

fall 2014

CURRENTS

G R A N D R I V E R D A M A U T H O R I T Y



Welcome to fall!

Although the hectic summer season on Grand River Dam Authority lakes has finally given way to fall, the pace of activity is not going to slow down much. All summer long, the popularity of GRDA's lakes among boaters, anglers, and lake visitors in general has remained very high and even though the start of a new school year and cooler weather has slowed traffic some, we expect to see many lake enthusiasts visiting the region through the upcoming fall months. In fact, many call this the region's best boating weather.

However, the new school year is a good reminder of the importance of education and also a good time to detail the Authority's new online training/education program for our employees. In the pages of this issue, you can read more about GRDA's attempts to make employee training more efficient and more focused for the years ahead. We are excited about this new access and the training opportunities that await Team GRDA.

Meanwhile, our main story for this issue focuses on the very important female segment of Team GRDA and the tremendous contributions it has made, and will continue to make, in the years ahead. "Girl Power" also takes a look at the overall electric utility industry and the ever-changing and expanding roles women play in generating, transmitting and delivering electricity. In this story, we highlight several key members of Team GRDA. We certainly hope you will take the time to read about their roles and experiences.

Of course, low-cost, reliable GRDA electricity does not get from the generator to the distribution site without a sophisticated energy delivery network. At GRDA, that network includes hundreds of electric substations spread across the GRDA region. In this issue, you can also read more about the crew that helps maintain these important components that help keep the lights on. Thanks to our summer intern, Callie Colclasure, for penning this story for this issue.

We do hope you enjoy this latest edition of the *Currents*. As always, if you have questions, comments or thoughts for future story ideas, please feel to contact myself or Currents Editor Melanie Earl in the GRDA Corporate Communications Department via email at either jalberty@grda.com or mearl@grda.com, or call us at (918).256.5545.

Thank you,

GRDA Corporate Communications Department

Front cover: An aerial of the Robert S. Kerr Dam and Energy Control Center. This facility celebrates its 50th anniversary this year (photo by GRDA summer employee Katie Robbins).



Kimball to lead GRDA

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Tom Kimball (Owasso) will lead the Grand River Dam Authority as board chairman over the next 12 months. He succeeds outgoing Chairman Chris Meyers (Edmond), who had served as board chair since September 2013. Kimball took over the gavel at the board's September meeting.

As an at-large representative on the board, Kimball was appointed by Oklahoma Senate President Pro-Tempore Brian Bingman in November 2012. He is a founding member of the Owasso Economic Development Authority and has over 50 years of experience in the retail business, spending years

in the corporate structure and 34 years with his private companies. Since 2005, he has been an active member of the board of Spirit Bank.

Ed Townsend (Grove) will serve as the board's chair-elect in the coming year. Townsend was elected to the post during the GRDA Board's August 13 meeting in Langley. Appointed to the GRDA Board by Oklahoma Governor Mary Fallin in September 2013, he is the founder, owner and chief executive officer of Bank of Grove. He previously served as chairman and CEO of Local Oklahoma Bank, a \$3.3 billion commercial bank based in Oklahoma City.

"The presence of both these gentlemen on the board has already proven to be very valuable to GRDA, its workforce, its ratepayers and the state of Oklahoma," said GRDA Chief Executive Officer/Director of Investments Dan Sullivan. "I look forward to the leadership they will continue to provide in the future."

GRDA is governed by a seven-member board of directors, comprised of representatives from each GRDA customer class (municipals, electric cooperatives and industrials) as well as the GRDA lakes area. Two at-large representatives also sit on the board. Appointments are made by the Oklahoma Governor (3), Speaker of the Oklahoma House of Representatives and President Pro Tempore of the Oklahoma State Senate. Two other board positions are ex-officio, filled by the general manager of the OAEAC and the executive director of the Municipal Electric Systems of Oklahoma (MESO) or by their designees.



From left to right: Outgoing Chairman Chris Meyers, incoming Chairman Tom Kimball, Pete Churchwell and Chair-elect Ed Townsend during the August 13 Board of Directors meeting held at the Ecosystems and Education Center.

Bond issue, new wind agreement highlight late summer activities ...

GRDA take steps toward future generation resources

Major milestones, on the road to the Grand River Dam Authority's construction of a new, combined cycle gas plant, were met in late summer 2014.

