

Subject: Hospital Automatic Transfer with Electronic Voltage Sensing

Customer Category: Large western US hospital

G&W Products: 27kV padmount, solid dielectric automatic transfer switchgear with integral voltage sensing and ATC 101 control.

Issue: In response to a number of unexplainable service interruptions, the hospital underwent an upgrade of their distribution system equipment. The project included replacement of their old automatic transfer switchgear. Due to a history of problems with numerous different manufacturers of oil filled equipment, the facility manager decided to investigate alternatives to oil. Another requirement was that any new cable fit through existing conduits leading from the overhead system to the switch yard outside the hospital and into the hospital building. Lastly, any new equipment had to be SCADA capable for monitoring through an existing RTU mounted on a nearby overhead pole.

Solution: Working with the local utility company, the decision was made to install a new automatic transfer switch utilizing the latest solid dielectric technology. This decision was based upon the results of an indepth study conducted by another nearby utility company which was consulted for their input. The solid dielectric switch offered a compact solution and eliminated the hospital's concerns with oil gear.

The switch incorporated one switched way for each of the two incoming sources and an unswitched way for the load. The enclosure provided ample space for all cable training permitting the use of existing conduits.

The automatic transfer control met all the transfer requirements while providing a simple to use interface panel incorporating pushbuttons and selector switches. The switches were operated using magnetic actuators, similar to those used in automatic reclosers, permitting a fast transfer speed within 20 cycles. The transfer process is triggered when a loss of voltage is detected by an exclusive voltage sensing electronics package integrated within the switch housing. The voltage sensors and ATC control are powered through two solid dielectric PTs, connected to each source way using "H" connectors to the outer phase. A voltage seeking relay ensured that a good source of control power was always available for the control. This configuration maintains the dead-front construction of the switch and eliminates the need for any batteries for backup power. The old ATC switch required a much larger cabinet and six PTs, one for each phase, to accomplish the same function.

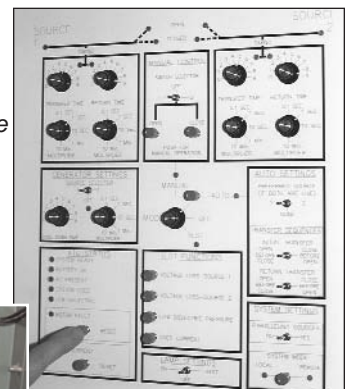
Results: G&W worked together with utility and hospital personnel to assure proper installation and operation of the equipment. The utility performed rigorous testing of the switch with very positive results. The system is now energized and operational.

For more information: Contact your G&W representative or visit www.gwelec.com. G&W offers a variety of automatic transfer switches with transfer times from 8 cycles through 8 seconds.



Photo left: Shows two switched source ways and one load side way (far left). Solid dielectric PTs are in the lower left and right corners.

Photo right: Face panel of the automatic transfer control.



Insert left: Shows the outer phase PT connection using a dead-front "H" connector on the switch.