

DFPB møde den 11 november 2002
Indtryk fra EC-Egolf konferencen om BeneFEU i Luxembourg

Hovedkonklusion (2. del)

- **Vi skal 'go ahead' med at**
 - **Skabe en ramme for et fælles bygningsreglement (model code)**
 - **Arbejde hen imod 'supporting standards'- kvalificeret uddannelse af brandingeniører – forstærket forskning. (EC's 6. forskningsramme blev nævnt som en mulig vej for økonomisk støtte).**

Spørgsmål ??

Executive Summary

Establishing an EU study

EC DG Enterprise commissioned a study to establish the basis for possible future activity, at a European level, on fire safety engineering and performance based fire codes in relation to construction works and products. The study would examine:

- a) current, and planned regulations in Member States
- b) the state of the art in fire safety engineering,
- c) possible initiatives at a European level, and
- d) the costs and benefits of any such actions.

This study was undertaken by a Consortium led by Warrington Fire Research, UK, and composed of representatives from: CTICM (France), DIFT (Denmark), IST (Portugal), RUG (Belgium) and TNO (Netherlands).

Outcome of the Benefeu project

The societal goals embodied within existing national regulations of the countries of the EU are very similar; these being the safeguarding of life and health and, to a lesser extent, the protection of property.

The vast majority of regulatory systems are dominated by prescriptive rules and regulations. Very few countries have facilitated a performance-based, or fire engineering approach, to legislation. However, it is clear that the majority of Member States intend to implement an alternative fire safety engineering approach into national building fire safety legislation, in the future.

Having assessed the current understanding and use of fire safety engineering It is clear that there is a need for further research and standardisation, primarily in support of:

- the use of risk concepts
- a better understanding of fire phenomena
- a better understanding of human factors
- the need for data

There are insufficient educational establishments that offer fire safety engineering courses at first degree and higher degree levels throughout Europe. It is estimated that 250 to 300 new graduates per year are needed to meet current requirements of a fully developed performance based fire safety regulation, compared to the actual number currently graduating of around 50 per year.

There are two essential requisites that must exist if fire safety engineering is to be implemented throughout the EU Member States, these are;

1. the availability of a research and educational system, focused on fire safety engineering and having adequate coverage throughout all Member States; and
2. the availability of a system of performance based codes and regulations, including guidance to regulators and practitioners.

If such facilities were in place, the potential benefits associated with the implementation of fire safety engineering across EU Member States has been estimated to be 0.3 to 1 Billion Euro per annum (€0.3B - €1B), i.e. 1% to 3% of capital building costs, whilst the associated costs have been calculated at 28 Million Euro per annum (€28M).

In the absence of support and intervention from the EC, the change from prescriptive to performance based codes may create further barriers to the free circulation of products, services and people. Without a coherent strategy across all member states the transition to performance based codes will be slow and, therefore, the potential benefits arising from the adoption of fire engineering will not be realised for a very long time. National building regulations will fail to converge with the result that new barriers to the free circulation of building products, systems and people will emerge.

Proposed EU initiatives

It is recommended that the European Commission should initiate all of the following actions within a total timescale of 10 years. For the success of the project it is important that all of the actions are undertaken within a total framework. Deleting or postponing one or more of the actions will endanger or at least delay substantially the success of the project.

- DG Enterprise to set up a Steering Committee to steer and manage future developments in relation to fire safety engineering in support of regulations for construction works with defined terms of reference and target dates. Members of the committee to include:
 - representatives of DG Enterprise
 - national fire regulators
 - fire safety engineering practitioners
 - any other individual experts as considered necessary by DG Enterprise

The Steering Committee may establish Task Groups to assist in executing its activities.

- The Steering Committee will define the necessary framework within which performance based fire safety codes can function and draft a model code for performance based fire safety regulation.
- The Steering Committee will identify the Standards needed at a European level covering the need for common assumptions, test methods, calculation procedures and all other tools necessary in support of the model codes. Wherever possible existing international or national standards will be used. A mandate will then be issued to CEN.
- The Steering Committee will examine and prioritise the needs for fundamental and applied research in support of fire safety engineering and standardisation in this field. The Steering Committee will explore the means to finance the research through the sixth framework programme. It will also explore alternative financial resources, e.g. from the interested users: industry and Member States.
- The Steering Committee will facilitate the development of a core curriculum for the education of fire safety engineers, at undergraduate, graduate and postgraduate level. This will be initiated by the organisation of a workshop involving all interested parties. The developments as a consequence of this workshop will be promoted and monitored by the Steering Committee. The basis for the activities shall be, wherever possible, existing (national) documents. The requirements of continuous professional development and the need for education of building professionals will also be considered.
- The Steering Committee will facilitate activities aimed at the organisation and recognition of the profession and the professional ethic at a European level, taking into account the FEANI principles for the engineering profession. This will include the establishment and approval of a code of conduct. This will be initiated by the organisation of a workshop involving all interested parties. The developments as a consequence of this workshop will be promoted and monitored by the Steering Committee.

