

# Annex B

## Response form 2

### Section two:

### Part L (Conservation of fuel and power)

#### Form 2: New build standards and performance standards for works in existing buildings

This form is to be used to respond to the proposals in Chapters 3, 4 and 5, the associated changes to the Approved Documents, and changes to the Building Services Compliance Guides and National Calculation Methodology. These changes relate to the proposals on performance standards for new buildings and for building work in existing properties, and the proposals on compliance and performance. The closing date for the submission of these forms is **27 April 2012**.

If possible, please respond by email to:

[building.regulations@communities.gsi.gov.uk](mailto:building.regulations@communities.gsi.gov.uk)

Alternatively, responses can be sent by post to:

Building Regulations Consultation  
Building Regulations and Standards Division  
Department for Communities and Local Government  
Zone 5/G9  
Eland House  
Bressenden Place  
London SW1E 5DU

## About you:

### (i) Your details

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### (ii) Are the views expressed on this consultation an official response from the organisation you represent or your own personal views?

Organisational response  Personal views

### (iii) Are your views expressed on this consultation in connection with your membership or support of any group? If yes please state name of group:

Yes  No

Name of group:

Chartered Institution of Building Services Engineers (CIBSE), the learned and professional body for building services.

(iv) Please tick the *one* box which best describes you or your organisation:

<b>Builders/Developers:</b>		<b>Property management:</b>	
Builder – Main contractor	<input type="checkbox"/>	Housing association (registered social landlord)	<input type="checkbox"/>
Builder – Small builder (extensions/repairs/maintenance, etc)	<input type="checkbox"/>	Residential landlord, private sector	<input type="checkbox"/>
Installer/specialist sub-contractor	<input type="checkbox"/>	Commercial	<input type="checkbox"/>
Commercial developer	<input type="checkbox"/>	Public sector	<input type="checkbox"/>
House builder	<input type="checkbox"/>	<b>Building Control Bodies:</b>	
<b>Building Occupier:</b>		Local authority building control	<input type="checkbox"/>
Homeowner	<input type="checkbox"/>	Approved Inspector	<input type="checkbox"/>
Tenant (residential)	<input type="checkbox"/>	<b>Specific Interest:</b>	
Commercial Building	<input type="checkbox"/>	Competent Person scheme operator	<input type="checkbox"/>
<b>Designers/Engineers/Surveyors:</b>		National representative or trade body	
Architect	<input type="checkbox"/>	Professional body or institution	<input type="checkbox"/>
Civil/Structural engineer	<input type="checkbox"/>	Research/academic organisation	<input type="checkbox"/>
Building services engineer	<input checked="" type="checkbox"/>	<b>Energy Sector</b>	
Surveyor	<input type="checkbox"/>	<b>Fire and Rescue Authority</b>	
<b>Manufacturer/Supply Chain</b>		<b>Other</b> (please specify)	<input type="checkbox"/>
		<input type="text"/>	

(v) **Please tick the *one* box which best describes the size of your or your organisation's business?**

Micro – typically 0 to 9 full-time or equivalent employees (incl. sole traders)

Small – typically 10 to 49 full-time or equivalent employees

Medium – typically 50 to 249 full-time or equivalent employees

Large – typically 250+ full-time or equivalent employees

None of the above (please specify)

(vi) **Are you or your organisation a member of a competent person scheme?**

Yes  No

Name of scheme:

(vii) **Would you be happy for us to contact you again in relation to this consultation?**

Yes  No

DCLG will process any personal information that you provide us with in accordance with the data protection principles in the Data Protection Act 1998. In particular, we shall protect all responses containing personal information by means of all appropriate technical security measures and ensure that they are only accessible to those with an operational need to see them. You should, however, be aware that as a public body, the Department is subject to the requirements of the Freedom of Information Act 2000, and may receive requests for all responses to this consultation. If such requests are received we shall take all steps to anonymise responses that we disclose, by stripping them of the specifically personal data – name and e-mail address – you supply in responding to this consultation. If, however, you consider that any of the responses that you provide to this survey would be likely to identify you irrespective of the removal of your overt personal data, then we should be grateful if you would indicate that, and the likely reasons, in your response, for example in the relevant comments box.

## Questions:

*Because this is the second half of the Part L consultation response form, the numbering of questions continues from the previous form.*

### New homes

27. Do you agree with the proposal for a 'hybrid' approach to standard setting for new homes in 2013? Please justify your choice and provide any views on the change from relative to absolute standards for new homes.

Yes  No  Don't know

### Comments

CIBSE supports the proposal for a hybrid approach to setting the Part L requirement for new homes from 2013. We are well aware that there are strong arguments against further changes to the requirements for new homes, due to their claimed additional cost burdens on the housebuilding industry. However, it should also be noted that 2013 is a step on the pathway to "zero carbon" homes from 2016, and that this is in turn closely related to the legal requirement under the EPBD to achieve "nearly zero energy" homes by 2020. That final target is non-negotiable, and failure to achieve it will result in a direct penalty to the Treasury and public purse for non-implementation of the Directive.

