

Hiro McNulty – Structural Option
Faculty Advisor – Walt Schneider
Hyatt Regency – Hotel and Conference Center
Pittsburgh International Airport, PA
December 9, 2005
Thesis Proposal



EXECUTIVE SUMMARY

- Breadth Proposal -

The Hyatt Regency – Hotel and Conference Center at the Pittsburgh International Airport, PA, is a 275,000 square foot multi-use building located directly adjacent to the airport's landside terminal. The building consists of an 11-story concrete tower and 1-story steel conference center with an additional partial level below grade.

With the main structural proposal's change to the structural system of the tower from concrete moment frames to steel braced or moment frames, there are other considerations that need to be taken into account to determine the feasibility of the changes. The cost impact is a major consideration because even a good alternative would not be a good consideration if the cost impact is too great. In addition, the changes to the structural system may impact the mechanical system layout and will also require additional fireproofing measures that need to be taken into account.

Construction Management:

A cost estimate will be performed to determine the cost impact on the project with the proposed re-design. This investigation will look at the changes in member sizes for steel framing as well as the impact on the foundations. The cost will be compared to the original building cost to determine if the change in the structural systems will be justified. This analysis will be completed after the structural re-design has been completed.

Mechanical:

Mechanical concerns will also need to be addressed when changing the structural system. Research will be done to determine if the new system impacts the mechanical systems in the building due to structural changes. In addition, the new system will require additional fire protection, most likely in the form of spray-on fireproofing to the steel members. Changes to mechanical systems as well as necessary changes for fireproofing will be determined and used in the comparison between structural systems.