Geoff Deakin MBE

Consortium Leader

Warrington Fire Research

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Construction Sector Network

Fire Advisory Network

Contact: Bent-Erik Carlsen , convenor

e.mail: bc-consulting@attglobal.net

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file: FAN/FSE

Comments on the BeneFEU report:

The Potential Benefits of Fire Safety Engineering in the European Union

This note is a summary of the comments received from the FAN members. The network has been currently informed by e-mail about the project and the conference in Luxembourg in November 2002. Comments were received from about 15-20 members, mainly from universities and the fire safety engineering professionals. This is only about 20-25% of the members but more members are sending comments through other channels.

The work with FSE in FAN is based on the old BTS 1 resolution 32/1997 (see www.cenorm.be) and the recommendation CSN Reykjavik 2000:

“The CSN conference agree on the importance of the EC project on fire safety engineering and recommends that the Fire Advisory Network (FAN) contributes to the project”

There is a general agreement that the BeneFEU report gives a good and useful background information for the assessment of for instance the future education needs. We also find an agreement with the conclusion that we have insufficient educational establishments with FSE courses.

There is also a general view that it is not likely EU will be able to develop a common building / fire regulation. Each country has its own building regulation, which specifies the required level of fire safety for its citizens. These codes are different and are based on history, society, geography etc. Differences in the national regulations will not be a severe barrier to trade as the differences in the testing standards..

Some members underlined that FSE in some form already exists in several MS's. (The Executive Summary states that ‘Very few countries have facilitated a performance based, or fire engineering approach, to legislation’ Structural fire design has been accepted for decades in e.g some of the Nordic countries (Comments to Swedish Building Code 1976:1) and in France and UK. In some countries fire engineering has been accepted case by case assuming that the ‘alternative’ concept guaranties the same level of fire safety as the traditional.

There is an agreement with the report on the remarks on the need for 'availability of a research and educational system' and 'availability of a system of performance based codes and regulations' (Executive Summary p.1)

This also includes the appeal to the Commission for support of fire research, as such an investment in research will give a quick pay-back.

Some members expressed concern for the dominating role of the Egolf institutes in the BeneFEU project and for the lack of people from the engineering practitioners. The same members want the consulting engineers to be the driving force in the development of a European FSE practice.

Some members expressed concern for the plans of writing European standards for FSE. This could possibly be done in some areas where an accepted engineering practice exists (Euro-codes and may be smoke movements and escape routes) but general FSE standards will limit the engineers and the producer's possibility of utilizing the latest development in global fire research.

The ID 2 does not raise the need for FSE standards but asks for "that calculation and design procedures are validated on an agreed and harmonized basis" (ID 2, section 2.3)

There is an agreement with the report's statement that we have an urgent need for the establishment of correct data for materials as input to computer models.

This work should be done by the Egolf institutes in collaboration with standardization committees (ISO - CEN) and research bodies (CIB – BRE - SP etc)

There is an agreement with the proposal on the establishment of a Steering Committee (The word 'steering' should probably be replaced with 'coordinating').

However, some members point out that the professional fire safety engineers should have a more central role in this committee than the test-people, as the experience from FSE practice is with the consulting community. (Compare with the position of SFPE and NFPA in the US)

A couple of members expressed the view that the report is focusing too much on a possible, positive outcome of PBC and FSE – the benefits. We also find bad experience from practice with FSE in some countries where PBC was introduced decades ago (Fire Protection Engineering, Vol.10-No. 2-1999). Further, some professionals have expressed concern for the quality of the computer models and the input data etc. (Fire Protection Engineering, Vol.8-No. 2-1996).

These uncertainties must be carefully investigated before a European design procedure is established.

Summarized by
Bent-Erik Carlsen
CEN/CSN/FAN convenor