

**KATE FEATO
LIGHTING/ELECTRICAL OPTION
WOOLLY MAMMOTH THEATRE
WASHINGTON, DC**



EXECUTIVE SUMMARY

This report is an analysis of the existing electrical system in the Woolly Mammoth Theatre. The report will explain a general overview of the power distribution system and communication systems in the building. Included is a narrative that incorporates, but is not limited to descriptions of transformers, various voltage systems, emergency power systems, overcurrent protection devices, typical lighting systems and important design requirements.

In addition to the narrative described above, a summary of the total building electrical loads and a check of the size of the main distribution equipment are provided. This was found using the National Electric Code (2005); along with the panel boards, schedules and drawings for the theatre. The mechanical, lighting, receptacle and elevator loads were found and documented. Then the main distribution transformers, feeders and circuit breakers were sized to check the existing conditions.

Also included in this report is the existing utility rate structure and previous year electric load usage from the Potomac Electric Power Company, the current power supplier to the building. This rate structure is broken down into distribution services, generation services and transmission services. From that breakdown, it is further separated to on-peak energy, int-peak energy and off-peak energy. Other charges documented in the rate structure are maximum demand, customer charge, public space occupancy surcharge, reliability energy trust fund and procurement cost adjustment. The electric utility load data usage for the previous year was documented and compared to the service entrance load available.

Lastly, a general overview of the communication systems is included. The standard communication systems the theatre, as in most buildings, are the fire alarm system and telephone/data system. A specific communication system to the theatre is the audio visual system.