

The Commonwealth Quarterly

News from around the circuit.

Spring 2014



Commonwealth Electric Company
of the midwest

INSIDE THIS ISSUE

Mardi Gras

Con-E Cyclones Visit Altoona, Iowa

Baldwin Filters High Voltage Underground Distribution, Kearney, NE

USPS Switchgear at National Distribution Center in Des Moines, Iowa

Creighton University Championship Center

Safety Update

Lauritzen Gardens Conservatory Building

U of A - DAS Installation at Arizona Stadium

City of Omaha OPW 52200 (CSO) Schedule "A" Missouri River W/WTP

Mardi Gras

Jamee Strickland - Omaha Office

Believe it or not, the Omaha Office has some strong Southern Roots. To be more specific, Eric Hoge and Eron Strickland both hail from the South. Eric is originally from Alabama and moved to Omaha from New Orleans in 2000. Eron was born in Baton Rouge and moved to Omaha in 1998.



Eric Hoge and Eron Strickland

Every year the Omaha office celebrates Fat Tuesday with a King Cake and beads. This year was no exception. But this year, we did something a little out of the ordinary. Commonwealth had a complete Crawfish boil (Southern Style).



Crawfish Boil

The crawfish were shipped in live from Louisiana and the Pre-Fab Shop was converted into a buffet line with tables covered in newspapers. The feast included Gumbo & Jambalaya homemade by Eric's wife Halle. Andouille & Boudin sausage were grilled up for everyone to try while they waited for the first batch of Crawfish.

With Creole music playing in the background, everyone had a great time enjoying great food and great company. A Big thank you goes out to Neil Davidson. Laissez Les Bon Temps Roulez!

Con-E Cyclones Visit Altoona, Iowa

T. Michael Price - Vice President

Commonwealth Electric Company of the Midwest and the Student Chapter of the National Electrical Contractors Association at Iowa State University worked together to schedule a site tour of one of the largest and most technologically advanced data center projects in the Midwest. In late March, nearly 20 students from Iowa State University's Construction Engineering program visited The Project Catapult site. *(continued on next page)*



"Joe Lesse, Cupertino's Commissioning and Start Up Guru, explaining the data center's power distribution scheme to the students."

Commonwealth Electric and Cupertino Electric are working together on the large data center project in Altoona, Iowa. Staff from both Commonwealth and Cupertino guided the students through the site including visits to the utility substation, generator enclosures, electrical rooms, HVAC spaces, data halls and administration areas. Thanks to Cupertino's Joe Lesse for all the technical information!



"The Project Catapult job site tour was one of the best job site tours I have been on in my years at Iowa State! Commonwealth Electric did a great job explaining the project and answering all of our questions."

-Alex Buscher, ISU NECA Student Chapter President

Special thanks to the rest of the project team including Cupertino Electric, Turner Construction and the Owner of Project Catapult for making the site tour possible for the students.



"Visit to the facilities substation"



"Nate Findlay with Commonwealth Electric and a student reviewing the penthouse HVAC Systems."

Baldwin Filters High Voltage Underground Distribution, Kearney, NE

Clayton Anderson - Project Manager

Baldwin Filters produces over 6,000 lube, air, fuel, hydraulic, coolant and transmission filtration products for numerous heavy trucks and off road equipment applications. The company moved from its headquarters in Wisconsin to Kearney, NE in 1952 and has become a global company with plants in China, Australia and Morocco to name a few.

Baldwin Filters is expanding its current operations at its Kearney, NE headquarters. CECM was hired to design and install a new High Voltage Underground Distribution for the current expansion and future parts of the plant that will be repurposed. *(continued on next page)*



During the design stage of the project CECM used the experience of Norm Stentz and Corporate's CAD team to create the drawings. We then submitted our drawings to our Omaha office's group of engineers for approval. Josh Muench made some necessary changes, dressed up the drawings & stamped them for owner approval.

The existing High Voltage Distribution was installed by CECM in 1996, Bill Sabin as Project Manager and Clayton Anderson did the installation. The new plan includes a new substation by NPPD to re-feed existing and new S & C gear for a new 2500 KVA Transformer feeding the expansion. Baldwin's current facility has all loop fed transformers; we will be keeping that design through the new project as well.



The scope of the project is to install a 6-4" duct bank across and through existing driveways and truck turn around areas. Installing 2 manholes, 2 above ground fiberglass enclosures and one 2500 KVA transformer loop fed with 2 feeds. We are proposing for a future transformer close to the new transformer location that will use the loop feed wire at a later date. One challenge of the project has been scheduling with the owner for the work in and around the truck drive/turn around area. We have finally gotten an approved schedule that works for both the owner and the rest of the general contractors.

