

Walter Nichols
Hawthorn Building
Altoona, PA



Electrical Depth

Introduction

The electrical depth of my report focuses on the checking the sizing of the new lighting system, making sure the panel boards can safely handle the new loading, sizing the panel boards, and doing the same for the emergency electrical system. This depth study is different than what was originally purposed. After speaking with my contact at Penn State Altoona as well as Dr. Mistrick, I felt that this depth study was more appropriate than the one originally purposed.

Problem Statement

The major challenge of the electrical redesign was to go back after the lighting redesign was done and make sure that everything works out to be electrically ok. After that was done, I would have to check the emergency system to make sure that it was sized ok as well.

Design Criteria

Design criteria were taken from various charts in the NEC 2002 codebook. The criteria include: wire sizing, circuit breaker sizing, conduit sizing, etc, panel board sizing, etc. Panel boards that were resized include: HV1, HV2, HV5, dimming panel SD, and emergency panel NEH.