In August, the GRDA Board of Directors approved many of the preliminary steps needed for the \$320 million bond issue. This bond issue will provide the necessary funds to construct the new plant, which will be known as GRDA Unit 3, and be located adjacent to the existing Grand River Energy Center (GREC) coal units near Chouteau, Oklahoma.

This new unit, designed by Mitsubishi Hitachi Power Systems Americas, will be fueled by Oklahoma natural gas and will be the first of its kind in the western hemisphere. Once complete, it will have the potential to be the most efficient combined cycle unit in the United States.

"This is an exciting time for GRDA, as it prepares for this new bond issue and the construction of this new unit," said GRDA Chief Executive Officer/Director of Investments Dan Sullivan. "I want to commend our board for making these decisions and allowing GRDA to move forward with this very important step towards our future goals."

Just two weeks after the board's important step, Sullivan and GRDA Chief Financial Officer Carolyn Dougherty presented GRDA's bond issue plan to the Oklahoma Council of Bond Oversight. That five member council, which is responsible for reviewing all financing requests by state agencies, also gave its unanimous approval to the plan.

"This is good news and was an important next step toward what we expect to be a very successful bond issue," said Sullivan. "We appreciate the confidence the council showed in GRDA by giving this approval and we look forward to moving forward."

According to Sullivan, a remaining step would be a possible credit rating upgrade. Also in August, GRDA hosted all three major rating agencies, Fitch, Moody's and Standard & Poor's, for overviews of GRDA facilities and future plans.

An artist's rendering of the new GRDA Unit 3, combined with an aerial photo of the existing Grand River Energy Center (east of Chouteau, Oklahoma).

All three were scheduled to update their GRDA ratings in mid-September prior to the bond issue. Sullivan said GRDA expected the initial pricing of the bond issue to take place in early October.

More Wind

Other important generation-related news was released in early September when GRDA announced it was increasing its wind generation portfolio through an agreement with Apex Clean Energy.

The new contract will allow the Authority to receive 100 megawatts (MW) of wind-generated electricity from Apex Clean Energy's Kay Wind project, located in Kay County, Oklahoma. Apex is building the wind farm near the communities of Newkirk and Peckham, with completion scheduled for some time in 2015.

"We're excited about the opportunity to add more renewable energy to our portfolio," said GRDA Chief Executive Officer/Director of Investments Dan Sullivan. "Additional wind power is a key point in our long-term generation plan and this agreement allows us to use Oklahoma wind to generate long-term benefits for Oklahoma ratepayers. Oklahoma wind provides a greater balance and diversity in the generation portfolio and can equal lower costs."



GRDA crews respond after Newkirk storm damage ...

Oklahoma teamwork helps restore Oklahoma power

When high winds rolled across Kay County this summer on July 14, they had little mercy on the power lines in the area. In fact, 15 transmission line poles – used to deliver electricity to the city of Newkirk – were unable to hold their ground against those winds. Those poles came down in the storm and the flow of 138 kilovolts of electricity into Newkirk, Oklahoma, was suddenly interrupted, leaving the town’s nearly 1,400 residents without power.

That was Monday. By 3AM Tuesday morning, electric linemen from the Grand River Dam Authority and other groups were already on the scene, making the necessary repairs. Though GRDA does not sell electricity to Newkirk, the community, located close to the Kansas border, is a public power community. So, working through a mutual aid agreement with the Oklahoma Municipal Power Authority (the agency that does sell Newkirk its power), GRDA responded to the needs of its Oklahoma public power counterparts with men, machinery and know-how.

“I don’t think it could have went any smoother. We had 60 personnel from several different departments working together to get the power back on,” said Trent Fittje, Superintendent of Powerline Maintenance.

Certainly, Oklahoma linemen are no strangers to repairing storm damage. Whether the culprit is a summer tornado or a winter ice storm, the damage is similar and the objective is the same: clean up, repair and restore power as safely and quickly as possible; broken poles are replaced, electric lines are re-strung and connections are made once again.



In Newkirk, power was flowing again by the afternoon of Wednesday, July 16, and GRDA crews were able to return to their duties of maintaining the Authority’s 1,200-plus miles of power lines in Oklahoma. While the incident was another example of the power of Oklahoma weather, it was also an example of the power of Oklahoma teamwork. It again showed us that the dedication and expertise of Oklahoma’s public power team stretches across the miles, across the counties and even across service areas.