Dennis Mohlman is the foreman on site and is completing most of the project by himself. We will be utilizing manpower from Doug Amen's team to help with the termination and testing portion of the project. The projected completion date is the beginning of August.

United States Postal Service Upgrades Switchgear at National Distribution Center in Des Moines, Iowa

Ashley Benda - Project Coordinator



Commonwealth Electric Company of the Midwest is nearing completion of the medium voltage switchgear and substation replacement project for the United States Postal Service's National Distribution Center in Des Moines, Iowa. Commonwealth's scope of work consists of the replacement of the 15KV primary switchgear, along with the 5KV substation, and one 480 volt unit substation, which are located on the third floor of the distribution center. There were also three additional 480 volt unit substations located in separate penthouses on the roof that were replaced. *(continued on next page)*

NDC Crew (Back row from left: Jordan Blue, Project Manager Mark Ramsey, Mike Lovelace, and Hal Plautz. Second row: Project Manager Nate Findlay, Bob Perkins, and Kevin Harris. Front row: General Foreman Jeff Hoover, Matt Temple, and Don Dawson)

The installation of much of this equipment was an interesting challenge as it required that Commonwealth field employees disassemble the sections of gear in order to move them into their permanent locations. In numerous instances, a tower crane was used to lift the sections of gear onto the roof to place them into the penthouses.

The existing substations also had to be de-energized in sections as the new equipment was installed in its place. During this process, minimal power outages were necessary though most of the work that was done required that the plant stay functional near its desired production capacity.

Commonwealth was also responsible for replacing the 15KV interconnecting feeders, in addition to a majority of the 480V-120/208V dry-type transformers. Much of this work required the construction of special scaffolding and hoisting maneuvers in order to replace the existing 15KV feeders and transformers which were located nearly 50 feet above the plant's floor.

"I and my entire crew have had a great experience working with the NDC USPS staff. They did a great job accommodating us and our schedule." - Jeff Hoover, Project General Foreman

Jeff Hoover was the General Foreman on this project and did a wonderful job providing on-site leadership and coordination. The Des Moines office team was led by Project Managers Nate Findlay and Mark Ramsey. Along with Jeff, the hard work from the crew in the field was outstanding and certainly has made all the difference in the continuing success of this project.

Creighton University Championship Center

Mark Ross - Project Manager

In November of 2012 we submitted our RFP to Kiewit Building Group for the Creighton University Championship Center, which would be used as the men's basketball practice facility/administration as well as academic services, weight training and sports medicine for all student athletes. The RFP was for a design assist project as Kiewit had hired DLR as the design firm of record. In early December we were notified that we had been selected for the project team. The project would incorporate BIM not only for clash detection but for project scheduling. We immediately were involved in weekly project design meetings in order to lay the foundation of the design with the milestone of April 5th for construction issue drawings.

The building has over 42,000 SF of usable space. There is a 5,000 SF weight room with state of the art equipment monitored through the wireless network. The training suite area has a hydrotherapy room with a polar (cool) pool, a thermal (warm) pool and an aquatic therapy pool. This pool has a submerged treadmill on a platform capable of rising and lowering, pool mounted cameras and a computer system to tie everything together. There is also a 4,000 SF study space with individual study spaces, small group study rooms and a great room for large groups. The men's basketball area consists of the locker room and a 1,300 SF lounge/gaming area. Each locker has its own power/USB charger receptacle and a jack to plug an IPOD into. Above each locker is a light box that will have the graphics for each player's name and jersey number. The lounge will have an area for a pool table, a refreshment bar and a sunken area with couches in front of a TV wall with four 90" and three 60" TVs. The lounge, locker room and second floor stairwell access to the coaches' offices has biometric scanners to limit access only to the basketball program people. There are two full size basketball courts which the head coach can step out on to a viewing platform from his second floor office. The court closest to the platform has four cameras to be used to film practices.

A high end audio/visual system is being furnished through a separate donor, which is outside the construction cost to the University. There are over 40 TVs mounted in the building and numerous speakers, including arena style speakers in the gym area. There is one dedicated room for all of the AV head end equipment. *(continued on next page)*



The basketball court area is lighted by sixty-four 2' x 4' LED troffer style fixtures mounted at the bottom of the roof joists at 36'-8". Original design was 6 lamp T5HO fluorescent fixtures but the Owner opted to pay more to go with the LEDs. The rest of the building is basic fluorescent and LED fixtures.

Commonwealth Communications is installing all the low voltage systems. They are one of three preferred contractors that do low voltage work for the University and are able to recognize when design may stray from Creighton standards and address it right away to the University's satisfaction. They also received a big change order when they were asked to install all the low voltage cabling for the AV supplier, which included over 400 cables.

