



Jessica R. Baker  
The Montgomery County  
Conference Center and Hotel  
(MCCCH), Rockville, MD

# 1.0 Executive Summary

## 1.0 **Executive Summary:**

The Montgomery County Conference Center and Hotel (MCCCH) in Rockville, Maryland is the third largest conference center and hotel in the Baltimore/Washington D.C. metropolitan area. The building's hotel is privately owned by Marriot International and its conference center portion is publicly owned by Montgomery County of Maryland.

The original building mechanical system was designed with every intention of adequacy, energy efficiency, and reasonable operating costs. However, this initial design was changed right before MCCCH's construction in an effort to reduce the building mechanical system's first cost. The main mechanical modification involved replacing the building's electric driven, vapor-compression central chilling plant with a natural gas driven, absorption cooling and heating plant. The building was then constructed incorporating the modified mechanical design. Whether or not a building energy analysis of this change was ever performed remains unknown.

Therefore, the purpose of this thesis project was to analyze this change and decide upon what would be an optimum chilling plant for MCCCH. In the end, an electric driven, vapor-compression type of central chilling plant turned out to be the optimum for this particular building application. An annual savings of over \$35,000 in operating costs was realized simply by converting the building's chiller plant back to its originally intended vapor-compression plant.

A design for a central chilling plant with ice storage capabilities was also compared throughout this overall analysis. Additionally, building electrical system changes were calculated along with two small studies of the building's lighting system and construction management.



*Architectural renderings compliments of RTKL Associates*