“I feel mutual aid is a very important factor in the power industry. Very few companies can keep enough staff on hand to be able to recover in a timely manner from any significant storm damage like this recent one. It helps keep the everyday cost down which in turn keeps consumers bills lower, said Fittje.

Left and above: GRDA crews work to restore power to Newkirk, Oklahoma after a July storm knocked out power lines in the area.



Girl Power

She does not consider herself a pioneer, and to some she may seem remarkably young to be a pioneer. However, when 21-year-old Hailey McKewon sat down at the Generation and Marketing desk as a trainee in the Grand River Dam Authority's (GRDA) Energy Control Center (ECC) in November 2009, she was on her way to becoming just that, a pioneer. In May 2011 she became the first certified female system operator in the Authority's history.

"I have never thought about viewing myself a pioneer," she said. "I grew up around guys, and it didn't seem that big of a deal that I was the only woman in the room. I didn't think about it too much."

However, it is a big deal. According to Deloitte, the nationwide auditing and consulting firm, some estimates suggest that during the late 1970's women held only about five to 10 percent of jobs in the energy and resources sector. That number has been slowly, but gradually, rising over the past 40 years and is now closer to 30 percent. The growth is a reflection of changes in the workplace as a whole, with the participation of women in the labor force climbing each year. They will account for 46.9 percent of the labor force by 2018.

Concurrently the number of women employed in non-traditional positions is also on the rise. The United States Department of Labor defines a non-traditional occupation for women as one in which less than 25 percent of those employed in the field are women. The energy industry has typically been one in which women were under-represented. However, more and more women are pursuing careers in non-traditional fields, including Science, Technology, Engineering and Mathematics (STEM). Though women hold less than 25 percent of STEM jobs today, they earn 33 percent more than comparable women in non-STEM jobs.

The entire energy industry may be considered a non-traditional field, but electric system operations, within the industry, may certainly qualify. Though electricity has been generated in this country for well over a century and the industry has witnessed incredible change during that time in how electricity is produced and delivered, there has been very little change with who is delivering it. Nationally there are 6,587 North American Electric Reliability Corporation (NERC) Certified System Operators delivering electricity across those lines. Of that number, 576 are female, just eight percent.

Although growing up with increasing equality, McKewon's experience mirrors those figures. "The first couple of training classes I went to, outside of GRDA, there may have been one other woman who was attending the training, aside from the facilitators. The last one I went to actually had quite a few women operators in attendance."

"...it didn't seem that big of a deal that I was the
only woman in the room..."

According to Southwest Power Pool (SPP) Customer Trainer Margaret Adams, though it is becoming more common to see women in operations management, compliance, engineering and training, the numbers are still relatively low. Adams started her career in the energy field in 1996 as the lone female system operator at Lafayette (Louisiana) Utilities System. It wasn't until she went to work for Entergy that she worked alongside other female operators.

"I had been in the industry about two years or so when I noticed more and more women were working as marketers. As the need for marketers to become more knowledgeable about reliability arose, these women started get-



GRDA's Hailey McKewon.

Donna Jones, 33 years with GRDA

Former Position: Corporate Secretary/Executive Assistant
Retired November 1, 2014

I began my career in the Budget Office at the age of 20 as a Typist Clerk. I had no office nor computer experience and didn't know one person who worked at GRDA—I actually didn't even know what GRDA was. Someone else was hired initially, but quit after a week; I got the job because I had tested the highest. After six years in the Budget Office as an Account Clerk, I was then hired by Henry Neftzger, the AGM of Finance/CFO, to be his secretary. During that time, he loaned me out to the Legal Department for a year, working under General Counsel Waldo Bales. My main job there was to help get customer contracts updated and renewed. I also worked with Pat Griffin in the Media Department. We created the first version of the Emergency Action Plans, and worked on the early versions of the newsletters. In 1990, Ron Coker, General Manager/CEO, asked me to work for him as Corporate Secretary/Executive Assistant, of which I have been ever since that time.



