

1.0 Breadth Areas:

The proposed changes in the redesign of the Montgomery County Conference Center and Hotel's mechanical system will directly effect several of the building's other systems. These impacts made upon the other systems can not be ignored as they will highly influence the building's overall operation. However, this concept works in reverse as well. Intentional changes and implementations to the other building systems can be made in an effort to increase the mechanical system redesign's level of success. Several breadth areas that will be included in this proposal for redesign involve the building's electrical system, lighting system, structural system, and construction management process.

MCCCH's original electrical design will have to be changed. The electrical loads generated by the building's mechanical equipment will be different. This will result in the need for feeder, panel board, and over current protection resizing. The new electrical equipment will alter the building's first cost and utility bills, ultimately helping with the economics of the mechanical system redesign.

Another area that will be looked into entails the building's lighting system. Most of MCCCH's custom lighting fixtures involve the use of incandescent bulbs. It is known that incandescent bulbs tend to use more energy, produce more heat, and fail more often than something like fluorescent bulbs. Therefore, throughout the building's redesign, replacing these bulbs will be researched. If anything, the building's cooling load on the chiller plant may be slightly reduced and all energy savings could further justify the mechanical system's redesign.

The building's structural system will also be studied at locations where new mechanical equipment might need to be placed. It is not guaranteed that this will be necessary. However, all new loads and structural framing members/concrete slabs will be studied if required. Any changes made to enhance the building's structural system will increase the building first cost but, should be offset by the mechanical system redesign.

Finally, MCCCH's construction management process will be studied for the hotel portion of the building. A short interval production schedule (SIPS) will be created for the hotel guestroom floors' construction. This analysis/redesign has no immediate affect on the mechanical system's redesign but, any cost savings encountered can be put toward the new mechanical system.

(If the need for an acoustical analysis arises at any point throughout the redesign, it will also be conducted. For now, though, all areas in which redesign/equipment replacement is taking place are very well isolated from the rest of the building.)