Our Ref: SB/007/002/011
7 December 2012

BUILDING ACT 1984 – SECTION 39

APPEAL AGAINST REFUSAL BY THE DISTRICT COUNCIL TO RELAX REQUIREMENT L1(a) (CONSERVATION OF FUEL AND POWER) IN PART L1 (REASONABLE PROVISION FOR CONSERVATION OF FUEL AND POWER) OF SCHEDULE 1 TO THE BUILDING REGULATIONS 2000 (AS AMENDED), IN RESPECT OF CONVERSION OF A BARN

The building work and appeal

3. The papers submitted indicate that the building work, to which this appeal relates, is the conversion of a barn to ancillary accommodation, adjacent to a main dwelling which is a listed farmhouse. The proposed building work (which was the subject of a building notice), constitutes a material change of use under regulation 5(a) of the Building Regulations 2000 (as amended). The barn is a two storey building with a single main living space (including kitchen) on the ground floor with ancillary toilet and utility room and two bedroom suites on the first floor comprising bedroom, en-suite shower room and dressing area. You contacted the Council on 05 March 2012 for a relaxation of requirement L1(a) in Part L of Schedule 1 to the Building Regulations. The Council's letter of 19 March 2012 states that it would not be reasonable to relax the requirements of L1(a) of the Building Regulations. It is against this refusal that you have appealed to the Secretary of State.

The appellant's case

4. Your appeal case papers dated 18 April 2012, set out that your case for appeal is as follows:

- The project is a material change of use of an existing barn into ancillary living accommodation to the main listed farmhouse which sits within the conservation area and, therefore, is dealt with under Part L1B. Part L1B allows for an alternative method of compliance which requires a SAP calculation, para 4.16 of Approved Document L1B of the Building Regulations (Conservation of fuel and power in existing dwellings).

- Renewable energy installations have been provided. These include a large installation of photovoltaic panels (PV's) and an air-to-air heat pump, in addition serving the heating for the main house.

- The resultant designed SAP calculation shows a reduction in CO_2 from the notional design and that the *raison d'etre* for Part L is reduction of CO_2 emissions. We do not understand how a designed building showing less CO_2 emissions than the notional building can be refused, bearing in mind the item 1 above.

- We argue, therefore, that we have made “reasonable provision” for limiting heat gains and losses.

- The Local Authority are not considering the on-site renewable energy provision as off setting any reduction in elemental ‘U’ values or infiltration. More specifically, they argue that, irrespective of the SAP calculation, elemental U-values should be achieved and the fact that we supply considerable renewable energy does not mean we can reduce elemental U-values, which is effectively a refusal to accept the alternative option offered within Approved Document L1B at para 4.16 which you claim is reasonable.

5. In addition, you forwarded the Department on 15 June 2012, the SAP assessor’s letter in response to the District Council’s comments regarding the calculations. You support the SAP assessor’s view regarding the underlying philosophy for Part L of the regulations, this identifies:

- The architectural logic was chosen to be fully sympathetic to the historic building and its setting. The logic is supported by a very experienced listed building officer.

- The SAP assessor is fully confident with the U-values entered into his calculation.

- The ‘Design’ building greatly outperforms a ‘Notional’ building.

- Significant and renewable energy systems have been installed, reducing CO_2 emissions.

The Council’s case

6. In it’s letter to you dated 19 March 2012, the Council explained their reasons to refuse to relax the requirements of L1(a) in the Building Regulations. In summary, the Council set out the following reasons for refusal:

- In terms of the L1(a) requirement we [the Council] do not consider that the building meets a fundamental part of this requirement. In that some of the thermal elements and the building fabric do not sufficiently limit the heat gains and losses, and as such reasonable provision for the conservation of fuel and power is not achieved.

- Energy should be conserved. The fact that energy is created does not mean it can be used unchallenged.

- In particular, the U-values for the walls and roof are outside the threshold values for those elements. The single glazed window U-values are outside the provision for controlled fittings and inadequate draft stripping around the doors means that the thermal losses are unacceptable.

- With regard to the latest SAP reports received with your email dated 5 March 2012, we have no evidence to justify that the figures used are accurate. In addition some of the figures used in the notional calculation are unusual.

- Additionally, we [the Council] are not confident with all the figures that have been put into the latest SAP reports, received with your e-mail of 5 March 2012. The Council said that they would send you a separate letter regarding this.