Because of GRDA, I was able to get a college degree over the span of about 20 years. I have had the opportunity to work with a lot of interesting people, and have been blessed with some really close friends who have looked out for me over the years. Being a secretary is one of those behind-the-scenes kind of jobs that doesn't get a lot of attention or recognition—at any place of business, not just GRDA. But I think it is an important job because secretaries help to make the bosses' jobs easier, so they can tend to the big picture items and operate and grow the business. I take pride in knowing that they can depend on us and that we are an integral part of the team.

ting certified and moving into more of the system operations roles as a result. It has been a very positive experience for me,” she said.

For Hailey, the experience has been a positive one as well.

“Everyone has been very supportive of me and I really think that it's the way we treat our coworkers, not just because I am a girl. I don't feel like I'm treated any differently than anyone else.”



Officer Amanda Sullivan.

Amanda Sullivan, GRDA's first full-time female police officer echoes Hailey's view.

“It has been a very welcoming experience for me. GRDA has given me the rare opportunity of performing my duties as a police officer both on land and water,” she said. “I feel like I have been part of the team since my first day on the job.”

Today, GRDA is positioning itself and its workforce to meet the challenges of new marketplaces and technology. In the spring of 2013, the Authority began development of a comprehensive workforce management plan intended to impact every job duty in the organization in a positive way. It will deliver tools and methods to help with recruitment, knowledge retention, rewards structure and other workforce-centric areas. A highly skilled and diverse workforce is crucial to managing and maintaining GRDA's \$1.4 billion assets and the workforce management investment – equal to approximately \$500 per employee – will help maintain the most important asset – Team GRDA – for many years to come.

Of course, workforce management means providing equal employment and advancement opportunity in all job classifications. Currently women make up a little over 17 percent of GRDA's workforce. Though the number seems small, it is up from 14 percent in 2003. One obstacle, if it can be called an obstacle, is GRDA's low turnover rate, at 2.7 percent, the Authority's classified workforce turnover rate is roughly five times lower than the Oklahoma state agency average. For instance, in 2009, only 17 opportunities for promotions/career progressions were available and not one female applied for the particular promotion or was within the job category for career progression.

GRDA Leadership

In 1998, the late Barbara Conner (Langley) made history as both the first woman to serve on the GRDA Board of Directors, and the first Lake Area Representative. Five years later, she added another first when she became the first woman to chair the GRDA Board. Then, in 1999, former Tulsa Mayor Kathy Taylor joined the board as a designee for the Oklahoma State Treasurer. In 2008, Oklahoma Governor Brad Henry appointed Betty Kerns (Stillwater) to the board. Representing economic development interests, lake enthusiasts and property owners, Kerns also served as board chair and chair of the GRDA Assets Committee during her term.

From the board room to the control room, the footprints of women can be seen and appreciated at GRDA. For the women who left the prints to those who are walking in them, one thing has remained unchanged: the culture

Ellen Edwards, 2.5 years with GRDA

Current Position: General Counsel



When my father graduated from law school in 1949, there were three women in his class of 50. My mother went to work as a court reporter in 1945. The reporting firm was owned by two women attorneys who could not get jobs as lawyers, so they learned to be court reporters.

I began working for the Department of Justice in Washington DC in 1987. At that time there were three other women attorneys in the office, all older than me. Two had children, born before their mothers went to law school. Two of my children were born while I was at Justice, and two were born after we returned to Oklahoma and I was in private practice. I worked up until the day each was born, and took no maternity leave with the younger two. If you wanted to succeed as a female attorney then, you couldn't allow childbirth to slow you down. You couldn't take time off for anything "child-related." Women (and men) are much more comfortable taking time for their families now.

When interviewed for a judicial position, I was told I was soft spoken and was asked how I would deal with "those male attorneys." My answer must have assured them I could handle the job because I was appointed, but I learned on the bench that it was better not to "act like a man". Many women attorneys and judges felt that the only way they could be respected was to be tough. I treated everyone with respect, and greeted all with a smile, but when I did need to raise my voice, people paid attention, and usually bad behavior wasn't repeated. I wasn't afraid to discipline an attorney when the conduct warranted it.

