

Housing Standards Review – Technical Consultation

CIBSE response to the Consultation Document

Introduction

This paper is submitted by the Chartered Institution of Building Services Engineers (CIBSE) in response to the Department for Communities and Local Government consultation on the implementation of changes to Building Regulations and introduction of nationally recognised standards set out in the documents released on 12th September 2014.

This response has been developed with input from members of the CIBSE Homes for the Future Group who met in late September and discussed the proposed changes. It was agreed that the most appropriate form of response for the Institution is in the form of this paper rather than the online response form, as we consider that there are important strategic issues to be considered, in addition to the questions asked in the consultation document.

The Chartered Institution of Building Services Engineers is the professional engineering body that exists to:

‘support the Science, Art and Practice of building services engineering, by providing our members and the public with first class information and education services’

For further information about the Institution, please see Appendix 1 to this response.

CIBSE considers that the questions in the consultation form are insufficient to address the full impact of the Housing Standards review and we wish to highlight the following strategic impacts which are not addressed by questions in the consultation.

1) **Access for operation and maintenance of building services installations**

With the move towards zero carbon development and the impending challenge of delivering “zero carbon” homes from 2016 it will become increasingly important that adequate space is provided for building service installations. This is not just to ensure that there is sufficient space to physically accommodate services products such as boilers or water cylinders, but also, for their efficient and effective ongoing operation, to ensure that space is allocated for access around the installed items to enable proper maintenance, servicing and replacement of parts. This is also important to provide a safe working environment for maintenance and repair workers, whose employers have a legal responsibility to ensure that their staff are able to work safely. Given the role of the Building Regulations in making provision for health and safety, safe access to building services installations should be an important consideration.

Many technologies are increasingly being adopted in new homes that were not the norm, say 10 or 20 years ago, and the construction industry needs to be made aware of these provisions when considering space standards. Such systems include mechanical ventilation heat recovery systems (MVHR), with associated ductwork, heat interface units for connection to district heating systems and the integration of renewable energy technologies. The space required to properly install, operate, maintain and replace these systems must be taken into account at the design stage.

Adequate space for installation, operation, maintenance, repair, removal and replacement of heating, ventilation and hot water systems is important for several reasons. Firstly to enable them to be installed correctly in the new building. Inadequate space results in poor installations which do not perform as intended, contribute to the “performance gap”, and may cost the occupants more to operate over the life of the system.

Similarly, routine maintenance or servicing becomes more difficult with inadequate space. If systems require regular servicing or attention, such as filters on MVHR, then the more difficult it is to access the filter, the less likely it is to be changed as often as required. Dirty filters waste energy and can also harbour micro-organisms which are unhealthy for occupants.

In the case of gas appliances, which may only be serviced by registered competent technicians who are legally obliged to work to the relevant standards, inadequate space to properly follow servicing routines may in extreme cases lead to appliances being shut down and subjected to safety notices which will be expensive to remedy

With the constant evolution of heating and ventilation technology, it is important to ensure that adequate space is provided not just for the equipment being installed today, but for future replacement equipment, in perhaps 10-15 years' time, the form and size of which is difficult to predict now. Again, failure to make suitable space provision now will result in long term costs for homeowners or, in the case of social housing, for the housing providers. These costs could be easily averted by proper consideration at the design stage.

Recommendations

We therefore recommend that:

- **specific mention is made to the need to provide adequate space for the installation, operation, maintenance, repair, removal and replacement of building services systems in any nationally recognized space standards that may be implemented.**

- **at the next revision of the Building Regulations the following additional text is added to section (b) of Requirement L1 of the Building Regulations:**

“ (iv) have sufficient safe working space for the installation, operation, maintenance, repair, removal and replacement of their component parts”.

2) **Assessment of daylight**

The Code for Sustainable Homes allocated credits for daylight assessments and this resulted in many housing developments being assessed and designed for good practice daylight provision. Good daylight is known to promote good well-being of occupants and allow electric lighting to be switched off when daylight levels are sufficient. The current technical proposals do not cover how daylight levels should be assessed, whether as part of the planning process or for building regulations.

