

Thoughts on the debate over a Building Fundamental Law

– From a position of responsibility for technical standards related to structural safety –

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(Keywords) *Building Fundamental Law, technical standards*

1. Introduction

Recently, trade journals have been busy with talk of a “Building Fundamental Law”.

The “Review Group on the Revision of the Building Standards Law” (hereinafter “Review Group”), set up in the Ministry of Land, Infrastructure, Transport and Tourism and chaired by Professor Seiichi Fukao of Tokyo Metropolitan University, met 11 times between March and October 2010. At those meetings, the Review Group discussed the system of judging compliance with structural calculations, statutory periods of building confirmation checks, and ways of imposing more rigorous penalties (Reference 1)). Based on the conclusions of this Review Group, a “Study Group on Building Legislation” (hereinafter “Study Group”) (chaired by Professor Tetsuo Kubo, University of Tokyo)” first met on February 2nd, 2011. It immediately made a start on organizing the basic directions to be sought in building legislation as a whole, including the Building Standards Law, with a view to ensuring or improving the quality of buildings (Reference 2)).

While it is impossible to predict the future direction of this debate on the Building Fundamental Law, from a position of some responsibility for technical standards related to the structural safety of buildings, I would like to consider what bearing it will have on technical standards.

2. Proposal of a Building Fundamental Law Council

It was in August 2003 that a “Building Fundamental Law Council” (hereinafter “Council”) was set up by around 30 volunteers involved in the construction business (now around 240 members). The first draft of a Building Fundamental Law (Reference 3, August 2010) has since then been proposed by the Council. The following is a brief summary of sections concerning the structural safety of buildings in the roles of the Building Fundamental Law as stated there.

- (1) Basic minimum requirements are essential as minimum standards
- (2) Satisfying safety should be entrusted to professional competence and private-sector standards

Technical standards on the structural safety of buildings set specific methods of achieving minimum standards determined in the Building Standards Law, but according to the above-mentioned proposal by the

Council, these should be entrusted to professional competence and private-sector standards; national research institutions should not bear responsibility for them.

The essence here, however, is surely not who should create technical standards, but to specify whatever is necessary in order to achieve good buildings.

3. Debate by the Council for Social Infrastructure

Between September 2008 and February 2010, measures for developing high-quality buildings were debated by the Buildings Subcommittee of the Council for Social Infrastructure, and its opinions were summarized by the Basic System Working Group (Reference 4)). In this debate, opinions and proposals were voiced from a variety of angles, including the proposal of a Building Fundamental Law, and there was no uniform direction. This could be said to reflect the difficulty of this kind of basic debate. In this Study Group, the aim is for the debate to include the Building Standards Law and others as actual regulations, and I expect a more realistic debate to be pursued.

4. Formulation of building codes and standards (US example)

In February 2001, I attended a conference in San Francisco, where I had the opportunity to hear a presentation by the American construction engineer James Robert Harris. He was involved in formulating design load guidelines for buildings (ASCE 7), and his talk was entitled “The development and application of aseismic building codes and standards”. The presentation was accompanied by 49 slides, and can be summarized very briefly as follows.

- (1) It is not the federal government but State governments (and others) that decide architectural codes that have legal binding force. Normally, the IBC (International Building Code) is adopted as a model code, this being re-determined every 3 to 6 years.
- (2) IBC is revised every 3 years by the ICC (International Code Council). Anyone can propose a draft amendment, and after receiving a hearing by ICC, the change is decided by a ballot. The ICC is made up of voluntary members including employees of State governments.
- (3) The standards form part of the Building Code, in that the latter refer to them. There are 49 organizations

that provide standards referred to by the IBC. One of them is ASCE (the American Society of Civil Engineers), and ASCE 7 (standards) are formulated and revised every 6 years by volunteer members. There are about 55 members connected with earthquake resistance, and many of them are practicing engineers. (4) NEHRP (the National Earthquake Hazards Reduction Program) is a federal organization established by Congress, and the NEHRP Provisions (standards) formulated by it are designed to be incorporated in revisions of ASCE 7.

5. Who should create technical standards?

As stated in section 4 above, in America, professional competence and private-sector standards are adopted for building codes; even national institutions prepare standards with the intention of incorporating them in professional competence and private-sector standards. This is also consistent with the system envisaged in the proposal by the Council mentioned in section 2.

What should not be forgotten here, however, is that in the USA the standards are revised by volunteers, and many of them are practicing engineers. Also, it is the State government that ultimately decides whether or not to adopt a building code. In contrast, if we think of private-sector standards in Japan's building sector, the various design criteria and guidelines of the Architectural Institution of Japan spring to mind. However, the members involved in formulating these are almost all academics (university). This is completely different to the situation in the USA.

In other words, the important point is how to create the technical standards necessary for achieving good quality buildings within an objective, impartial system.

6. What is expected of the Building Fundamental Law?

One trade journal conducted a questionnaire under the title "What sort of topics do you expect to be discussed with a view to enacting a Building Fundamental Law?" (Reference 5)).

Among the replies, the following were particularly well supported: More rational and efficient application procedures / Simplification of the Building Standards Law / Clarification of the roles and responsibilities of works commissioners, the administration and experts / Revision of remuneration standards and other improvements to the working environment / Creation of a system of thorough quality checks all the way from design to installation.

It is difficult to agree with a simplification of the Building Standards Law if it would mean diluting the content of technical standards. To achieve structural safety in buildings, it goes without saying that safety needs to be properly confirmed, and to this end, issues that need to be studied must be studied properly. If there is anything that could be simplified (omitted), it would merely be to determine specifications in advance

so that structural safety is automatically assured, and to create buildings in a way that satisfies these.

Even with private-sector standards, there should be no thought of reducing the topics for which safety needs to be confirmed (content remains undiluted).

7. Comprehensive approval (Article 38 of the old law)

With the amendment of the Building Standards Law in 1998, the regulation of performance was promoted and various verification routes were highlighted. On the other hand, the provisions for comprehensive approval under the former law (hereinafter "old Article 38") were removed.

The fact that base-isolated buildings have become so diffused in Japan well ahead of other countries could result from the system of ministerial approval under old Article 38. The same is true of concrete-filled steel tubular structures. In other countries, I hear that it took a long time before building codes could be adopted.

Although old Article 38 used the phrase "recognize as being equivalent", it was often the case that the performance requirements in provisions subject to comparison were not specified, and the performance requirements to be ensured for buildings as a whole were not clear. On the other hand, when new materials, construction methods and others are adopted for a specific building, one may imagine a situation in which they would be difficult to handle with the present combination of individual verification routes. In that sense, I can understand why the Review Group proposed the creation of a system of comprehensive technical approval similar to the Ministerial approval based on the provisions of old Article 38.

8. Conclusion

The future direction of the debate on Japan's Building Fundamental Law remains unclear, but it goes without saying that its objective should lie in raising the quality of buildings. With the recent amendment to the Act on Architects and Building Engineers, ethical provisions were explicitly stated; but in a sense, it should be a matter of course that anyone claiming to be an expert in building, including ourselves, must constantly strive to improve the quality of buildings provided for the daily lives of many people, without this having to be expressly stated in law.

From the standpoint of the safety of buildings, as well as steadily pursuing technical reviews with a view to promoting such objectives in future, I would like to banish unpreparedness so that we can respond appropriately, whatever the outcome of the review, by firmly grasping the situations pertaining in other countries, etc.

References

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● Messages from Departments and Centers of NILIM

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