

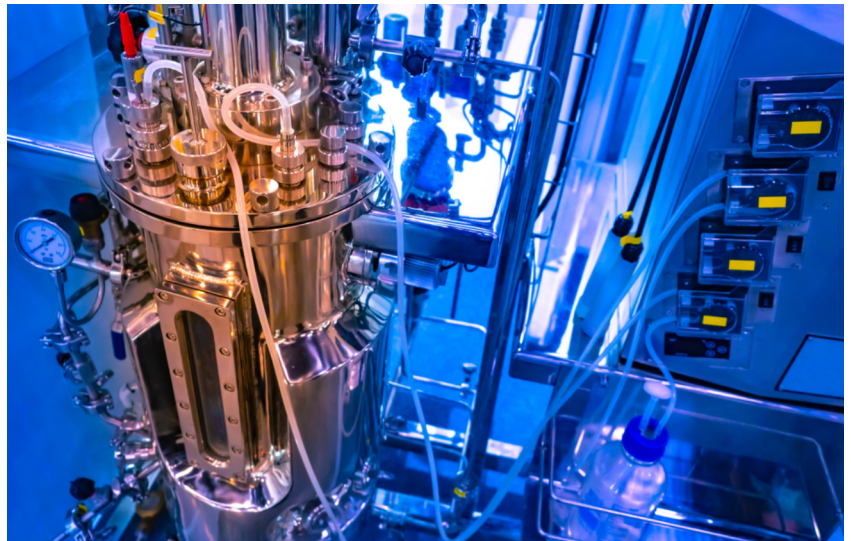
From FAT to SAT with Commissioning in Between



Pharmaceutical equipment typically has long lead times, spanning procurement, design, fabrication, factory acceptance testing, shipping, and delivery. This process can easily become a six-month to one-year endeavor. As a result, many projects look to install as much piping, electrical, and controls work as possible in anticipation of the new equipment's arrival, helping to minimize delays once the equipment is on site.

On a recent project, the process equipment consisted of 36 bioreactor skids, a central CIP system, RODI, clean steam, nitrogen, oxygen, process waste systems, and more. The challenge was that all of the project's schedule float was gone, leaving no room for error. The client needed a real plan to stay on schedule and meet their critical deadlines. Omni worked hand in hand with the vendor, client, and other trades to recapture as much time as possible and begin SAT on time.

Working diligently, we were able to provide power, check rotation, verify UPS functionality, and establish data communication to the network. This proactive approach allowed the vendors to electrically commission their equipment and perform loop checks and calibration with network testing by area. In a parallel effort, the utility skids and systems were completed, tested, and brought online systematically. Area by area, multiple teams were able to advance the commissioning process in a coordinated manner, which allowed SAT activities to commence with the various vendors on time and keep the project moving forward.



This project showcases Omni's expertise in handling complex industrial installations from start to finish. Our ability to coordinate multiple crews, develop innovative safety solutions, and deliver precision results on aggressive timelines makes us the trusted partner for your most challenging automation and control system projects. Contact Omni today to discuss how we can bring our proven experience to your next industrial installation.

Also In This Issue...

- Explore cutting-edge power line maintenance methods and equipment
- The lasting impact of PPE on electrical worker safety and empowerment
- Prevent contactor failures with proper identification techniques



Things You May Not Know About Power Lines and Their Maintenance



Helicopters and Highly Skilled Crews

Helicopters are one of the most valuable tools for maintaining high-voltage lines and towers. Using onboard cameras, thermal imaging, and UV sensors, they can identify potential problems such as overheating joints. They also transport highly trained workers to specific areas requiring maintenance or repair. During these operations, both the workers and helicopter often become part of the electrical voltage field they are servicing.

Tree Trimming with Aerial Saws

Everyone has seen electrical towers running through wooded areas, hills, and mountains. One specialized tool used by helicopters is the aerial saw, which trims trees and vegetation to prevent them from encroaching on high-voltage lines and towers. This approach saves crews thousands of hours traveling to hard-to-reach areas and provides a safe method to accomplish this critical task.



Cleaning Insulators to Prevent Failure and Flashover

Did you know that the larger the insulator, the higher the voltage it can handle? However, insulators accumulate dust, dirt, moisture, salt, and other contaminants over time. This buildup decreases their insulating properties, and contaminants can create conductive paths that result in electrical tracking or flashover, which can cause short circuits and equipment failures.

Electrical Transmission Line Ice Prevention

Ice accumulation on long-distance transmission lines can add tremendous weight. This ice can be prevented or melted by increasing current to generate sufficient heat. Other methods include voltage regulation, external power sources like DC de-icers, or short-circuit methods. Cables may also feature anti-icing jackets and specific shapes designed to prevent accumulation. Additionally, the designed sway in cables helps break away accumulated ice.



PPE: Building the Foundation of Modern Workplace Safety



The introduction of personal protective equipment (PPE) in the late 20th century transformed worker safety, particularly in hazardous industries like electrical work. At Omni, we understand how this shift brought measurable improvements across multiple areas and continues to shape safety standards today.

Reducing Injuries and Building Awareness

The use of PPE directly correlated with significant decreases in workplace injuries. Industries adopting equipment such as insulated gloves, hard hats, and safety glasses saw substantial reductions in electrical shocks, burns, and falls. Beyond physical protection, PPE fostered heightened awareness of workplace hazards. Workers became more conscious of risks, and training programs incorporated proper equipment usage as essential components of safety protocols.

Empowering Workers Through Protection

Wearing appropriate PPE instilled confidence and security among workers. Knowing they had proper protection allowed employees to perform challenging tasks more effectively, improving both safety and productivity. This empowerment created a positive shift in workplace culture.

Standardization and Innovation

New safety regulations mandated specific PPE use across industries, standardizing practices and creating safer work environments. Simultaneously, technological advancements produced more effective and comfortable equipment. Flame-resistant fabrics, high-visibility clothing, and ergonomic designs improved both protection and wearability, encouraging consistent use.

A Lasting Legacy

The introduction of PPE in the late 20th century created a foundation that continues to shape modern workplace safety culture. At Omni, we remain committed to upholding these standards, ensuring that by reducing injuries, heightening awareness, and empowering workers, PPE continues to protect today's workforce.

Why Contactors Fail: Identification and Prevention

A contactor is an electrically-controlled switch that connects or disconnects power to large lighting loads and motors. When current flows through the coil, a moving contact is attracted to a fixed contact. When de-energized, the contacts open and disconnect power. Properly sized contactors can last for years, but premature failures often have identifiable causes. Always examine the failed unit before replacing it.

Contactor overheating results in severe pitting or deformation of contact surfaces. This occurs when excessive current passes through, when the contactor doesn't close quickly enough, or when it opens too frequently. Coil overheating results from incorrect voltages, misaligned or contaminated contacts, or sustained high ambient temperatures. Chattering, humming, and buzzing are telltale symptoms of contactor problems. If you suspect a coil issue, use an ohmmeter to compare resistance with a nearby matching contactor and replace if significantly different.

