

AREN 3003
PRINCIPLES OF HVAC DESIGN FOR BUILDINGS
WRITING ASSIGNMENT

ENGINEERING ETHICS
AN ANALYSIS OF TWO CASES - SIMILAR OR DIFFERENT?

Read "The Fifty-Nine Story Crisis" by Joe Morgenstern published in *The New Yorker*, May 29, 1995, pp 45-53.

Then read the case of *Duncan v. Missouri Board For Architects, Professional Engineers, and Land Surveyors*, 744 S.W. 2d 544 (1988). Available at <http://www2.newpaltz.edu/~zuckerpr/cases/duncan.htm>.

The engineer for the Citicorp tower is considered a model of ethical behavior. The engineer for the Kansas City Hyatt walkway is considered a model of unethical behavior. Prepare a report that begins with a brief statement of the facts of the two cases and then analyzes them. Form your own conclusion on whether the two cases are essentially the same or radically different. Support your conclusion with analysis using information from your reading.

Some ideas and questions to consider:

- Did either design have a fundamental flaw? A fundamental flaw means the design was doomed to failure in the ordinary course of use. A non-fundamental flaw means failure occurs only if a certain set of circumstances occurs. Does it make a difference whether the design flaw is fundamental vs. non-fundamental flaw?
- Does it make a difference that the Kansas City Hyatt design did actually fail but the Citicorp Tower design was repaired before a failure could occur?
- What is the role of delegation and shop drawing review? In both cases, the real problem occurred at the shop drawing stage. In the Citicorp Tower, the steel fabricator asked for permission to substitute bolted connections for welded connections, presumably to make the project easier to build. In the Kansas City Hyatt case, the steel fabricator modified the design to make it easier to build. In both cases, the engineer (or his designee) approved the contractor's modification.
- Does it make a difference that the Kansas City Hyatt design was not practical to build so the steel fabricator would have had to modify it in any event?
- Does it make a difference that the Citicorp design was innovative? How far should we go/how much risk should we accept to avoid stifling innovation?

Students should consult at least one other source, such as an article from a published magazine, as well as The Rules of Professional Responsibility for Massachusetts Engineers (250 CMR 4.00, available at <http://www.mass.gov/ocabr/licensee/dpl-boards/en/regulations/rules-and-regs/250-cmr-400.html>, for opinions and guidance on

how to analyze this situation. It is OK to apply ideas or reasoning presented in one article to the other, as long as the reasoning fits with the facts. Be sure to document and attribute sources properly. Use the American Psychological Association (APA) style for citation. See the Architectural Engineering LibGuide for more information.

Hint: This assignment might be easier to complete by thinking through the questions listed above and letting the analysis lead to a logical conclusion rather than starting with a conclusion and searching for facts and reasoning to support it.

The purpose of this assignment is to learn to use research tools and sources and then to demonstrate analytical thinking and reasoning. There is no right or wrong answer. Logic and consistency count. So do spelling and grammar.

Submit reports in hard copy of 8½ x 11 paper with top and bottom margins of 1", left and right margins of 1.2", 11 point type with 1.5 line spacing. Target length is 1500 to 2500 words, which is usually enough to tell the story but short enough to read comfortably in a single sitting.