CASE STUDY

Major Metropolitan Transit System Uses Vitrek Power Analyzer to Monitor High-Power DC Feeders

Overview

The Southeastern Pennsylvania Transportation Authority (SEPTA) operates the transit system throughout the city of Philadelphia, extending into the surrounding counties in Pennsylvania and across the Delaware River into New Jersey.

A major component of this system is the network of subways and commuter trains. Power for the operation of these trains is provided by an array of substations distributed throughout the region. One such substation identified as 20-Sansom is located proximate to the busy Jefferson Station on East Market Street in downtown Philadelphia (Figure 1.)

Measurement of the current is performed utilizing a low-resistance direct shunt producing a 0-50 mV signal proportional to 0-4000 A (Figure 3a) that is then displayed on the front panel (Figure 3b.)

The substation electrical personnel needed a reliable, portable instrument to accurately measure and record the current on each feeder over a selected time period in order to evaluate load profiles, particularly during peak operating periods.

Challenges

Personnel needed a reliable, portable instrument to accurately measure and record the current on each feeder over a selected time period.

Vitrek Power Analyzers allowed SEPTA to evaluate load profiles during peak operating periods.
Vitrek has continued to further enhance the performance of its power analyzer family. The new PA920 Series Ultra-High Accuracy Power Analyzer (packaged in the same portable design as the XT2640 in this case study) sets the new standard for accuracy (0.024% of reading) in the graphical power analyzers market. It integrates an ultra-high accuracy, wide bandwidth waveform digitizer with advanced computational capability, a large high-resolution display and a full color touchscreen user interface. The multi-channel PA920 offers unprecedented 0.024% power measurement accuracy for all channels (1-4 channel cards available per unit), innovative VPA architecture, 100 full precision readings per second and measurement bandwidth sufficient to handle 5 MHz signals - all at a cost far lower than less capable, competitive models.

Vitrek Test Equipment
The Right Tool for the Job

Vitrek has provided innovative global solutions for high voltage test and measurement since 1990. All Vitrek products are designed and manufactured in the USA. Our products are used worldwide to provide testing solutions for industries including calibration, R & D and testing labs, photovoltaic, lighting, appliance, machinery, medical equipment, power conversion, electrical component, metrology automotive, military/aerospace and energy industries.

For complete information on Vitrek's products, or to request a FREE product demonstration, visit www.Vitrek.com or call (858) 689-2755.