My predecessor was the first woman general counsel at GRDA and really paved the way for me. I have truly benefited from Gretchen Zumwalt-Smith's leadership and the barriers she broke down. Mentors are so important for both women and men. I am blessed in that early in my career I worked for several outstanding women attorneys who took the time to teach me, and also showed me, by their outstanding examples, how to be a better attorney. As I age I have tried to mentor young women attorneys, and am so pleased at how young women of all professions are so well equipped to deal with the many roles in their lives as employee, leader, volunteer, mother, and wife.

of the workforce. Team GRDA -- one part support system and one part cheering section -- continues to foster opportunity for all, which can make all the difference for a woman, or a man, pursuing a career and raising a family.

Carolyn Vowell Dougherty, the first female Chief Financial Officer (CFO) at GRDA, experienced this when she came to GRDA nearly 30 years ago as a Certified Public Accountant (CPA). In the early years, a lot of her expertise was devoted to helping with bond disclosures and issues, of which there were many, related to the Authority's Coal Fired Complex.

"There is a reason the Authority is referred to as the GRDA family," she said. "It is a great place to work as a (single) mother. My experience has been great, but only because there were amazing women ahead of me who did the work, but were never given the same opportunity for recognition."



Tina Balmer, Superintendent of GRDA's Purchasing Card (PCard) Program, and the first female PCard Administrator for the State of Oklahoma, saw that opportunity when she began her career with GRDA.

Balmer leading a session during a 2013 PCard training. "From day one, I have always felt that regardless of my gender, I am a member of Team GRDA and am vital to its success. We all have our own unique knowledge and experiences that, when pooled together, make GRDA function at an optimum level. I am proud to be a member of that team and feel GRDA offers potential for growth in my position and as an individual."

While companies try to adapt to changing workforce expectations by offering more flexibility, leave and access to child care, all important factors for women and men, GRDA has always been family oriented and family friendly. It may not be stated in company policy, but it is certainly understood by the 500 employees that make up Team GRDA.

According to Joyce Summers -- GRDA's longest term female employee, now serving as Superintendent of Energy Management and Settlements -- this understanding is part of what makes GRDA more than a job and a paycheck. For more than three decades she has been proud to be a part of a team that consistently steps up to fill another member of the team's need.

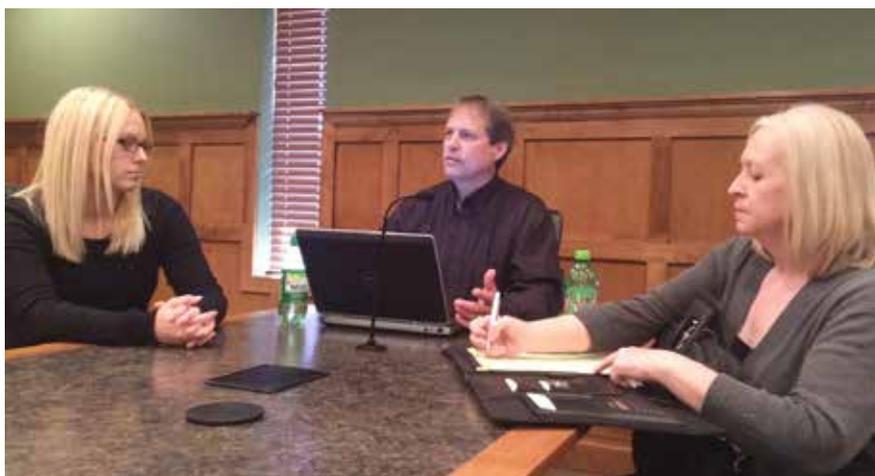
“That’s GRDA; it has always been that way,” she said. “One of the things I like most about my job is the people. I think of GRDA as family. Both of my parents were dead by the time I was 19, so lots of people at GRDA have helped define who I am. You know when babies are born, when parents die, and when someone retires, they don’t stop being family.”

Graduating from Inola High School in 2006, McKewon pursued her love of math at Rogers State University, studying accounting and business administration. During her senior year she was asked to become part of a team who would create a business plan for an entrepreneur’s idea to compete in the Governor’s Cup, a statewide undergraduate and graduate business plan competition designed to encourage students in Arkansas, Nevada and Oklahoma to act upon their ideas and talents in order to produce tomorrow’s businesses.

McKewon’s decision to take on the challenge of the Governor’s Cup brought another opportunity; her advisor asked if she would be interested in a semester internship with GRDA.

