice on the temperature and humidity vulnerability of these and approaches to optimizing their needs with the requirements for personal comfort. At the very least, specific references should be made to currently recognized technical advice such as Camuffo et al, *Church Heating and the Preservation of the Cultural Heritage - Guide to the Analysis of the Pros and Cons of Various Heating Systems* which appears in the bibliography.

The document makes little attempt to evaluate potential aesthetic impacts. The Institute thinks that each section on specific heating types should have a subsection on this along with a wider explanation of the general pros and cons of each method.

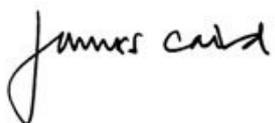
### **Moisture deposit and penetration**

The dangers of inducing water damage of one sort or another are referred to at various points. We believe it is important to make the point that most places of worship were constructed on the principles of breathable fabric and thus the introduction of any form of moisture barrier or suppression is likely to be detrimental to the fabric. We would particularly like to see reference to the undesirability of impermeable damp courses below floors being replaced as part of underfloor systems, as the temptation to reduce potential heating load by this means can be significant. The use of limecrete without a damp course is now a well tried and tested system.

We should also like to see a stronger emphasis against the adoption of flueless gas systems which can produce enormous quantities of water vapour not to mention toxic fumes.

We hope these comments are useful.

Yours sincerely

A handwritten signature in black ink that reads "James Caird". The signature is written in a cursive style with a large initial 'J'.

James Caird  
Consultant Consultations Co-ordinator