

CASE STUDY

U.S. Capitol Building

Washington, D.C.

+ Company

The U.S. Capitol Building, Washington, D.C. is one of the most famous buildings in the world. In 2000, the Architects of the Capitol Building, Washington, D.C., a federal government agency, contacted PQI regarding the replacement of all distribution transformers. Their motivation for doing so was based on the age of the existing transformers, the suitability of conventional transformers as a power source for nonlinear electronic loads, and an initiative to reduce electrical distribution system losses and improve energy efficiency.

+ Challenge

When ordering PQI's ultra-efficient transformers, the Architects of the Capitol specified additional shielded transformers. Following their installation, PQI learned that the electrical distribution systems were equipped with a 'power line carrier' systems. These systems inject a high frequency signal into the distribution systems that set off alarms when the Senators or Representatives are called to chambers for a vote. As might be expected, the new shielded transformers blocked the 'power line carrier' frequency, which rendered the alarm systems inoperable. Realizing their mistake in ordering shielded transformers, the Architects of the Capitol called to reorder all of the affected transformers.

+ Solution

As an alternative to reordering new PQI transformers, PQI was able to design a 'shield grounding network' that would allow the power line carrier frequency to pass through the transformers while allowing the shield to function as originally intended.



+ Impact

PQI's system-engineered solution that integrated PQI ultra-efficient transformers into the U.S. Capitol Building's electrical distribution system restored functionality to the voting system enabling all Senators and Representatives to vote without any system interference due to poor power quality.

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.