One of the first challenges we faced was reconfiguring the University's underground high voltage distribution system. They have a loop feed system and this site location is at the east end of their campus loop. As we laid out the new underground ductbank we added manholes utilizing deadbreak junction racks so that the University would have the flexibility to expand their underground should they acquire additional land to the east. In this reconfiguration we were moving HV padmount switches that were feeding existing buildings. We were installing the new manholes over existing ductbank locations and exposing the ductbanks to make them ready for the outage. We scheduled the outage for Good Friday last year and gave the University our timeframe (12hrs) for when power would be turned back on. With three minutes to spare we turned the power back on. This was a huge coordination project as power was shut off to half dozen buildings all with fire alarm and other systems that would be affected.

There was a lot of coordination between all site utility contractors because the footprint of the building didn't leave much room on the outside for the underground work. The depth of the work dictated who would work in a given area first.

At this point in the construction we are looking at a \$1.3 million project. We are working toward a June 6, 2014 turn over date. Bob Bohling has been the foreman on the electrical side, running between three to six men. Dave Kramer is the Project Manager on the low voltage side with Stuart Wilson his foreman in the field. The project has gone well and the University is pleased with our performance and quality work.

Safety Update

Ruben J. Bera - Corporate Safety Director

We are well into 2014 and we continue to focus our attention to keeping employees safe and informed. We ended 2013 strong. Our accident rate was one of our lowest ever and our EMR dropped. This is an indication that all employees are aware of the dangers working with electricity. As mentioned many times, this is a very tough market and competition continues to grow. With the added competition comes more demands for safer companies. Accident rates are important but training records are essential. We get asked many times to produce training records when bidding jobs or after they have been awarded. General Contractors and owners want documentation that we are trained and ready to go. We are no different, we sometimes sub out parts of the project to specialty contractors that help us. We need to make sure their employees have been trained in their task. Trained employees are more aware of potential hazards and know how to react and prevent injuries.

Safety training needs to be monitored for changes that affect our daily work activities. Everyone should be aware of the new GHS standard. This is the new OSHA change to the old hazard communication program. Pictogram posters have been placed on job sites and in trailers. Other areas we are looking at are educating employees on how to calculate free fall distances. We are committed to making sure all field employees are aware of potential fall hazards and how to properly plan for an unexpected free fall.

We continue to make site visits to assist employees and helping make the right decision to prevent injuries. Through co-operation from upper management to the first year apprentice, we are demonstrating to our customers we are dedicated to safety and the value of our employees.

We look forward to the challenges ahead in 2014 and know we can meet the customer's demands and keep all employees safe. The next time you are asked to attend a safety class, do so for the education and demonstrating to everyone, we are committed to excellence and safety.

Lauritzen Gardens Conservatory Building

Edgar Tello - Project Manager



Commonwealth Electric was awarded the electrical site work for the new conservatory building February 2013. A couple months later, the Conservatory Building was out for bid and Commonwealth was awarded the job. The project was over budget at first. After providing several VE items and working along with Kiewit and HDR, we were able to help bring the project into budget. The conservatory building is now progressing well.

The new 20,000 SF conservatory building will include unique plant life, walking pathways with lighting, and several water features. The building will be separated into three sections known as the Tropical, Temperate, and gallery area. Truss mounted light fixtures will have special affects to set different light settings for different occasions. All penetrations through the exterior walls will be sealed. You can think of the building as one big, giant "tub" since all walls and floors will be water proofed from the inside.

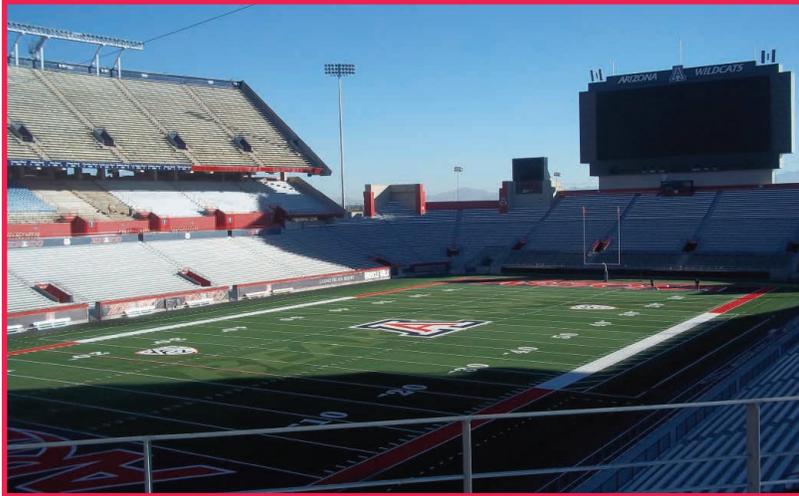
Rob Freeman is the foreman on site for this job and is doing an excellent work. Having the right crew on site makes a big difference. We've also relied on Eric Hoge, who is our electrical engineer, on questions regarding the project.

