

Critical Supply - Sault Area Hospital



Background

This system consists of dual 27.6kV utility supply, main 4.16kV distribution, and numerous unit substations with essential and non-essential circuits (requiring two 4.16kV emergency generators for full load capacity). Loss of either 27.6kV utility supply results in limited capacity relative to facility total loading. Utility supply status, each 4.16kV generator, and low voltage protection and metering are integrated for EPLU loads management to ensure building essential supply. Reliable system operation is necessary for patient care, and this system ensures just that.

Approach and Methodology

The EPLU with central PC is in the emergency generator switchgear room and is UPS supplied. Schneider power monitor software integrates EPLU, switchgear protections and metering. As well, distributed fiber communications are designed for central and switchgear interface panels that are UPS supplied. Building non-essential circuits are tripped for loss of dual 27.6kV utility supply or total normal power failure prior to transfer to emergency generator(s) supply to ensure no overloading. Pending current loading, single utility supply or emergency generators, non-essential loads are added or subtracted based on designated priorities.

Key Challenges

A key challenge we encountered was the application of non-essential load based on available source supply. Additional challenges included emergency generators synchronizing load application and EPLU to reliably not overload the available supply, ensuring critical loads.

Ongoing Support

ESAC offers ongoing technical support and service with operations staff assistance accessing loading and power quality reports.