

Case Study



Laboratory Applications

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– Shafiqul Alam
Technical Support Manager
Veolia Environmental Services



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Falcon UPS Supports Veolia Environmental Services by Reducing Errors and Eliminating Costly Power Fluctuations

Veolia Environmental Services, L.L.C., formerly known as Onyx Environmental Services, provides environmental services and technical solutions including hazardous waste management, field services, and solvent reclamation for industrial customers. With more than 45 treatment and disposal facilities, Veolia offers customers convenient locations nationwide. Utilizing Veolia's services, customers are able to properly dispose of chemical waste – the byproduct of manufacturing electronics, computer recycling, blending fuel, and other toxic materials – in accordance with California's stringent environmental requirements. As part of this requirement, stringent tests are required in a controlled environment that has steady temperature and power. Several hours are needed in order to complete a testing run that yields the demanding results mandated by the Environmental Protection Agency (EPA).

The tests are conducted at Veolia Environmental Services by a number of Gas Chromatography/Mass Spectrometer (GC/MS) instruments. A GC/MS is a very sophisticated system that draws power for both a heating element and the microprocessor-based on-board computer. For a short period of time after a test begins, the GC oven draws a very high current for the heating element. This brief power consumption presents a problem if the power is not clean or the voltage is unstable. A typical test involves 100 samples, takes 14 hours to complete and is conducted overnight.

Prior to installing the Falcon SG Series™ 3kVA UPS units to power the spectrometer, Veolia would experience an unexpected shutdown even if the power fluctuated momentarily. This in turn would render a total loss of the test run and any scheduled runs thereafter. Since the spectrometer would assume that the power failed - even if there was a surge, spike or other brief power anomaly – the unit would go into stand-by mode, rendering the test run a complete loss. In order to combat this situation, Veolia installed a popular brand line-interactive uninterruptible power supply (UPS).

"According to the GC and GC/MS manufacturers, a UPS protecting this equipment has to be able to deliver power instantly and cannot have any switchover delays. After we installed the UPS, we noticed the problems didn't go away and realized that the UPS had a switch-over time of several milliseconds, which proved too long for the spectrometer to continue its test run," explained Shafiqul Alam, Technical Support Manager at Veolia. "After discussing the situation with the GC manufacturer, I realized that we needed

a true on-line UPS, one that didn't have this switch-over. I researched various vendors' UPS technical specifications and found out that Falcon Electric offers an extensive line of true on-line systems that could meet our needs. I contacted Falcon Electric and discussed my requirement with their engineers. After reviewing my requirement, they recommended the SG Series 3kVA UPS (SG3k-1T). They simply did not stop there – they offered me a unit for purchase with a trial period. I accepted the offer and evaluated it for my application. Using the supplied UPSilon 2000 software, I was able to monitor UPS activities, including load tests for various oven temperature ramps. It definitely met my requirement – I was very happy with the UPS's capability and its price. Since then, I have purchased seven more and decided to include Falcon SG Series UPS with all delicate equipment in future additions." Falcon offers true on-line, double conversion UPSs which means that there is no switch-over. These on-line units are similar to solid-state power generators which, by design, continuously provide a steady stream of 220 volts at 60 Hz.

Since installing Falcon's SG Series UPS with power monitoring software, Veolia has not lost one test because of power pollution or voltage fluctuations. "The monitoring software is especially useful since I have proof that a power anomaly occurred. Prior to installing the UPS, a power surge 'fried' an entire board because the power exceeded the limited tolerance of the spectrometer. Though the vendor was very responsive and made the needed repairs, the resulting downtime was a problem. Since the Falcon UPS has been on duty, we haven't experienced any burned out boards. While it is hard to say if this is solely the result of installing the UPS, I know that power anomalies have been the reason for the spectrometer shutting down. This is a tremendous benefit for our business. In addition, since I installed the power monitoring software I have noticed, on several occasions, that power problems occur during the night."

"Falcon Electric is one of the most customer-friendly vendors on my list. I had the opportunity to audit this location. I found that not only the receptionist and customer service are very caring, so is the entire team including engineering, administration and shipping/receiving. They value customers' needs. They have gained my confidence that they will provide excellent product support after purchase."