Hiro McNulty – Structural Option
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Hyatt Regency – Hotel and Conference Center
Pittsburgh International Airport, PA
October 5, 2005
Technical Assignment 1

EXECUTIVE SUMMARY

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 tower and 1-story conference center with an additional partial level below grade.

The structural systems of the low-rise conference center implements steel framing on spread footings and grade beams. The high-rise tower implements a cast-in-place moment resisting frame system with one-way slabs on piles/pile-caps as its primary structural system.

The original design used the BOCA 1996 building code for its design loads. As newer codes are now being used, the design loads that were examined have been updated to conform to the IBC 2003. Wind loadings have been determined from ASCE 7-02 and make fewer approximations than the original design. The original design did not incorporate seismic loading, so load values have been determined using the ASCE 7-02 Equivalent Lateral Force System.

Spot checks were performed on an interior column for gravity loading at the base of the high-rise tower and on a long-span joists that spans over the large ballroom in the conference center. The checks both used average tributary areas for members. The checks showed that the members had the appropriate strength to support the loadings as analyzed. However, some load assumptions may have been different than those of the original engineers.