Paragraph 28 quite rightly identifies the need for any changes to be meaningful, to drive innovation, and aid learning. CIBSE contends very strongly that not to change the 2010 standards is not a meaningful step forward, will not drive innovation, and will not aid learning. There is a serious risk that it will damage innovation and hinder learning.

There has been a strong argument that the industry "cannot afford" changes to the standards in 2013. And yet the 8% aggregate reduction in CO2 emissions coupled with the adoption of FEES and efficient services is well short of the half way point target identified, which means that the next step, to 2016, will already be very much more challenging than the 8%, FEES and efficient services step. [Delaying implementation means that we would have only one or two years to go from current levels to 'zero carbon homes' in 2016.](#)

The impact assessment rightly points out that going to full FEES in one step is the most cost effective route to full FEES, and not a staged approach. Adopting full FEES now would allow the industry to tackle the supply chain and skills issues relating to fabric efficiency over the next 3 to 5 years, ahead of the introduction of the full "zero carbon" approach. This is evolutionary and incremental, rather than adopting a big bang approach to "zero carbon". This must offer a reduced risk overall in the delivery of the "zero carbon" policy.

If there is no change in 2013, then various milestones on the critical path to “zero carbon” from 2016 will also be missed, and therefore a decision to do nothing in 2013 is de facto a decision to drop the “zero carbon” from 2016’ target. This is a high risk strategy, because it is leaving no further room for slippage with the next allowed changes falling in 2019, the year before the Directive requires “nearly zero energy” homes. The Directive requirement must be achieved by 2020, only eight years away, and this is a final backstop which is unlikely to be delayed. The rate of house construction is expected to accelerate by 2014, only for the sector to be faced, ill prepared, with this much harder ‘zero carbon’ challenge, which it will struggle to delay or avoid.

If we are ever to achieve homes that use significantly less energy or emit lower levels of carbon dioxide, then they need to be built with energy efficient fabric and basic services which represent good practice products. The services are being driven towards greater efficiency by product standards under the energy related products directive, and so it makes sense for Building Regulations to track these improvements. And if the Regulations do not track the improvements then, as the services become more efficient, without adequate requirements for the fabric to also be efficient, then the efficient services can be used to offset less efficient fabric.

Since the fabric may last at least 4 times, and in reality at least 10 times the life of the services, this is not a rational policy position. The only way to prevent this perverse result is to require high levels of fabric efficiency. The work of the Zero Carbon Hub (in which CIBSE has engaged and for which it has provided resources), has identified an industry consensus standard for fabric efficiency. There is no logical argument for not adopting that standard, with effect from 2013. It is a vital building block in the overall target to deliver either “zero carbon” or “nearly zero energy” homes later in the decade. The requirement for full FEES from 2013 should be accompanied by a requirement for efficient services which fully meet the product standards required by the Energy Related Products Directive.

There will doubtless be an argument that “the industry” cannot afford this. However, the cost benefit and regulatory burden argument is fundamentally flawed. Because benefits to home buyers in lower fuel bills are disallowed from the regulatory impact calculation for businesses (and particularly for housebuilders), we have quite perverse outcomes. What would be good for home buyers, more efficient, cheaper to heat homes, and good for the wider population of energy bill payers, because the less energy new homes require the less new generating capacity we will have to persuade investors to fund, are to be jeopardised for the benefits of housebuilders. Is this good economics? Is this good for the UK?

There seems to be a concern that “being more sustainable” comes at the expense of growth and living standards. Yet do those countries higher in our economic peer group have worse environmental standards? No, they are probably more onerous, as a glance at Germany, Sweden, Switzerland or Norway shows. Do our economic peers have more onerous planning and building regulations than we do? They generally do, and they are generally complied with, and do not need widespread action to enforce. These societies are also more strongly coherent and

did not suffer from outbreaks of shopping riots in 2011. The presumption that tighter energy efficiency standards for new homes from 2013 will be damaging to UK plc is erroneous, and therefore the proposal for a hybrid approach should be adopted.

28. The proposals explain the Government's preference for the 'FEES plus efficient services' CO<sub>2</sub> target. No firm preference is expressed for the energy demand targets. What is your preferred option for the standards for new homes from October 2013:

No change

The 'FEES plus efficient services' CO<sub>2</sub> target with energy targets set at 39/46 kWh/m<sup>2</sup>/year ('full FEES')

The 'FEES plus efficient services' CO<sub>2</sub> target with energy targets set at 43/52 kWh/m<sup>2</sup>/year ('interim' FEE targets)

The 'Halfway point' CO<sub>2</sub> target with energy targets set at 39/46 kWh/m<sup>2</sup>/year ('full FEES')

The 'Halfway point' CO<sub>2</sub> target with energy targets set at 43/52 kWh/m<sup>2</sup>/year ('interim' FEE targets)

Something else (please explain below)

Don't know

Comments

The consultation expresses an aspiration to make meaningful progress towards the "zero carbon" target which, for new homes, remains to be achieved in 2016. As detailed in our response on Q27, CIBSE believes that the full fees option offers the most meaningful step towards that, whilst acknowledging that achieving either the UK target of "zero carbon" or the EPBD requirement of "nearly zero energy" by 2020 will still be very challenging.

