It was ironic.

At the recent AWCI regional meetings, representatives from the Gypsum Association had addressed the dangers of altering building codes to allow trade-offs of fire resistive construction to help finance the installation of sprinkler systems.

The site of one of these seminars was Dallas, Texas.

The next building fire to hit the headlines was in Dallas just a few days later. A key factor in the fire was a sprinkler system that was shut down for repairs.

You probably remember it. It took place during the Republican National Convention and involved suspected arson at the old Texas Schoolbook Depository.

Fortunately, no one was seriously hurt, although the fire caused an estimated $250,000 in property damage.

It does serve, however, to highlight the accuracy of the position taken by the Gypsum Association and its member companies on the issue of trade-offs. For almost fifteen years the Association has strongly advocated the concept of “balanced protection” whereby the containment offered by fire resistive construction is combined with the suppression provided by sprinklers as two of the key elements needed for an effective fire protection plan. Other elements are: early detection and warning, control systems, a rehearsed evacuation plan, and fire services.

It has developed that the chief stumbling block in effectively implementing this “balanced protection” concept is the high cost involved in the
“...Strongly advocated the concept of ‘balanced protection’ whereby the containment offered by fire resistive construction is combined with the suppression provided by sprinklers as two of the key elements needed for an effective fire protection plan.”

installation of an automatic sprinkler system.

An unfortunate outcome of this situation is that the marketers of sprinklers and their spokesmen are recommending that their installation be underwritten, at least in part, by cutting back on fire resistive construction. In other words they are suggesting trading off one element of balanced protection; containment, in order to help pay for a second: suppression.

The alarming thing is that there are a number of those in a position to provide input into building codes who are being persuaded that cutting back on fire resistive construction is a viable option—in fact a good and positive thing.

Dallas is a case in point, a major, growing city that has rewritten its building code to allow trade-offs of fire resistive construction to underwrite the use of sprinklers.

Not only could such trade-offs cost human lives and greater property loss, they could well mean a significant loss of business volume for wall and ceiling contractors through reduction, and even elimination, of fire ratings.

Therefore, it is in the enlightened self-interest of each wall and ceiling contractor to keep abreast of developments within the code jurisdiction in his area, and to assure that all those individuals having input into those codes are aware of the very real dangers inherent in these trade-offs.

No one opposing these trade-offs is opposing the use of sprinklers; as previously stated, sprinklers are an important and valid part of a “balanced” fire protection plan. The trouble comes when proprietary partisans attempt to sell sprinklers as the panacea for fire protection and recommend elimination of other fire protection elements to help pay for them. For, as valuable as sprinklers can be, the plain fact of the matter is, they don’t always work. And when they don’t, you have the potential for disasters.

In a recent letter to the Engineering News Record commenting on the Dallas trade-offs J.F. Speak, of the Georgia Multi-Family Construction Advisory Committee, stated: “The Dallas city council should be commended for taking a major step for fire safety by requiring sprinklers in new buildings. However, I disagree with their trade-off concept of reducing the required fire ratings to ‘help the cost,’ especially in multi-family residential buildings.

“Sprinkler failures, for whatever reason, can have catastrophic consequences in an apartment with partitions having half-hour ratings. The worst water system failures in Georgia have occurred in a county that recently adopted a sprinkler trade-off ordinance.

“In the event of a sprinkler failure, the reduction of fire ratings in apartment separations increases the risk of a fire spreading and the possibility of injury or death to residents and fire fighters. We should require sprinklers but not allow trade-offs that could endanger lives.”

This letter sums the situation up very concisely, applauding the use of sprinklers, but condemning the price that was paid.

There are other cities, towns, municipalities and other code jurisdictions around the country contemplating paying this same price; they should be made aware of the extremely serious chances they are taking.

The point is that sprinklers do not always work. There can be a number of reasons why not, two of which we have already touched on:

• They could be shut down for repair; (also, it is not unknown for workmen to forget to turn sprinklers back on after repairs have been completed).
• The water supply could fail.
• The fire could be in the ceiling above the sprinklers heads.
• Arsonists could shut off the system before starting a fire.
• The system could be disabled by
earthquake, explosion or vandals.
• The system could suffer mechanical failure due to closed valves, pipe obstruction, etc.

There is some question concerning the success rate of sprinkler performance; but even if you accept the figure in the high ninety percent range claimed by the sprinkler industry, that figure would become irrelevant with the proposed new trade-offs, since it was achieved, in large part, in combination with fire resistant construction, which could now be traded-off.

To claim, as some sprinkler advocates do, that there is one quick solution to high rise fires, is irresponsible. It is not true. What is needed is a plan that approaches the problem from all danger points. All six elements of a balanced protection plan are needed: detection, containment, suppression, control systems, evacuation and fire services. To weaken or eliminate one element to pay for another is foolish. It is more than foolish, it is dangerous. The Dallas Schoolbook Depository mentioned at the head of this story illustrates the point quite effectively that installing sprinklers does not automatically provide fire protection. For whatever reason, sprinklers do not always provide fire protection.

It is also significant that arson is one of the largest and fastest growing crimes in the country and an arsonist will soon learn the methods of disabling a sprinkler system, beginning with the simple expedient of simply shutting it off.

The arguments against trading-off fire resistant construction are strong and valid. It is up to those who provide fire resistant construction, drywall contractors in particular, to make sure that the arguments are heard by those who might be considering such trade-offs.