The conservatory has a substantial completion date set for September 26, 2014 and the grand opening is set for October 10th, 2014.



U of A – DAS Installation at Arizona Stadium

Jay Hoobler - Vice President



The Tucson office of CECM has recently been awarded a sub-contract, by M. A. Mortenson Company, to install a Distributed Antenna System at the University of Arizona Wildcat Stadium for Concourse Communications Group, LLC, A Boingo Wireless Company.

Boingo Wireless plans to construct a campus-wide DAS network at the U of A to provide cellular and voice data services throughout the facility. "A Distributed Antenna System is a network of spatially separated antenna nodes connected to a common transport medium typically coax or fiber-optic cable that provides wireless service within an area, building or structure". This system is designed to help boost mobile broadband and Wi-Fi coverage at large venues and hard to serve areas.

Arizona Communications Experts has been subcontracted to install owner furnished equipment and cabling to complete the network and provide terminations and extensive testing of every coax and fiber optic cable necessary for the new system. Commonwealth crews are busy installing the pathways for the cable installation which include conduit, pull boxes and cable tray. We are also assisting ACE with the mounting of remote units, antennas and pulling cable. The new system includes over 300 antennas and approximately 200 remote units placed throughout the stadium. Each remote is connected to the Head End Room with fiber optic cables. This area is located on the second floor of the east side of the stadium and will house three carriers. Verizon, AT&T and Boingo will provide equipment to be installed in these Head End Rooms. Each space is equipped with its own panel board, metering, fire alarm, fire suppression system, HVAC equipment, battery back-up units and cable tray systems for their data racks.



CECM employees working beneath stadium seats.

Bob Ervin is our Field Superintendent and is supervising a crew of about 22 electricians. Our communications sub-contractor is also employing about the same number of technicians. We have also had an assist from our Omaha and Lincoln Communication Divisions. Chris Gall, Jerry Van Amerongen, Ron Dodd, Jeremy Englehart and Roland Lusins have been involved with all phases of the communications portion of the project including supervision, scheduling, material control and monitoring of the

job progress. Their relationship with Concourse Communications Group was key in acquiring this project and will be an asset in the acquisition of future DAS projects planned for the University of Arizona and others that may arise in the region.



CECM working in residents' halls in south stadium.

City of Omaha OPW 52200 (CSO) Schedule "A" Missouri River W/WTP

Chuck Fintel - Project Manager

The federal government has identified at least 772 communities nationwide, including Omaha that must reduce their combined sewer overflows (CSO) in order to improve water quality in the receiving streams. The federal mandate means that Omaha must reduce the number of combined sewer system overflows into the Missouri River and Papillion Creek. A combined sewer overflow or CSO is a discharge of raw sewage mixed with storm water into local waterways during a wet weather event, such as a rainstorm. The affected sewer system in Omaha is the combined sewer area located east of 72nd Street. The federal mandate is for Omaha to separate its storm and sanitary sewer systems.

As part of the sewer separation program, in early 2012 CECM was awarded a contract from Hawkins Construction for the electrical portion of the City of Omaha OPW 52200 (CSO) Schedule "A" Missouri River Waste Water Treatment Plant (MRWWTP) South Omaha Industrial Area (SOIA) Facilities. This contract consisted of improvements to the MRWWTP, including a new SOIA Building, new SOIA Clarifiers and new SOIA Odor Control Building; and modifications to the Transfer Lift Station; Sweetening (Plant Water System); Ferric Chloride System; and all associated site work.

The MRWWTP is located south of the Veterans Memorial Bridge along the Missouri River. It was built in 1964 and can treat 35 million gallons per day of wastewater. Our project is noted as an important early action project in the City's Long Term Control Plan, as the existing plant does not have enough capacity to accommodate future wet flows. The improvements must be complete and operational no later than September 30, 2015 for the City of Omaha to meet its commitments to the Nebraska Department of Environmental Quality. The improvements will result in immediate, significant reductions in the size and number of untreated overflow and the E coli loading to the Missouri River.

The MRWWTP modifications are being constructed in two projects. Schedule "A", which we just completed; and Schedules "B1", which we've just been awarded and will start shortly; and "B2", which has not yet been awarded. The primary benefits of the Schedule "A" work include the reduction of E coli loadings to the Missouri River, odor reductions in and around the MRWWTP, and the conversion of waste solids to produce energy at the MRWWTP. The Schedule "B" projects include facility additions and modifications aimed at increasing overall wet weather capacity.