29. Do you agree that the limits on design flexibility 'backstop' values for fabric elements and fixed building services in new homes should be retained as reasonable provision in the technical guidance?

Yes  No  Don't know

## Comments

Having design flexibility 'backstop' values for small building businesses is essential. There needs to be clear guidance on the values and how to use them for that target audience.

30. The proposals explain the options for the fuel factor for new homes. No firm preference is expressed. Which option for 2013 standards do you prefer and why:

Retain the fuel factor at current levels

Reduce the fuel factor

Remove the fuel factor

Don't know

## Comments

Fuel Factors were introduced in 2006 as a result of the requirement of the EPBD to assess the overall energy performance of the whole building. They are a complex addition to SAP, which are probably not well understood in the home building sector.

Paragraph 61 of the consultation identifies a concern that the fuel factor may allow the use of a low carbon technology to be offset by poor building fabric standards. This is an accurate assessment of the possibility of trading off fabric performance and services efficiency under the current regime.

The solution to this is not to change the fuel factor. It is to introduce (and ensure compliance with) rigorous fabric energy efficiency standards. Everyone involved in house building accepts the "fabric first" approach, to lock in energy efficiency in the longest lived aspects of the home, the fabric.

As we have argued in the response to Q27, we need a robust energy efficiency requirement for the fabric, whether it be FEES or it be any other form of elemental backstops. Once these are in place, the misnamed "heat pump loophole" – it should be the "low carbon service" loophole, will be closed.

Arguably this is far more appropriate for Part L, which addresses the conservation of fuel and power, not the reduction of carbon dioxide emissions. We need to reduce emissions, but we should do this by more efficient use of energy, not through complex gaming arrangements which allow very inefficient use of low carbon energy sources. That is irrational and fundamentally opposed to the UK interest, as well as not being in line with the objectives of the Energy Performance of Buildings Directive. It is notable that the Articles of the recast Directive do not refer to carbon or to carbon dioxide emissions at all.

Once robust fabric standards are in place, then unless there is a compelling



and persuasive argument for adjustment of the fuel factors, CIBSE strongly opposes any such change. Indeed, it is arguable that since the national calculation methodology is a requirement of the Directive, and the Directive no longer includes the sentence in Article 3 which allowed the energy performance to include a carbon dioxide emission indicator, that the fuel factor would be redundant if Part L were to address conservation of fuel and power and not carbon emissions. Whilst it may not be appropriate to go that far in 2013, this should certainly be addressed in considering the future of SAP beyond 2013.

31. The Impact Assessment makes a number of assumptions on fabric/services/renewables costs, new build rates, phase-in rates, learning rates, etc for new homes. Do you think these assumptions are fair and reasonable? Please justify your views.

Yes  No  Don't know

Comments

We feel the information sources are not transparent, making it difficult to answer.

32. Overall, do you think the impact assessment is a fair and reasonable assessment of the potential costs and benefits of the proposed options for new homes? Please justify your view and provide alternative evidence if necessary.

Yes  No  Don't know

Comments

We feel the information sources are not transparent, making it difficult to answer.

### **New non-domestic buildings**

33. The proposals explain the Government's preference for a 20% aggregate improvement in CO<sub>2</sub> performance standards for new non-domestic buildings from October 2013. Which option do you prefer and why:

No change

11% aggregate improvement

20% aggregate improvement

Don't know

#### Comments

The consultation expresses an aspiration to make meaningful progress towards the "zero carbon" target. As detailed in our response on Q27 for new homes, CIBSE believes that the 20% option offers the most meaningful step towards "zero carbon" for non domestic buildings, whilst we acknowledge that achieving either the UK target of "zero carbon" or the EPBD requirement of "nearly zero energy" by 2020 will still be very challenging.

34. Do the proposed 2013 notional buildings as set out in the changes to the National Calculation Methodology seem like a reasonable basis for standards setting? Please provide comments on the method used to develop the notional buildings and particular elements of one or more of the notional buildings, if relevant.

