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Executive Summary

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The purpose of this technical assignment is to give an introduction, overview and analysis of the existing electrical systems which service the RIT Gordon Fieldhouse. These systems are, in brief, the power distribution systems, the lighting systems, and the communications systems.

The report consists of brief narratives discussing the general and emergency power systems, overcurrent and protective devices, and the locations of the major components of the Electrical system. Also included is a summary of the lighting systems and compliance with ASHRAE and IESNA codes and standards, as well as design considerations which affected the final existing electrical design.

Additionally, Autocad documents and Excel spreadsheets have been attached to the narrative portion of this document to support and correlate to the stated information. These spreadsheets cover the building loads as well as check the size of the main switchgear and feeders leaving said equipment. Schedules of the electrical equipment, feeders, transformers, lamps and ballasts are also included in this report. A single line diagram has been created to display the distribution as well.

Furthermore, an overview of the available utility information is analyzed in another spreadsheet set. The data was provided in 15 minute intervals of the campus-fed service to the main transformer banks and was analyzed by creating graphs of the monthly real energy use of both the 208/120v and the 480/277v systems. Also an analysis was provided of the average current draw for both these systems as well.

Lastly, a narrative describing the key points of the telecommunications systems housed in the building is also attached. The telecommunications systems are comprised of a TV/Broadband video system, data service, telephone and fax capabilities, public address and annunciation equipment, fire alarm systems, and finally, security systems.