

CASE STUDY

Horizon Blue Cross Blue Shield

Newark, NJ

+ Company

Horizon Blue Cross Blue Shield of New Jersey is the State's Oldest and Largest Health Insurer, formed in 1932. Horizon BCBSNJ was one of the first health insurance companies in the nation and also one of the first Blue Cross plans. Today, Horizon BCBSNJ serves more than 3.6 million members. In 2010, the company processed more than 57.6 million claims totaling more than \$13 billion for its members. The company has more than 4,800 employees and is headquartered in Newark with offices in Harrison, Wall Township, Mt. Laurel, and West Trenton.

+ Challenge

The 16-story corporate headquarters building, vintage mid-1970's, was constructed like most high rises in the last century - two risers per floor, with two low-voltage distribution transformers per floor. With a greater dependence on information technology as well as integration of controls, an ever-expanding data processing center and call center, the decision was made to retro-fit this 24-7 corporate facility so that the connected loads were 100% compatible with the low voltage distribution system. After numerous coordinated discussions with the client managed by Stillwell-Hansen, the local PQI Rep, it was agreed that PQI would get the opportunity to confirm their suspicions that an opportunity for power system optimization existed. After extensive building surveys, it was confirmed that the average transformer loading was less than 12% of its full load rating and the average efficiency of the existing transformers was 92%.



+ Solution

To reduce nonlinear load-generated 'penalty losses' in the distribution system, increase system and load energy efficiencies, improve system power factor, and reduce voltage distortion at the 480-volt loads, PQI designed a harmonic mitigation plan that caused the cancellation of the 5th, 7th, 17th, 19th, ---harmonic currents at the transformers' common 480-volt busses. The PQI Power System Optimization Plan was implemented resulting with a new low voltage distribution system that comprised 45 kVA harmonic mitigating transformers, downsized from the 112.5 sizes, in a 24-pulse configuration.

+ Impact

Under the connected loads in the new configuration, the new transformers' average loading increased to 23%. Based on the cost of power, the annual financial impact caused by the reduction of power exceeded \$64,000 annually. PQI also met with New Jersey SmartStart Buildings to defend the proposal, calculations and system solution design for an energy efficiency rebate. After extensive review and scrutiny by the NJ State Utility, the utility issued a rebate for approximately \$49,000 - nearly 25% of the entire project cost. The NJ State Utility has subsequently adopted the PQI Calculator as the tool for validation of the PQI System Solution.

CASE STUDY • HORIZON BLUE CROSS BLUE SHIELD • NEWARK, NJ

POWER QUALITY INTERNATIONAL is the industry leader in the development, design and manufacturing of harmonic mitigating and energy-efficient transformer technologies. With a passion for solving problems and helping customers achieve power quality and energy efficiency, PQI delivers cost-effective solutions that ensure power quality and energy efficiency for the life of their customers facilities.