Yes  No  Don't know

#### Comments

##### **Fan Coil units**

The government preferred option for an aggregate saving of 20% table 6 page 73 quotes a Terminal Unit SFP of 0.3 W/l/s. Adoption of this value raises the following issues:

- 1) The definition of "Terminal units" in this context is not clear. The proposed revision to table 1 of the Non-domestic Compliance Guide (pages 121 & 123) for new and existing buildings refers to Fan Assisted terminal VAV units and Fan Coil Units (rated weighted average). Clarification is required on what product has been assumed by AECOM & DCLG in the preparation of the consultation papers and draft amendments to the Guide. It is possible that these assumptions are not typical of the wider product range, and may be unduly ambitious.
- 2) For an FCU 0.3 W/l/s is difficult to achieve and represents a high level of performance. With a number of medium and large size FCUs in a design it could be very difficult to comply with the proposed requirements.
- 3) It is not clear how VAV FCUs are addressed. These only operate at maximum air duty on a design day, and when a level of diversity is allowed it means that low specific fan powers can be achieved in practice for a very significant proportion of a typical year of operation. This aspect needs consideration as it represents realistic operational characteristics.

- 4) Does the AECOM analysis include the greater cost of low SFP FCUs? Typically this may be 20/25% greater than conventional units.

### **Pressure drops**

The notional building values for the preferred option of an aggregate 20% saving and the 11% saving option (set out in table 6 on pages 72 & 73 of the proposed changes to the technical guidance) for a central ventilation plant are an SFP of 1.8 and heat recovery efficiency of 70%. This raises the following issues

- 1) Use of 70% heat recovery efficiency implies the use of a thermal wheel rather than a plate heat exchangers, heat pipes or run around coils as these latter systems cannot currently achieve this level of heat recovery efficiency. There is concern that this value for the notional building may be too restrictive, as it excludes some forms of heat recovery which meet the minimum required standards, but are less efficient than the notional building values, which means that the shortfall has to be made up elsewhere. If the 20% option is adopted, the notional building does need to be realistic, and not a composite of best practice values.
- 2) Linking central plant with an SFP of 1.8 W/l/s with 70% heat recovery raises questions. Table 37 "Extension of SFP for additional components" in the NDBSCC quotes +0.3 for a heat recovery system and + 0.1 for an additional return air filter for heat recovery.

There is industry confusion about whether this implies a Central Ventilation Plant SFP of  $1.8 - (0.3 + 0.1) = 1.4$  W/l/s

or whether the NDBSCC should be read as saying that the SFP for the system should be  $1.8 + (0.3 + 0.1) = 2.2$  W/l/s

A 0.1 W/l/s change in SFP is typically worth 50Pa of pressure drop. A change of SFP of 0.4 W/l/s equates to 200Pa pressure drop change. If an SFP of 1.4 W/l/s is required it will be very difficult to achieve and will result in very much larger AHUs and associated plant space, with a consequential significant increase in plant cost and possible reduction in net lettable area due to the size of the plant needed to reduce the internal pressure drop and air velocity through the various AHU components. An AHU with an SFP of 1.4 W/l/s will have a 15% larger face area, typically, and cost 20% more.

35. What information do you have on how the proposed changes in standards for new non-domestic buildings might have different impacts on different categories of building?

Comments

The key question is how the various different sub types of building within the four categories of notional building will be affected. "Sidelit" covers offices, schools, hotels, hospitals. Are the characteristics of the notional building realistic for each of those? The biggest concern is that we have unintended consequences, such as occurred with air conditioning and natural ventilation in 2006.

36. The Impact Assessment makes a number of assumptions on fabric/services/renewables costs, new build rates, etc for new non-domestic buildings. Do you think these assumptions are fair and reasonable? Please justify your views.

Yes  No  Don't know

Comments

We feel the information sources are not explicit and transparent, and we cannot therefore easily assess the basis of some of the figures, making it difficult to answer.

We do have concerns about the potential for unintended consequences or errors made due to the assumptions, which, given the lack of transparency, are hard or impossible to identify.

37. Overall, do you think the impact assessment is a fair and reasonable assessment of the potential costs and benefits of the proposed options for new non-domestic buildings? Please justify your view and provide alternative evidence if necessary.

Yes  No  Don't know

Comments

We feel the information sources are not explicit and transparent, and we cannot therefore easily assess the basis of some of the figures, making it difficult to answer.

We do have concerns about the potential for unintended consequences or errors made due to the assumptions, which, given the lack of transparency, are hard or impossible to identify.

38. Do you agree in broad terms with the proposed process for considering the introduction of new technologies into SBEM via an 'Appendix Q'? Please

provide suggestions for an alternative approach where relevant.

Yes  No  Don't know

#### Comments

SAP Appendix Q is a voluntary scheme for including novel products and technologies to be adopted within SAP for domestic buildings. The industry has serious concerns that the service is only available from one provider and is considered to be expensive.

The proposal to introduce an Appendix Q process for SBEM raises similar concerns. It is noted that there is no explicit question, or invitation to express views, on the issue of the future of SBEM, which can only logically be made with reference to SAP too.