7. The Council wrote to the Department on 22 May 2012, with their grounds explaining their refusals for relaxation of requirement L1(a):

- In that some of the parts of the building fabric and thermal elements do not sufficiently limit the heat gains and losses. Some of the thermal elements are well below suggested minimum standards:

- The glass used in the doors and adjacent screen is single glazing and covers 20$m^{2.}$ There is no draft stripping around the two single glazed doors, leaving a gap of at least 15mm all the way round. Reasonable provision?

- The insulation introduced into the walls and roof is a single sheet of multi foil only. Local Authority Building Control guidance advised that a single layer of multi foil (Tri-iso, or Superquilt 14) cannot be assumed to perform as the manufacturer has suggested, as the material has not had national or European tests. Thus, the thermal properties cannot be accepted.

- Additional insulation could have been put into the walls and roof. The glazed doors and screens could have been double glazed.

The Secretary of State's consideration

8. The Secretary of State has given careful consideration to the particular circumstances of this case and the arguments presented by both parties. In considering the appeal he notes the intention of an Approved Document is to provide guidance for some of the more common building situations and that there is no obligation to adopt any particular solution contained in an Approved Document.

9. Approved Document L1B (2006) includes an option, at paragraph 28, to provide flexibility when carrying out a material change of use to show that reasonable provision has been made to limit heat gains and losses for compliance with requirement L1(a) in Part L (Conservation of Fuel and Power) of Schedule 1 to the Building Regulations.

10. This flexibility is afforded through the optional use of the Government's Standard Assessment Procedure for the Energy Rating of Dwellings (SAP) 2005 edition to show that the heat gains and losses of the designed building will be no

greater than if the building had been improved following the guidance at paragraph 27 of Approved Document L1B 2006. Paragraph 27 in turn sets out reasonable provision for limiting heat gains and losses. Paragraph 28 facilitates trade off provided that U-values of the external walls, roof, floor, windows and doors are no worse than the limiting values set out in Table 1 to Approved Document L1B.

11. Regulation 4 of the Building Regulations sets out that Building Work shall be carried out so that it complies with the applicable requirements contained in Schedule 1. In this context it is important to recognise that each of requirements L1(a), L1(b) and L1(c) are to be separately complied with.

12. It follows that whilst it is reasonable provision to use a SAP calculation to facilitate trade off between the thermal performances of the individual elements as set out in Table 1 to Approved Document L1B only for compliance with requirement L1(a), there are no provisions within the Building Regulations to extend such trading off between Requirements L1(a) and L1(b) i.e. to offset poor thermal performance of these individual elements through more efficient fixed building services.

13. Turning to the use of a single layer of multi-foil insulation in the walls and roof of the building, paragraph 11 of Approved Document L1B states that U-values must be calculated using the methods and conventions set out in BR 443, 'Conventions for U-value calculations', BRE, 2006. Paragraph 3.10.2 of BR 443 sets out that:

"*The U-value of constructions that include multi-foil insulation should be based on performance data for the product concerned, measured by a Notified Body accredited for thermal testing by an EU national accreditation service. Product performance can be established either from measurement of the thermal resistance of the core according to BS EN 12664 or BS EN 12667 together with the emissivity of the surfaces, or in a hot-box apparatus conforming with BS EN ISO 8990."*

14. The Secretary of State is aware that there is a dispute over the appropriate test method for measuring the thermal performance of multi-foil insulation products and that some multi-foil insulation manufacturers consider that the most appropriate method is comparative 'in situ' testing. However, the Department has both commissioned and contributed to a number of research reports into the thermal performance of multi-foil insulation in recent years including the research report[1] by Loughborough University to which you refer - concluded that:

"*A model developed for the prediction of multi foil system behaviour indicates that the level of performance achieved even if the best possible material were used in its construction, silver coatings with an emittance of 0.02 and foam core materials with a thermal conductivity equivalent to aerogel blankets 0.012W/mK, do not obtain a lower U value than 200mm of mineral wool insulation*" and this is not

[1] Multi-foil insulation BD2768, DCLG, June 2009

equivalent to 200mm of mineral wool as suggested in Nexus Architect letter of 14 June 2012.

