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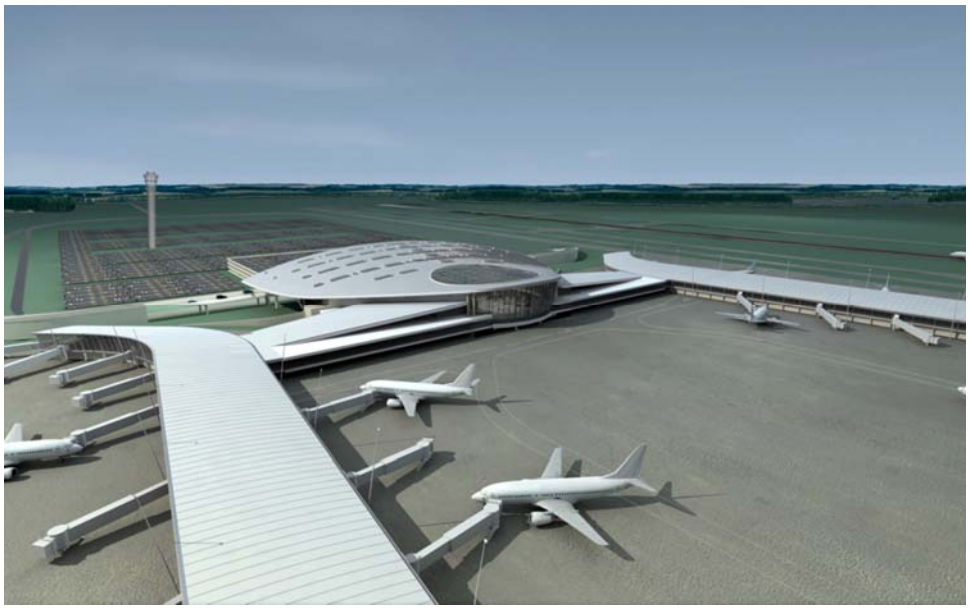
Advisor: Dr. Moeck
Technical 2 Assignment



Executive Summary:

This report analyzes the existing electrical distribution system of the new Indianapolis International Airport- the new Concourse B and compares NEC calculated full building loads to the actual consumption of the building. The information in this section includes design objectives and criteria, which meet the intent of specified codes, standards, regulatory requirements and the present and future operational electrical requirements of the Indianapolis International Airport. The layout of the electrical and lighting systems was all studied to see how they relate to the power distribution. A narrative or a summary of different area studied includes the emergency power systems, transformers, wiring and bus types, distribution voltages, equipment locations, voltage drops, short circuit current, power factor, total harmonic design consideration, transient voltage surge suppression design, energy conservation consideration, tenant area design and aircraft service with fixed group power units. The Concourse runs on a primary and secondary selective system. The electric utility load data was acquired from the Indianapolis Power and Light Company to determine how the Concourse will be charged in consuming power in the future. Certain areas of the Concourse such as the Uninterruptible Power System (UPS) as well as the exact number of mechanical equipments are not to be disclosed due to security limitation. Assumptions as well as approximate figures are given by Syska Hennessey for the purpose of this assignment. The beneficial comparison cannot be made due to the fact that the load calculation includes only one Concourse, which is part of an entire structure consist of the Main Terminal as well as another nearly identical Concourse.