CIBSE has further concerns with the proposal for an Appendix Q for SBEM. Would this procedure be mandatory? If so, it represents a significant potential burden on innovation, although the procedure is intended to remove the barrier to innovation identified in para 57 of chapter 5, the NCM consultation paper. Whilst it is understood that this is a very high level consultation question, and not a detailed procedure, it is notable that the impact assessment makes no mention at all of Appendix Q. Yet this has the potential to represent a real cost to industry.

In addition, the discussion of Appendix Q for SBEM, whilst it recognises the existence of standards, does not mention the requirements of the Energy related Products (ErP) Directive which is currently being implemented across Europe. It is important that Building Regulations do not create a technical barrier to trade by omission, by not providing a reasonable means for innovative products to be addressed by SBEM.

CIBSE proposes that the issue of innovative products needs to be addressed within a far more comprehensive and strategic resolution of the whole issue of building energy modelling for the purposes of regulatory compliance – covering both domestic and non-domestic buildings, and the requirements of both Building Regulations and the Energy Performance of Buildings Directive.

This should be established as an open and transparent system, fully accountable and not a confidential procedure between DCLG and a contractor. It should operate under the principles of standardisation laid down in the ISO Directives, with procedures and representation and governance and appeals processes appropriate to a national standardisation activity, which is what this is.

#### **Performance standards for works to existing buildings**

39. Do you agree with the proposal to raise performance standards for domestic replacement windows from October 2013? Please explain your answer.

Yes  No  Don't know

Comments

This is consistent with the requirements for new buildings.

- 40 Do you agree with the proposal to raise performance standards for domestic extensions from October 2013? Please explain your answer.

Yes  No  Don't know

Comments

This is consistent with the proposed requirements for new buildings.

41. Do you agree with the proposal to raise performance standards for non-domestic extensions from October 2013? Please explain your answer.

Yes  No  Don't know

Comments

This is also consistent with the proposed requirements for new buildings

42. Do you agree with the proposal to include the Lighting Energy Numeric Indicator (LENI) methodology as an alternative way of meeting the minimum energy performance requirements for lighting installations?

Yes  No  Don't know

Comments

CIBSE supports the response from the Society of Light and Lighting on this topic.

43. Do you think that the impact assessment is a fair and reasonable assessment of the potential costs and benefits of raising the performance standards for replacement domestic windows and domestic/non-domestic extensions? Please justify your view and provide alternative evidence if necessary.

Yes  No  Don't know

Comments

We feel the information sources are not explicit and transparent, and we

cannot therefore easily assess the basis of some of the figures, making it difficult to answer.

We do have concerns about the potential for unintended consequences or errors made due to the assumptions, which, given the lack of transparency, are hard or impossible to identify

## Compliance and performance

44. Do you think that the introduction of quality assurance processes and regulatory incentives to encourage their development and use will help mitigate the risks of a difference between the as-designed and as-built performance of new homes? Please suggest an alternative if you do not agree.

Yes  No  Don't know

### Comments

CIBSE welcomes the acknowledgement that the intended energy efficiency of new homes is rarely achieved in the as built outcome. There are still those who argue that in spite of the evidence presented by the Zero Carbon Hub on the "Performance Gap", and the evidence provided by the work of "Robust Details Ltd" on acoustic performance, there is "no evidence that houses are not built to the design standard". In the absence of robust evidence to demonstrate that a significant sample of new homes do fully comply with the current regulations, any claims that this is not a problem should be disregarded. However, we do not believe that the performance gap is specific to new homes. We have therefore addressed the issue of quality assurance for all buildings in the following discussions under questions 44 to 50, since we believe that the principles apply across the field of new construction, and there are not equivalent questions for non domestic buildings.

We are not sure that there are any options other than the introduction of more formal, robust and transparent quality assurance processes coupled with regulatory incentives to adopt them. It is notable that there is no indication that the formal building control regime will be provided with additional resources to enforce any new QA process, and so any reduction in the difference between design promise and delivered reality of energy performance will have to be achieved by "non-regulatory" means, ie on a voluntary basis.

However, we do not believe that there is "a solution" to this problem, but that a number of different measures may help to contribute to improving the delivery of new buildings which come nearer to achieving the as-designed performance. We give more detail on this in response to Q45.

One further element to the discussion relates to the lack of any premium for new, energy efficient homes over older second hand dwellings. The house builders are unable to command a premium for the improved

energy efficiency of new homes, even though the running costs are supposed to be much lower. (Indeed, there is field evidence that the Council of Mortgage Lenders and the RICS are devaluing new homes where local second hand alternatives are cheaper, or where the new home includes building integrated renewables, which are seen as a longer term cost liability for maintenance. this does not seem right, if the cost benefits of improved fabric efficiency are not addressed. DCLG might wish to take this up with the RICS to establish what guidance surveyors are actually being given on these issues.

