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# Twin Towers Engineered To Withstand Jet Collision

By Eric Nalder

Engineers had to consider every peril they could imagine when they designed the World Trade Center three decades ago because, at the time, the twin towers were of unprecedented size for structures made of steel and glass.

"We looked at every possible thing we could think of that could happen to the buildings, even to the extent of an airplane hitting the side," said John Skilling, head structural engineer. "However, back in those days people didn't think about terrorists very much."

Skilling, based in Seattle, is among the world's top structural engineers. He is responsible for much of Seattle's downtown skyline and for several of the world's tallest structures, including the Trade Center.

Concerned because of a case where an airplane hit the Empire State Building, Skilling's people did an analysis that showed the towers would withstand the impact of a Boeing 707.

"Our analysis indicated the biggest problem would be the fact that all the fuel (from the airplane) would dump into the building. There would be a horrendous fire. A lot of people would be killed," he said. "The building structure would still be there."

Skilling - a recognized expert in tall buildings - doesn't think a single 200-pound car bomb would topple or do major structural damage to a Trade Center tower. The supporting columns are closely spaced and even if several were disabled, the others would carry the load.

"However," he added, "I'm not saying that properly applied explosives - shaped explosives - of that magnitude could not do a tremendous amount of damage."

He took note of the fact that smoke and fire spread throughout the building yesterday. He said that is possibly because the pressurizing system that stops the spread of smoke didn't work when the electric power went off. Skilling, 72, was not involved in the design of the building mechanics.

Although Skilling is not an explosives expert, he says there are people who do know enough about building demolition to bring a structure like the Trade Center down.

"I would imagine that if you took the top expert in that type of work and gave him the assignment of bringing these buildings down with explosives, I would bet that he could do it."

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