

PERFORMANCE BASED BUILDING LEGISLATION: THE UK EXPERIENCE

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1. Building Regulations in England and Wales go back a long way. Some people say they can be traced to the Great Fire of London in 1666, after which rules were included in London to prevent wooden buildings being built too close together - so fire would not jump from one building to another. Others suggest it goes back even further to the reign of Edward I!
2. During the nineteenth century and the reign of Queen Victoria increasing emphasis was placed on improving health and reducing disease, and certain requirements for drainage were introduced. These gradually expanded into other aspects of health and safety, but not on a national basis - each local authority or municipality had its own "Building By-Laws". It was not until the mid-1960's that national Building Regulations were introduced in England and Wales, originally prescriptive rules drawing together the best bits from the various municipal by-laws.
3. In the late 1970's and early 1980's people were becoming increasingly concerned that these prescriptive rules were unsuited to modern society. Legislation was brought before Parliament in 1983 to change to a performance based system, and in 1985 most of the prescriptive rules were abolished and the new system implemented. However, the mandatory rules for means of escape were retained until 1991, to allow greater time for the education and training of both building control

officers and fire brigade personnel. The full system of performance based regulations has been in force in England and Wales since 1991.

Faults in the old system

4. So what was wrong with the old prescriptive system which led to such a fundamental upheaval in building control? Firstly, at that time building control was solely enforced by officers in local authorities (now there is competition from the private sector) and in many authorities these people had the reputation of looking for any breach in the Regulations, however minor, to stop development going ahead. It was a bureaucratic system much resented by architects and developers.
5. In addition, it was becoming impossible to build some types of buildings to comply with the regulations. For example, in large shopping centres it was impossible to reduce travel distances for means of escape to a place of safety to the statutory maxima. And there were no rules which applied to maintaining fire safety in tall buildings containing atria.
6. The general feeling was that we had an inflexible system which added little or no value to the completed project. Account was not taken as to where the major risks might be, and priority was given by at least some building control officers to a minute search for faults rather than working with developers to find a satisfactory solution. So change was necessary.

The Performance Based Approach

7. The system introduced by the 1983 legislation contained very short goal based regulations ("reasonable provision shall be made for means of escape to a place of safety..."). The complete regulations now only take up some nine pages.

8. The regulations are backed up by documents providing guidance on how to comply with each Part of the Regulations. These documents carry statutory weight in that following the guidance in the documents will be taken by the courts to mean that there is compliance with the Regulations. These documents have to be endorsed by a Government Minister before they are published, and hence are known as Approved Documents (ADs)
9. However, developers do not have to follow this guidance. If they wish to use an alternative solution the onus is on them to convince the building control officers that what they propose has health and safety standards at least as good as the guidance in the ADs. So alternative solutions are encouraged.
10. Indeed, in some of our ADs we ourselves provide more than one solution. For example, in our AD on energy conservation we detail three methods of compliance - an elemental approach looking at the energy efficiency of each component (wall, floor, ceiling, window etc) separately; a whole building assessment, which gives a developer the opportunity of trading off one element against another; and a carbon index method.

Technical elements covered

11. The technical issues currently addressed by the Building Regulations in England and Wales are:
 - Structural safety
 - Fire Safety
 - Site preparation and resistance to moisture
 - Toxic substances
 - Sound insulation
 - Ventilation

- Hygiene
 - Drainage
 - Heat Producing Appliances
 - Protection against falling
 - Energy efficiency
 - Access and facilities for disabled people
 - Glazing
12. Ministers have recently announced that electrical safety will be brought within the Regulations in 2004, and we have recently consulted on whether new houses should be constructed having ducts for the easy fitting of broadband communications. Other possible areas for addition to the Regulations are security and sustainability.

Benefits of the new system

13. These are, of course, something of a mirror image of the problems identified in the former system. The system is seen to be flexible, and allows the approval of complex buildings through the normal building control process rather than having to set up administrative arrangements to waive certain of the prescriptive rules. Innovative solutions to buildings are encouraged, and we have seen both a proliferation of imaginative designs and the introduction of modern methods of construction, involving much more of the building being constructed within factories rather than on building sites with unfavourable weather and environmental conditions.
14. As noted earlier, some of the problems with the old system related in particular to finding effective fire solutions. The development of fire safety engineering has led to such solutions being found, solutions which can be readily assessed within our performance-based system.

15. There is increasing emphasis in all sorts of safety regulations in the UK for these to relate to the degree of personal risk experienced. Again, performance based regulations enable the degree of risk to be specified. They also allow an assessment of the building as a whole to be made, rather than concentrating on individual elements.

The transition process

16. Of course, it was not possible to move overnight from following the old prescriptive rules to instant acceptance by all the interested parties of the new system. A great deal of education and training was necessary for both architects/builders and building control officers. Many of the latter in particular were resistant to changing from the way they had always carried out their role, and indeed had been trained to do so.
17. What was really needed was a change in culture so that building control officers saw their role as helping developers meet the requirements of the regulations to ensure a satisfactory building rather than finding ways of stopping them. It probably took a good ten years before pockets of resistance in some local authorities were broken down, although the introduction of competition from the private sector at the same time as the new building control system undoubtedly helped the process along. I cannot emphasise too strongly the importance of having sufficient resources to educate and train the relevant professionals in the new system.

Stakeholder views

18. So what do some of the principal users of the new system think about it? Architects have, in general, welcomed it, once initial fears were overcome, as being more flexible in accommodating their innovative designs. Their principal concerns now relate to the increasing complexity of the regulations and the guidance in the ADs, and about the number of times the Regulations are subject to change - a

consequence I fear of increasing consumer demands, recognised by Government Ministers, for healthy and safe buildings.

19. Builders, on the other hand, have perhaps taken longer to adjust to the new system. Many, particularly those who were small or medium enterprises, quite liked the certainty given by the old prescriptive rules, even if they sometimes rebelled against over-dictatorial building control officers. However, I sense in recent years a greater acceptance of the new system, and the benefits it brings.
20. As noted above, some building control officers were resistant to change. Increasingly however they welcome the new system. After all it is far more satisfying to have a job where considerable exercise of judgement is required than merely slavishly following a tick-box approach - even if at the same time it is considerably more challenging. They too however feel that the technical content has become too complicated and is changed too frequently - issues it is not easy to remedy.

The Future

21. In England and Wales there will be no going back. Despite the above comments there is general acceptance of the benefits of the new system, and people recognise that the way forward is to see the continuing development of alternative solutions. Other areas for future development include the electronic submission and assessment of plans, and the emergence of self-certification in lower risk areas.
22. In Scotland, a reform of building control law has just been enacted. Again the old prescriptive system has been abandoned, with a more flexible goal based one being adopted. An interesting development has been the concept of a separate Government agency being established in Scotland to oversee the new system - at present, as in England, this is the responsibility of a Government Department.

23. Finally I should like to say how valuable I found it in the last 10 years to participate in international meetings and conferences on the subject of performance based building regulations. I have learnt a great deal in that time from the experience of other countries. I hope this brief explanation of experience in the UK will be of interest to others.