45. If a new process is developed (in addition to individual developers' schemes) do you think that such a quality assurance process should be codified in the form of:

A BSI Publicly Available Specification

Another form (please specify)

Don't know

Q 44 asks about QA processes, in the plural. Q 45 adopts the singular. As noted above, CIBSE does not believe that there is any single solution. Arguably, if there was, then one housebuilder (or developer) would have adopted it and be marketing the results for all to know.

We believe that there are several measures that can be adopted to reduce the gap between promised design performance and delivered reality. The first step is to require the relevant paperwork that is already required by the EPB and Building Regulations to be produced properly and lodged correctly. We have set out a proposal for this in our response to Section 4 of this consultation which builds on the proposal to amend and make mandatory the completion certificate. If this includes the DER or the TER value as well as the as-built calculation, then the possible gap in performance will be more visible. And if civil sanctions are adopted for non-compliance, then it will be easier to take action where the purchaser suffers loss due to failure to perform.

However, this is very much shutting the stable door after the building performance horse has bolted. We support adoption of QA processes for construction of new buildings. But what is appropriate for low rise dwellings is not the same as for high rise or multiple unit developments or non-residential buildings. And what is relevant to high specification offices may not be applicable to a hospital or to a retail warehouse.

CIBSE has argued for a number of years that greater responsibility needs to be placed on those in the supply chain who have the expertise to deliver as built performance, and the knowledge of whether or not it is



being achieved. This concept ties in with the proposals for Approved Persons, and is analagous to the current situation with the checking of structural calculations under Part A of the Regulations. We favour an arrangement whereby a suitably qualified and competent professional can give notice that the provisions of Part L and the EPB Regulations have been met - and this notice would cover Regulations 27, 29 and 41 to 44 as we discuss in our response to Section 4 of the consultation.

This would create an opportunity for those who have the knowledge and expertise to deliver improved performance to influence it, and a lever when they believe that it is being jeopardised. The adoption of such an approach would also contribute to the proposed risk based approach to building control activity, as the BCO would be able to rely on the Approved Person, and their time commitment and fee would be reduced. This in turn provides the regulatory incentive to adopt this approach, because it has the potential to reduce costs and delays arising from the regulatory process.

We believe that there are other ways of developing suitable processes to enhance QA during construction, as exemplified by the work of Robust Details. Any QA processes must have robust means of ensuring compliance and be open to scrutiny, cost effective and competitive.

Rather than assuming that the answer to the problem is a PAS, we propose that DCLG engage with key stakeholders to identify suitable solutions and the willingness to engage in non-proprietary development processes to deliver them. We believe that this is preferable to attempting a one size fits all approach, or the QA equivalent of an adjustable spanner, which never really works as well as the correct sized tool for the specific application. CIBSE is willing to participate in such discussions.

We do not support the idea of a PAS. The business model for a PAS is not appropriate for development of a genuine public interest document. The PAS was developed by BSI as a way to develop specifications for private clients, who pay BSI for the services they provide.

Under the PAS model, BSI obtain ownership of the Intellectual Property contained in the document, and the exclusive right to sell that IPR via the PAS. Contributors are explicitly required to handover their IPR to BSI and are limited in the further use they can make of it. This is not an appropriate model for developing QA processes for the public sector or interest. It is debatable whether some of the IPR needed to develop suitable processes, which was EPSRC (ie taxpayer) funded can legally be passed to BSI as they would require, and so the work done by Leeds Metropolitan, for example, may not be available for use in a PAS.

A PAS places those who have the knowledge to develop the process in the invidious position of having their IP expropriated for no reward by a third party who contributes no knowledge of their own, but will have to

be paid a considerable sum to develop the PAS, and will benefit from all revenues accruing from its production. It is likely that a number of individuals and other parties with relevant knowledge might decide not to offer their contribution to a PAS and the document will as a result be flawed and incomplete. This will not deliver the objective of homes or buildings that perform as the designer intended. Alternative routes should be followed.

46. Do you agree with the indicative contents outlined for a quality assurance process? Please explain your answer and what you think the standard should cover.

Yes  No  Don't know

#### Comments

This is all about delivering systems which perform as intended, and continue to perform. Under construction there is no mention of commissioning, even though it is required under Regulation 44. There is no mention of the various tests required for acoustic performance, air tightness or air flow of ventilation systems either. These should be tightly integrated into the construction process, not seen as an additional item.

For non domestic buildings there is also an issue over the linkage between the work of the Cabinet Office Efficiency and Reform Group and the proposals for "a QA scheme". This is identifying a very clear process for delivering projects and associated information exchange. It may well be that for public projects QA will be addressed through this approach, and not via a standalone process. We do not believe that the case for a single QA process document can be made, and that further discussions should be held with the key stakeholders. Elements of the Cabinet Office programme might indeed contribute to a wider industry application.

47. If a quality assurance process is developed by a combined industry/government group, who do you think should be represented on such a group?

