

## "BUILDING CODE CONSIDERATIONS FOR LUMBERMEN"

By Joseph M. Fant

Building codes and their enforcement have a major impact on your community and on your business. Because their tendency, along with related zoning and fire limits ordinances, is to become more complex and restrictive as population density increases, it is important, perhaps vital, that you be aware of at least the surface aspects of this subject.

"Why is it important?" some will ask, or, you might say, "Granted it's important . . . how could it be vital?" In part the answer would be, that Building Codes tend increasingly to restrict, even to exclude, woodbased construction materials in densely populated areas on the ground of combustibility. Not only is wood restricted as a primary structural material within the Fire Limits, as may well be proper, but we are also faced with a tendency on the part of communities to unduly extend these Fire Limits beyond reasonable criteria and economic balance. An example of this tendency is the Fire Limits Ordinance, all too common in smaller, growing cities, which ties the Fire Limits to the Zoning Ordinance, providing that as land is zoned for Commercial or Industrial use, it automatically becomes a No. 1 Fire District.

The economic adversity that flows from such legislative "short-cuts" to fire-safety is two-fold. Not only may the forest-based economies of many western communities be unduly jeopardized, but the tax-base of the community itself is often undermined by driving new construction out of the cities and perpetuating blighted conditions within.

Other important code limitations on the use of wood in construction are the basic area, or size, limitations placed on wood-frame and Heavy Timber types of construction and the maximum height restrictions. These height and area limitations were established many years ago and were based on such then valid considerations as the range of hose streams and the reach of firemen's ladder equipment.

It will be obvious that such considerations have less importance today in limiting the height and area of a modern wood-frame building of One-Hour Fire-Resistive construction which may be protected by an automatic sprinkler system throughout.

In a similar way, it should be apparent that a building of rated One-Hour Fire-Resistive construction has equivalent fire-safety, whether the protected structural members are classified as "combustible" or as "incombustible". Just as "a rose is a rose is a rose" . . . so, "one-hour is one-hour, etc." In fact, those who have witnessed comparative fire tests between exposed wood and steel, such as the film you have seen today, might conclude that the slow-burning wood is a better bet. Nevertheless, this equivalent protection is not fully recognized in the basic height and area limitations of most building codes. Protected wood-frame is usually penalized on both counts, when compared to protected "incombustible" construction, although parity of heights and areas is generally accorded to Heavy Timber construction.

There is folklore to the effect that "bad news comes in threes", and our principal concerns with building codes can be fitted to this adage. In addition to unrealistic Fire Limits and Basic Height and Area Limitations, our industry must cope with unreasonable grade requirements for construction lumber. These latter usually take the form of so restricting the use of Utility, or No. 3 framing grades, as to place an unnecessary economic burden on the builder as well as on the Forest Industries.

A typical restriction on the use of Utility grade lumber is that contained in the Uniform Building Code which says that these grades may be used "only under conditions specifically approved by the Building Official". Well-intentioned, though it may be, such a provision is meaningless for the majority

of Building Officials, thus causing them to take the line of least resistance and prohibit the structural use of this material. Ironically enough, Utility grade lumber, with appropriate limitation on span and loading, is as structurally adequate as any higher grade. In fact, because of larger sizes required in Utility grade floor joists, for example, it has been shown to produce stiffer floors than the smaller sizes permitted with higher grades.

A further, and perhaps crowning, irony in this situation is the reversal that takes place between the intended effect of the code provision and the actual effect which it has. Because of unreasonable restrictions placed on Utility grade lumber, the customer frequently orders the manufacturer to ship it without grade-stamp identification. The result, of course, is that this, otherwise highly suitable framing material, often finds its way into construction without the limitation of span and loading that are appropriate to the grade. Only confusion can ensue from this.

So much for the statement of some major code problems. We have many others . . . and so do our competitors. Our purpose in pointing up some of the difficult areas is not to malign Building Codes or Building Officials who enforce them, but to impress everyone we can reach with the fact that these are your problems too . . . Matters of total industry concern as well as economic factors in the development of your own community. Most important of all, they are matters whose future course can be affected, for better or worse, by your understanding and participation . . . or lack of it.

Before going further into the question of your stake in these matters, it might be well to lay a foundation for understanding of the evolution of Building Codes . . . Where have they come from . . . how do they get the way they are . . . Where do they go from here?

Despite the complexities, real and apparent, of Building Codes and related ordinances which govern zoning, public health, subdivisions and fire limits, they have a common purpose which can be simply stated. Their purpose is to keep people from being unnecessarily hurt, either physically or financially, by the thoughtless actions of others. As such, they are a distinguishing mark of civilization and have appeared wherever large numbers of people live in close proximity. They existed in Babylon, 4000 years ago, in Nero's Rome and in 16th Century London.

