

June 21, 2013

RE: Applied Power Services
Letter of Recommendation

To Whom It May Concern:

Over the last three years, as a Sr. Project Manager for Truland Systems Corporation (Truland), I have overseen the majority of the electrical construction of a Government Data Center at Camp Williams in Lehi, UT. Truland, one of the 10 largest electrical contractors in the United States, partnered with the design-build team of Balfour Beatty, DPR and Big-D Construction to form BDB Design-Builders on this project. During the peak of construction, over 2,500 workers from across the construction trades were employed. The scope of work on this project was enormous, to say the least.

Although not at liberty to discuss the specifics, I can tell you that this project was the largest Government Project, in terms of the electrical scope of work, going on in the United States, from January of 2011 until project completion. The center will consist of multiple buildings providing approximately 1 million sq ft of enclosed space, including 100,000 sq ft of computer space.

In February of 2012 we entered into an agreement with Applied Power Services (APS) to provide: battery rack construction, including seismic anchoring; flooded battery installation; strapping of all flooded battery inner-cell and inner-tier connections; and battery monitor installation to the jar level as detailed on the attached page. **THEY DID NOT DISAPPOINT!**

Without question, our ability to deliver the project was a direct result of the performance of our subcontractors. APS's ability to provide results, in regards to quality, safety, and overall craftsmanship, has helped us to provide this extremely large and complex project to the U.S. Army Corps of Engineers.

APS was able to manage the challenging nature of this project by developing a cohesive working relationship with Truland, the United States Army Corps of Engineers (USACE), BDB, and electrical contractor, Cache Valley Electric. The sheer tonnage involved with placing the batteries into the battery racks; the amount of strapping and torqueing involved to get the batteries wired in series in order to get the battery strings up to their full DC potential, is truly a staggering amount of work accomplished in 16 months.

I want to say thank you and recognize your leaders and team for their commitment to hard work, attention to detail, and, in general, their overall effort. I'm happy to recommend the services of Applied Power Services. If you have any questions, feel free to contact me.

Sincerely,



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Sr. Project Manager

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Applied Power Services Scope of Work at the Utah Data Center Included:

- *Delivery* - APS was responsible with coordinating with Truland and BDB personnel on daily battery rack, flooded battery, and battery monitor shipments on-site. Product was either craned, or manually pallet jacked, up to a second floor mezzanine. Literally, APS employees walked thousands of miles, in order to coordinate product delivery into battery rooms.
- *Flooded Battery Rack Construction* – Many battery racks were constructed. This included the torque sealing of thousands of bolt assemblies. Salt Lake City sits along the Wasatch Vault, so all rack anchoring followed International Seismic Application Technology (ISAT) seismic requirements.
- *Flooded Battery Installation* - C&D's heaviest, four cell, flooded battery, weighing close to 770 lbs., was used on this project. Multiple strings were installed. Work included the strapping of all batteries in series connections. Strings were kept at 50VDC for safety purposes until final connections were called for.
- *Battery Monitor Installation* - APS personnel installed a battery monitoring system, complete with key battery parameters in real time: system voltage, float, charge and discharge current, plus ambient and pilot cell temperatures. All runways were mounted during battery rack construction. Monitor leads were intalled to the jar level. Fuses were installed, along with all connectors cut and crimped in order to land to tab washers installed on each jar's positive post.
- *Disconnect and Wiring* - APS landed all battery conductors running from each battery disconnect onto +/- battery posts. Wiring also including a center break tap with up to six conductors used per polarity.
- *Subcontractor Management* - Due to Salt Lake City being in a Zone 4 in regards to seismic activity, all battery racking was supported into the floor with seismic anchors. Due to the size of the anchors, this portion was subcontracted.
- *Safety Practices* - All torque tools were calibrated on a yearly basis, as was the 1-ton battery hoist and frame. Technicians making final connections were outfitted in 25CAL, arc-flash resistant, suits. Employees were trained in numerous aspects regarding project specific courses that included: certified rigger, forklift and pallet jack, arc-flash, and BDB site safety orientation. Additionally, all workers passed a drug and background check.
- *Project Documentation* - APS personnel were responsible for keeping up-to-date progress reports with the customer. This included providing all product specification sheets MSDS's, and daily contractor reports.
- Additional work not included under the original scope of work for APS has included: the cleaning of thousands of batteries; landing numerous conductors going from the battery disconnect to the batteries; and installing multiple strings of batteries for building lighting inverter cabinets.