#### Comments

As indicated above, we do not agree with this approach. This is a rather leading question, which we do not wish to answer. However, we can suggest some of the key stakeholders who might be engaged in further

discussions about the development of appropriate QA processes as they relate to building services systems.

For commercial property, Better Buildings Partnership (representing major London landlords), British Property Federation (representing key clients), Building & Engineering Services Association (B&ES), Building Research and Information Association (BSRIA), Cabinet Office BIM Steering Group, Chartered Institution of Building Services Engineers (CIBSE), Construction Industry Council (CIC), Federation of Environmental Trade Associations (FETA), ICOM Energy (the Trade Body for boilers and heating systems), the Major Contractors Group.

For new homes, appropriate house building interests.

48. What do you think is the best way for developers to demonstrate that the 'PAS' quality assurance process has been adopted?

Yes  No  Don't know

Comments

It is premature to answer this question prior to the discussions proposed above.

49. What do you think is the best way for developers to demonstrate that an alternative, equivalent quality assurance process has been adopted?

Yes  No  Don't know

Comments

It is premature to answer this question prior to the discussions proposed above.

50. Where no formal quality assurance process is followed, which of the following would you support as an alternative:

3% confidence factor applied to Dwelling Emission Rate

Another % confidence factor (please specify)

A different approach (please explain below)

Do not agree with the concept of the

quality assurance process and confidence factors

Don't know

Comments

It is premature to answer this question prior to the discussions proposed above.

51. The consultation discusses compliance and performance issues for new non-domestic buildings. We would welcome any suggestions for improving Part L compliance and as-built energy performance for non-domestic buildings and any comments on the discussion.

Comments

### **Fan Coil Units**

No account has been taken of VAV FCUs. These will only run at maximum air duty when a design day occurs also when allowing in addition for a level of diversity it does mean that low specific fan powers can be in practice achieved for a significant proportion of a typical years operation. This aspect needs consideration as it represents realistic operational characteristics

### **Zonal extract systems**

In table 1 page 121 and 122 for both new and existing buildings there is a category of "Zonal extract system where the fan is remote from the zone " and the SFP has been reduced from 0.6 to 0.5 W/l/s

a) There is no reference to the system pressure. This is an increase of 17% in efficiency. Current technology and manufacturing techniques have allowed manufacturers to meet the 0.6 limit. The proposed reduction to 0.5 is a target that cannot be achieved within the desired timescale, hence the value of 0.6W/l/s should be maintained for 2013.

b) Also 0.6 or 0.5 w/l/s is virtually impossible in kitchen extract applications due to the need to use a grease filter. It is therefore essential that a new category is introduced

Kitchen extract where the fan is remote from the zone. SFP 1.0 W/l/s

ADL as a control process must look at "As built" as well as "as designed".

'Soft landing' approach is required.

52. The consultation sets out a training strategy and target groups for the dissemination of the new Part L requirements. Do you agree with the proposed approach? Please explain your answer, provide an alternative approach if relevant, and indicate if you/your organisation would be willing to play a part in dissemination activities.

Yes  No  Don't know

Comments

CIBSE plans to offer training and dissemination opportunities.

53. If you have any comments on the proposed changes to Approved Document L1A Conservation of fuel and power in new dwellings that are not covered by the questions above please add them here. Please make it clear which issue each comment relates to by identifying the relevant paragraph number.

Comments

CIBSE broadly welcomes the new format of ADL1A.

The change to 4.23 is helpful. 4.27a is particularly important and welcome.

We propose that 5.1a should be amended to refer to generic adoption of a QA process, and should not refer to a PAS. We would delete sub para a and amend b to read "Demonstrating that a QA process which adequately addresses the requirements of Paras 5.2 to 5.10 ..." (you have deleted 5.11 to 5.13).

The Section on Commissioning, 5.24 - 31 may require amendment in the light of any changes to completion certificates and notices.

Appendix B - CIBSE Guide A is due for publication this year and will contain enhanced guidance on dwelling performance. It may be appropriate to reference here. Also, the Code for Lighting has just been revised, and contains guidance on dwellings and non-dwellings, and could usefully be referenced here.

54. If you have any comments on the proposed changes to Approved Document L2A Conservation of fuel and power in new buildings other than dwellings that are not covered by the questions above please add them here. Please make it clear which issue each comment relates to by identifying the relevant

paragraph number.

#### Comments

The Non Domestic Working Group 2 emphasised the benefits of engaging all sectors of industry much earlier in the process, and this was endorsed by the Minister when he thanked industry experts for their participation in WG2. We would argue that as soon as the 2013 process is complete, it would be advisable to begin initial discussions with industry on the next set of changes. This would be far more effective than the very compressed timescale, which we understand was not entirely within the control of DCLG on this occasion.

4.11. Why are key features no longer appropriate? Especially if the BCOs are moving to a risk based approach. This is a retrograde step and will undermine the drive to improve QA and compliance.