Whilst the benefits of daylight are acknowledged as being important in paragraph 69 of the technical consultation, this is followed by a paragraph on the additional cost of higher ceilings. A lack of standards for daylight could result in less than optimal carbon savings and compromises in health and wellbeing in new homes. **The total absence of any reference to daylight in the draft space standard is a serious concern. The Society of Light and Lighting, which is a part of the Institution, would be happy to meet with the Department to explore suitable ways to address this in the future.**

3) **Overheating risk**

There is increasing evidence that overheating risk in new homes is increasing and that overheating risk is not properly evaluated in either the normal Building Regulation process or planning submission process. Evidence of overheating risk in residences has been documented by the NHBC Foundation, BRE, Zero Carbon Hub, and others.

It is noted that there is no mention of how the technical standards or planning systems shall adequately deal with overheating risk and therefore the occurrence could continue or could get worse.

The Part L (SAP) methodology is currently too simplistic to adequately assess overheating risk and ignores many of the factors, such as heat gains from building services equipment, that are known to contribute to overheating.

Recommendations

We therefore recommend that **technical standards are prepared to better evaluate overheating risk so that future designs can incorporate appropriate measures to reduce risk.**

4) Enforcement of compliance

Withdrawal of the Code for Sustainable Homes removes a level of quality check and compliance check on site that helped give assurance that energy efficient and water efficient appliances had been installed and commissioned as specified.

In many cases the post construction review carried out by the Code assessor provided an additional resource, over and above the resource of the Building Control Inspector role, that the correct systems had been installed appropriately, and put into operation correctly and as intended in the overall design of the dwelling.

The current proposals to remove the Code without alternative proposals to assist in increasing capacity and skills in the Building Control sector could have a detrimental impact on monitoring compliance, particularly with low carbon and water efficiency objectives. Given the current understanding that design performance is not routinely achieved in practice, this is a particularly unfortunate outcome which is likely to undermine wider energy and carbon policy objectives and will result in additional and avoidable costs for homeowners over the life of the installed systems.

Recommendations

We therefore recommend **that greater attention be given to ensuring on site compliance with building standards, especially at a time when local authority resources are constrained and new skills in low carbon technologies are required for Building Inspection services, both for the public sector and private sector.**

CIBSE has made proposals for enhancing the role of competent participants in the design and construction process in the assessment and certification of compliance, without increasing the cost burdens on building control, and would be happy to discuss this issue with officials again.

To assist the Department in analysis of the responses CIBSE's answers to other questions posed by the Department is set out below.

Responses to the Consultation Questions

Question 2. Do you think that the technical requirements of the proposed guidance for Category 2 – accessible and adaptable dwellings are correct?

Question 3. Do you think that the technical requirements of the proposed guidance for Category 3 – wheelchair user dwellings are correct?

- a. Agree
- b. Agree only in part
- c. Disagree

If you do not entirely agree, please explain why and, if possible, suggest how it should be corrected.

In response to these two questions together, CIBSE does not agree fully with paragraph 2.29, in particular the note, nor with paragraph 3.47 b).

Part L requires reasonable provision for the conservation of fuel and power... by ...(b) providing fixed building services which ... (ii) have effective controls.

In addition, the Performance description on page 15 and on page 28 of the draft of AD M, for Category 2 and Category 3 dwellings respectively, says that “Wall mounted switches, socket outlets and other controls are reasonably accessible to people who have reduced reach”. Neither of these offers any exclusion for radiator, boiler or cooker hood controls.

Para. 2.29 addresses “sockets, switches, stopcocks and controls generally”. The term “controls generally” is vague, ill defined, inconsistent with the wording of the Performance requirement, and will lead to arguments. But the Note to 2.29 in the Consultation Draft of AD M exempts radiator, boiler and cooker hood controls from having to be accessible to those with reduced reach.