The early development of such codes in this country took place in the last half of the 19th Century and consisted mainly of scattered regulations adopted, often hastily, in reaction to conflagration fires or structural failures in a few of the larger cities.

By the turn of the century, the need was already being felt for a degree of uniformity in Building Codes across the nation. This need was not expressed as we hear it today, in terms of reducing building costs, but took the form of constructive action on the part of Insurance companies to reduce casualty losses from fire in buildings. In 1905 the National Board of Fire Underwriters published the National Building Code which was offered to cities for adoption as a model building code.

Over the next quarter-century, a growing acceptance of the model code concept evolved naturally into efforts at code writing by those most directly involved with the problem, the Building Officials themselves. In 1927, the first edition of the Uniform Building Code was published by the Pacific Coast Building Officials Conference. In 1945 the Southern Building Code Congress first issued the Southern Standard Building Code . . . and in 1950 the Basic Building Code was produced by the Building Officials Conference of America.

Reflecting regional building characteristics to some extent, these conference-sponsored codes have a high degree of essential uniformity in basic Standards, and, together with the National Building code, they constitute the major model codes in effect today. One or more of these model codes, whether adopted by reference, or through its influence on locally written codes, governs the vast

majority of present day construction. As an example, the Uniform Building Code is effective in some 1500 communities in 44 of the 50 states and is the dominant influence in the Western States. Similarly, the other model codes have their major influence on a regional basis.

We have said that a high degree of essential uniformity does exist through the influence of model codes, and though by no means perfect, that uniformity of basic standards is increasing. "Why then," it may be asked, "do we periodically read of 'THE MESS IN BUILDING CODES', or hear insistent demands for a single nationwide building code?" The situation is roughly analogous to our pockets of poverty, or under-employment, in the midst of great national wealth, shared by a record proportion of our people.

In both cases we have made tremendous progress as a nation, but the exceptions are so numerous, and often painful, as to demand attention. In both cases too, the demand for change to eliminate the exceptions has caught the attention of the federal government with predictable results. We have now to consider the prospect of a federally sponsored Building Code to be "offered" for adoption by the states and local communities. It remains to be seen what inducements might accompany such an "offer", or what penalties might attach to the failure of communities to respond affirmatively. If this latter question is in doubt, there is another significant one regarding the operation of a federal building code which is not.

The question is - by what means would such a federal code be amended? Would it, for example, be up-dated only by majority vote of knowledgeable Building officials, after open debate in which the views of affected industry have been fully heard . . . as in the case with the conference-sponsored model codes? Or, might technically-proven innovations be blocked by federal employees in response to political intervention? Our recent experience in the fight to establish meaningful lumber standards gives no cause for optimism on this score. On the contrary, when the orderly and rapid evolution of the model codes, stimulated by the healthy competition that is inherent in their regional nature, is contrasted with the prospects of a federally administered code, the cost is simply too great for the small increase in uniformity that is theoretically possible.

This then, is a brief sketch of the code picture at the present time. Much has been left unsaid. We have not stressed the essentially local or regional nature of Building Codes, which the States have recognized in delegating to communities the police powers under which such codes are adopted and enforced. We have been able only to suggest the unique ability of regional model code conferences, both to strengthen and to draw strength from the local level of code experience. Nor has time permitted us to enlarge on the regular training programs for Building Officials which the model code conferences conduct in cooperation with participating industry. All of these things have an important bearing on the question of "Where do we go from here?"

You can play an important part in determining what the future impact of building codes will be on the development of your community as well as their impact on your industry.

For forty years, the National Forest Products Association (the new name for National Lumber Manufacturers Association) has been active in the field of Building Codes. A branch of our Technical Services Division, the NFPA Building Code Department assisted by the Engineering and Technology section, regularly supplies basic technical data and assistance to Building Officials throughout the 50 States. At their invitation, we regularly consult with the model code organizations, supplying suggested code amendments to improve and up-date the codes.

Our effectiveness, in turn, is multiplied by those lumbermen who act as "eyes and ears" for the industry. These men, concerned both as citizens and as businessmen, inform themselves as to the conditions existing in their own communities. Whether a recent edition model code has been adopted . . .

whether enforcement is lax, balance or harsh . . . when a new code adoption is imminent. This is the kind of information, together with particular code problems, which, relayed to NFPA, enable us to focus our efforts for maximum effect. And what is the maximum effect that we seek? Not partisan advantage for our material, with the inevitable rebound, but better communication between industry and the Building Official. This is the essential ingredient . . . providing the factual information that leads to balanced judgment. The result can only be better codes, more effectively administered, with equitable treatment of all building materials.

The quest for better codes then, is not only a laudable goal for the nation and a major concern of the building industry and its suppliers. It is a very stimulating and satisfying exercise in citizenship. We invite your participation and assistance.