In 4.38 a full bibliographic reference is given to TM39, and in 6.2 TM31 is referred to without the ISBN. Do you wish to include fuller details?

5.26. We propose amending to read as follows: Regulation 44 **requires** notice of commissioning, so until the BCB receive it the Building Regulations **have not** been complied with, and so a completion certificate **cannot** be issued.

Appendix A para 5 is a bit clearer on the key features, but the 10% could be misleading. The U value could be out by 2% on the whole of the fabric and completely undermine achievement of the requirements, whilst a 15% variance in a minor element has almost no effect.

We could accept losing key features if the emphasis is on those elements where the variation from the concurrent specification is likely to be significant, having regard to the size of the variance and the impact upon the overall performance.

See also Q59.

55. If you have any comments on the proposed changes to Approved Document L1B Conservation of fuel and power in existing dwellings that are not covered by the questions above please add them here. Please make it clear which issue each comment relates to by identifying the relevant paragraph number.

#### Comments

See also Q58

56. If you have any comments on the proposed changes to Approved Document

L2B Conservation of fuel and power in existing buildings other than dwellings that are not covered by the questions above please add them here. Please make it clear which issue each comment relates to by identifying the relevant paragraph number.

#### Comments

3.10 CIBSE provides guidance on services for heritage buildings, which could be a helpful additional reference.

7.3 - see comment on the reference to TM31 under earlier question.

57. If you have any comments on the proposed changes to the National Calculation Methodology that are not covered in the questions above please add them here. Please make it clear which issue each comment relates to by identifying the relevant paragraph number.

#### Comments

The UK has two national calculation methodologies - SAP and SBEM. There have been suggestions that this should be rationalised to one. There are also some suggestions that the EU is in the process of issuing a mandate to CEN to develop a European Standard methodology, which will then be applied across the whole of Europe. Under these circumstances the UK may find that changes are imposed by Brussels. Such uncertainty is a barrier to forward planning, since the risk of a European solution being imposed is a significant risk for anyone considering involvement in an alternative model to compliance calculations in individual member states.

58. If you have any comments on the proposed changes to the Domestic Building Services Compliance Guide that are not covered in the questions above please add them here. Please make it clear which issue each comment relates to by identifying the relevant paragraph number.

#### Comments

The following installation standard should be referenced in the Heat Pump Section of the Domestic Building Services Compliance Guide: Microgeneration Installation Standard: MIS 3005 Requirements for contractors undertaking the supply, design, installation, set to work commissioning and handover of microgeneration heat pump systems.

59. If you have any comments on the proposed changes to the Non Domestic Building Services Compliance Guide that are not covered in the questions above please add them here. Please make it clear

which issue each comment relates to by identifying the relevant paragraph number.

60. If you have any other comments on the proposals or suggestions on possible

Appendix 1, Table 1, Heat Pump Systems, page 119:  
changes to Part L of the Building Regulations, please make them here:  
We believe that there may be a conflict between the uplift of the COP (heat generator efficiency) on page 119 and the entry for 'seasonal performance factors' on page 120, which is likely to cause confusion. For example, a heat pump with a COP of 2.5 cannot have a higher seasonal performance value. The Non Domestic Working Group 2 emphasised the benefits of engaging all sectors of industry much earlier in the process, and this is probably appropriate for the current and 2013 revisions. Chapter 7, p116, Equation 10. The coefficients a, b, c and d are shown in the wrong order. They should be ordered d (100%), c (75%), b (50%) and a (25%). is complete, it would be advisable to begin initial discussions with industry on the next set of changes. This would be far more effective than the very compressed timescale, which we understand was not

a) The SFP limit of 0.6 is to be reduced to 0.5, without reference to the system pressure. This is an increase of 17% in efficiency. Current technology and manufacturing techniques have enabled manufacturers to meet the 0.6 limit. There is a concern that the proposed reduction to 0.5 may be unrealistic within the desired timescale. b) Also 0.6 or 0.5 W/l/s is virtually impossible in kitchen extract applications due to the need to use a grease filter. It is therefore essential that as previously requested a new category is introduced

Where the kitchen extract fan is remote from the zone the SFP should be 1.0 W/l/s

Page 121, Table 1. If these are EER values then the (ESEER) should be deleted.

Page 121 vapour compression cycle chillers, air cooled >750kW should be 2.7. The proposed value of 2.9 is even higher than the EER limit in the current ECA scheme.

Page 121 is footnote 7 "Maximum external pressure drop is not specified" required, since it appears to conflict with the proposals on air distribution systems on page 117

There is a concern about the SFP values in Table 1, which may be pushing the industry too far too fast, but please see the discussion on SFP above. Controls the reference to BSEN 15232:2007 should refer to BS EN 15232: 2012.



entirely within the control of DCLG on this occasion.