Paragraph 3.47 b exempts radiator controls (but not boilers or cooker hoods).

We believe that the exemptions in the note and in 3.47 b) are wholly inappropriate, and conflict with both the Performance requirement set out at the start of Category 2 and 3, and are also in conflict with Part L.

As currently drafted, these provisions make a wheelchair user dwelling in which the user cannot control their radiators building regulations compliant, with the potential for the occupant to be left without the means to warm the dwelling at all. We believe that this cannot be the intention of Ministers.

It undermines energy and carbon policy as supported by Part L. Far more importantly, where a heating system which is Part L compliant uses thermostatic valves as a key element of the control strategy, to exempt them from being wheelchair accessible may condemn the occupant to a very uncomfortable time. Many wheelchair users have multiple medical issues, and thermal comfort can be compromised by many of these conditions, as well as by being confined in movement as they are wheelchair users, and therefore do not generate as much warmth through movement.

It is therefore inappropriate to exempt radiator or boiler controls, and this exemption may lead to unintended health care costs where occupants are unable to control their heating system, and require medical interventions as a result, with substantial costs to the NHS. This cannot be appropriate. Approved Document M should ensure that those in wheelchairs or with reduced reach are provided with heating systems that they can control.

Recommendations

We therefore recommend:

- that the NOTE to paragraph 2.29 of draft AD M Volume 1 Dwellings be deleted;
- that the words “controls generally” in paragraph 2.29 b) are deleted and the words “heating, ventilation, hot water and lighting controls” are inserted;
- that the words “controls, except controls to radiators” in paragraph 3.47 b) are deleted and the words “heating, ventilation, hot water and lighting controls” are inserted.

Question 14 deals with proposed changes to AD G. Whilst technically correct, the duty for the developer to inform the BCB when the optional requirement applies appears to be an “honesty box” system. Given that the optional requirement will by definition only apply in areas of water stress, this does not seem to be a proportionate level of enforcement. **The requirement should be as explicit a planning condition as any other requirement for the development.**

Question 20. The immediate removal next March of local authorities’ right to impose requirements under current Codes and standards, before they have a chance to adopt alternative local provisions appears to disproportionately favour developers. **A challenging target date for the adoption of local provisions, up to which the existing rules may be applied, and after which they are disallowed, would appear to be fairer, and to motivate local authorities to act quickly where they have good reason to seek local provisions for optional requirements.**

About the Chartered Institution of Building Services Engineers

The Chartered Institution of Building Services Engineers (CIBSE) is the primary professional body for the engineers who design, install and operate the energy using systems, both mechanical and electrical, which are used in buildings. Our members therefore have a pervasive involvement in the use of electricity (and other energy carriers) in buildings in the UK.

CIBSE is one of the leading global professional organisations for building performance related knowledge and a pioneer in responding to the threat of climate change. It publishes numerous Professional Guides and other titles setting out best practice in support of the industry.

The Institution is the primary source of professional guidance for the building services sector on the design and installation of energy efficient building services systems to deliver healthy and effective building performance. CIBSE publishes Guidance and Codes which provide best practice advice and are internationally recognised as authoritative.

The CIBSE Knowledge Portal, which makes our Guidance available online to all CIBSE members globally, is the leading systematic engineering resource for the building services sector. Over the last year it has been accessed over 100,000 times, and is used regularly by our members to access the latest guidance material for the profession. Currently we have users in over 160 countries worldwide, demonstrating the world leading position of UK engineering expertise in this field.

CIBSE began to develop codes specifically intended to reduce energy consumption in the early 1980s, in response to the energy crises of that time. CIBSE is now at the forefront of efforts to reduce carbon emissions from our building stock.

In addition to the production of technical standards and guidance CIBSE provides professional development training for system designers and installers, covering design, installation, commissioning and system maintenance. CIBSE is also actively engaged in the gathering of performance data to help inform good practice and compliance with existing requirements.