15. The Department therefore maintains that for multi-foil insulation, results from tests based on Standardised European Norms or tests which form part of a relevant agreed ETA should continue to form the only results which carry with them a presumption of compliance under the Building Act 1984. This is explained in DCLG Circular 06/2009 dated 18 June 2009, a copy of which is enclosed with this letter.

16. The Secretary of State notes that neither you nor the Council have provided any information obtained from tests based on Standardised European Norms or tests which form part of a relevant agreed ETA in relation to the thermal performance of the multi-foil insulation used. In the absence of such tests, the Secretary of State is unable to conclude that the use of a single layer of multi-foil insulation would achieve the U-values claimed in your SAP calculations.

17. On the use of single glazed windows in the cart door, the District Council considers the U-value cited as 4.44 W/m^2k to be unusual. Irrespective of whether this value is overclaimed or not, the Secretary of State considers that this cited value is worse than the limiting values set out in Table 1 to Approved Document L1B.

18. Furthermore paragraph 32 in Approved Document L1B says “Where windows, roof windows, roof-lights or doors are to be provided, reasonable provision would be the provision of draught-proofed units ….” The Secretary of State notes the photographic evidence that shows a very noticeable air gap and considers this does not demonstrate reasonable provision for limiting heat loss.

19. Please note that the requirement to calculate U-values in accordance with BR443 only applies to the guidance in the Part L Approved Documents. It is open to any person proposing to carry out building work to seek to persuade the relevant building control body (BCB) that an alternative approach to the provisions in the Approved Document guidance achieves compliance with the requirements of the Building Regulations. The Secretary of State also wishes to make clear that, legally, it is the function of individual BCBs to determine whether building work complies with the requirements of the Building Regulations. Consequently, BCBs are free to decide for themselves whether or not to accept that construction details put to them comply with the requirements of the Building Regulations, and whether claims about the thermal performance of products are correct.

20. Finally the Secretary of State notes that since your appeal was lodged in March 2012 the building has now been identified as being listed for its special architectural or historical merit in accordance with section 1 of the Planning (Listed Buildings and Conservation Areas) Act 1990 (as amended).

21. Regulation 9 of the Building Regulations 2000 (as amended) sets out that buildings listed in this category are exempt from the energy efficiency requirements of the Building Regulations but only where compliance with these requirements would unacceptably alter their character or appearance. Paragraph

9 in Approved Document L1B sets out that the aim of Part L when undertaking work on such buildings is to improve energy efficiency to the extent that this is practically possible without prejudicing the character of or increasing the risk of long term deterioration of the fabric of, or fittings in, the building. Paragraph 10 continues “In arriving at a balance between historic building conservation and energy efficiency improvements, it would be appropriate to take into account the advice of the local authority’s conservation officer”.

22. The Secretary of State notes that the local authority's conservation officer has commented the work has been carried out sympathetically. However, neither party to this appeal has submitted evidence that the local authority conservation has explicitly stated that, in respect of the insulation of the walls and the roof or of the glazing, compliance with requirement L1(a) would unacceptably alter the character or appearance of the building.

The Secretary of State’s decision

23. The Secretary of State considers that compliance with requirement L1 (a) in Part L (Conservation of fuel and power) of Schedule 1 to the Building Regulations 2000 (as amended) applies to the building in question and, as such, he would normally only consider it appropriate to relax or dispense with the requirement where relevant grounds to do so have been made out to the Secretary of State’s satisfaction. In this case, he has concluded that it would not be appropriate to relax or dispense with requirement L1(a) in Part L (Conservation of fuel and power) of Schedule 1 to the Building Regulations 2000 (as amended) Accordingly, he dismisses your appeal on the basis of the evidence presented.

24. As mentioned above, the Secretary of State has noted that since the appeal was lodged the building has been identified as being listed for its special architectural or historical merit in accordance with section 1 of the Planning (Listed Buildings and Conservation Areas) Act 1990 (as amended). It may be open to the local authority conservation officer further to consider whether compliance with requirement L1(a) of Part L of Schedule 1 to the Building Regulations would unacceptably alter the character or appearance of the building. If the conservation officer concluded that it would do so, the Council may wish to reconsider its refusal to relax or dispense with this requirement of the Building Regulations.

25 . You should note that the Secretary of State has no further jurisdiction over the issues determined in this appeal and that any matters that follow relating to the building work should be taken up with the building control body, the District Council. A copy of this letter is being sent for information to the Council.