The OMNI Transmitter

JANUARY 2013 NEWSLETTER

- INSTRUMENTATION
- ELECTRICAL SERVICES
- CONTROLS

INSTRUMENTATION ENGINEERS AND CONTRACTORS

Inside This Issue:

Emergency Systems By Mike Kornas

When Hurricane Sandy struck the Eastern U.S. on October 29, 2012, countless facilities that were unprepared paid a very heavy price. Many who believed they had the proper safeguards and backup systems in place found themselves ill-equipped to handle the extent of storm and flood damage and the difficulties created by extended loss of power. Expensive lessons were learned the hard way.

When emergency generators and other backup systems are absent or in peril of failure, power loss can wreak havoc on a facility and cause costly downtime. Though many facilities had generators in place, many failed due to lack of testing and preventive maintenance, as did many uninterruptible power systems (UPS). Many were improperly located, which was illustrated when patients at several New York City hospitals had to be evacuated when backup generators were destroyed in storm surge-flooded basements.

Preventive maintenance and testing of emergency standby generators and controls is crucial and cannot be overlooked. Develop an SOP to test systems at regular intervals to ensure they are ready when needed. Ethernet and Modbus can be used to monitor almost all functions. Many modern generators self-test and report back anomalies. Always have working alarms that will alert you when backup systems fail. Test and maintain automatic transfer switches on a regular basis. Check UPS batteries and replace when needed.

Ensure that everything you need to operate has backup power in the event of an emergency. Don't overlook critical systems and equipment such as domestic water booster pumps, sump pits, critical freezers, backup lighting, etc. Make sure you have accessible fuel sources. Remember, one weak link in your system can cause widespread failure. Hurricane Sandy has taught all of us a valuable lesson: always be prepared!

OMNI INSTRUMENTATION SERVICES, INC.

Omni
112A Sylvania Place
South Plainfield, NJ 07080
PH - 908.412.7130
FX - 908.412.7131
www.omniinst.com

The OMNI Transmitter

JANUARY 2013 NEWSLETTER

- INSTRUMENTATION
- ELECTRICAL SERVICES
- CONTROLS

INSTRUMENTATION ENGINEERS AND CONTRACTORS

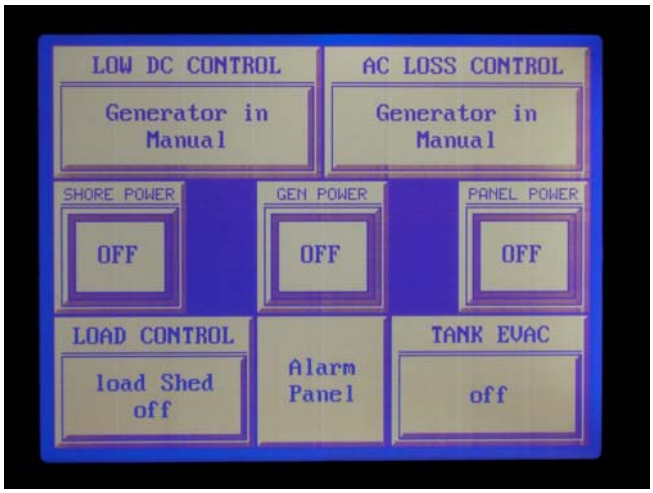
OMNI TECH TALK: Vendor Equipment and Skid Alarms

Process equipment such as DI, WFI, nitrogen, compressed air, vacuum, process HVAC, ATC, and many HVAC and environmental chambers, to name a few, require constant monitoring to avoid problems and failure. Oftentimes during the startup and commissioning phase at the end of a large project, it becomes apparent that alarms for critical equipment have been overlooked. The mad scramble that usually ensues proves to be problematic and costly.

There are two main types of vendor equipment alarms. Most alarm points are discrete (on/off) with dry contacts. Analog alarms measure variables such as temperature and can be programmed to alert at set parameters. Discrete alarms are the most common, and some equipment can employ both types.

Skids and vendor equipment usually have a combination of critical alarms programmed to a central alarm. A general alarm is triggered when an anomaly occurs, alerting personnel at the front end to dispatch a tech ASAP to the equipment to determine the problem. An LCD diagnostic code enables the tech to identify and resolve the issue. If alarms are not connected or properly tested, critical equipment can go down unnecessarily without warning, and the financial consequences can be great.

Alarms are cheap insurance and should never be a project afterthought. Select critical points of failure early on in a project and make sure they are alarmed, tested, and monitored 24/7.



TECH TIDBIT:

Planning Electrical Space

On new projects and renovations, real estate in electrical rooms is always very tight. With so many power panels, fire alarms, transformers, UPS systems, security systems, teledata, and CCTV, to name a few, it always pays to lay out the entire electrical room in detail before installation to provide enough room for maintenance and code compliance for the user. Always allow sufficient room for each system and future expansion.

The OMNI Safety Corner

Safety is our #1 priority. As part of our continual commitment to training, compliance, and improvement, we updated our safety manual for Spring 2012.

Omni has participated in numerous OSHA VPP projects, and we are ISNetworld approved.

Omni : 112A Sylvania Place South Plainfield, NJ 07080 : PH - 908.412.7130 : FX - 908.412.7131 : www.omniinst.com

The OMNI Transmitter

JANUARY 2013 NEWSLETTER

- INSTRUMENTATION
- ELECTRICAL SERVICES
- CONTROLS

INSTRUMENTATION ENGINEERS AND CONTRACTORS

FROM THE PANEL SHOP: Plug and Play By Craig Drabyk

Typically when large control panels are installed, hundreds and perhaps thousands of wires must be run, plugged and terminated on site. Now, more and more vendors are shipping process equipment with "plug-and-play" cables and wiring included.

When vendor control panels are constructed for various types of equipment such as lyophilizers, isolators, process air handlers, syringe fill machines, packaging equipment, etc., an FAT (factory acceptance test) must be performed and documented prior to shipment to verify that everything is working properly. Now, many vendors expedite the installation and checkout process by supplying the end user with the wiring and cables used at FAT, complete with plugs attached, which are carefully marked as to where they are to be plugged or terminated.

Precise field calculations are used to determine the amount and lengths of wire and cable needed, taking care to include bend radius measurements and entry into panels. Cables that come up short of connection pose big problems, and runs that are too long waste wire and necessitate additional cable tray to accommodate spooled wire. The wires, cables, and plugs are carefully assembled, used during the FAT, and shipped with the equipment, ready to be laid into cable tray and connected as marked.

There are clear benefits to plug-and-play equipment. With careful planning, significant time and money can be saved on field labor. Because all of the wiring is tested during the FAT, installation can begin soon after a brief SAT to confirm that no damage has occurred during shipment. Installations proceed smoothly and rapidly, and startup, loop check and commissioning occur sooner than installations where all wiring is done in the field.

For more information on plug-and-play process equipment, contact Omni at 908-412-7130.

Omni : 112A Sylvania Place South Plainfield, NJ 07080 : PH - 908.412.7130 : FX - 908.412.7131 : www.omniinst.com