She spent the remainder of her busy spring semester interning in GRDA’s Accounting Department, applying her school lessons to the business world. It was all new for her, and certainly different from the classroom she was used to, in short, she loved it. Then, as her last day neared, she was offered and accepted a temporary position and worked at the reception desk throughout the summer, officially joining team GRDA in late July. As hot summer temperatures gave way to cool fall days, she began to explore an opportunity to go into the system operations field at GRDA.

“I had no idea and no experience,” she said. “But I sat in with the guys; I was interested in what they were doing. I did have some hesitation, but realized this opportunity probably would not be offered again and I was interested in learning more about GRDA, so I accepted the position.”



McKewon, Randy Root and Summers during a meeting with other GRDA personnel over the new Southwest Power Pool Integrated Marketplace.

Holly Moore, 14 years with GRDA

Current Position: Director of Properties



When I started at GRDA in January 2000, my job title was Community Relations Coordinator which encompassed marketing, advertising, sponsorships, customer relations and lake relations. Over time with the growth of GRDA, my role transformed into management of construction projects from beginning project development to the final touches along with maintaining the property after completion. Being a female in a mostly male construction industry had its struggles and misconceptions. However, I continued to be respectful and communicate GRDA’s mission for the project. Along the way, several let on that I had proven them wrong and appreciated my work ethic.

While she may not have understood the process at first, McKewon understood the concept and the rest came fairly easy for her, even though there were surprises and adjustments she had to make in the beginning.

“Being new to the electric industry, I think the thing that has surprised me most about being an operator is all of the work that is done behind the scenes to ensure that the lights come on when you flip the switch,” she said. “That and it was difficult getting up at 3:30am. I don’t sleep in anymore.”

The demands of being a system operator are unique to the position. But Adams believes the demanding job can be executed well by men and women.

“I don’t like to differentiate between women and men. You have to be a strong, confident person who will be willing to make decisions and take actions to maintain reliability of the system and even the safety of those individuals in the field,” she said. “You have to be strong mentally and physically to work long hours, often with little sleep, and remain alert enough to make critical decisions on the desk, male or female; no exceptions and no excuses.”

Initially starting out as a marketing trainee, McKewon attended SPP training events and began her preparation to become a system operator, which included hours of intense studying and training, bookwork, online studying, on-the-job training and then more studying.

Nita Wade, 32 years with GRDA

Current Position: Superintendent of Purchasing



I started at GRDA as an accounting clerk III in 1979 in the Finance Department, and worked my way to an Inventory Accountant in 1981, the Inventory Department Supervisor a few years later and then moved to Accounts Payable around 1988, and AP Department Superintendent around 2000. I have been in my current position since 2006.

Mentoring is a journey that begins as a person, mother, and a supervisor. Each day we must convey a genuine desire to build a relationship with others. We must strive to get to know them, share their lives and their achievements and their disappointments. We must have a good ear for listening, and a good shoulder when things go wrong. We must share opportunities for growth and find solutions for difficulties. A cheerful supervisor conveys confidence in not only themselves, but their department.

“The guys were very supportive and willing to help me with anything I needed,” she said. “I studied for months for the NERC test. Usually you study for six solid months, but I did some other things, filling in for people and didn’t start getting serious about it until the summer of 2010. I was terrified of the test; it was probably the hardest one I’ve ever taken. I wanted to pass it so badly the first time because I would be the first woman at GRDA to get NERC-certified.”

The test took three hours. In using all of the time allotted, McKewon started questioning herself and changed quite a few of her answers. In the end just two questions stood between her and certification. Though she did not pass the first time, she did the second.

With the pressure of the test relieved, McKewon soon picked up her studies at Cameron University, pursuing a Masters in Business Administration. While working in operations the past three years, she has managed to complete her studies and received that MBA in December 2013.

The mentoring McKewon received from her coworkers was game changing. She describes a secure environment where she felt confident enough to try,

“...I would be the first woman at GRDA to get NERC-certified.”

and safe enough to fail with assurance of the opportunity of trying again.

“The encouragement that Carolyn Dougherty gave me meant a lot.”

For Dougherty, mentoring is an opportunity to give back.

“I grew up in a community where volunteers provided opportunities for me. When I joined GRDA, I found the same willingness from other volunteers to teach me the electrical side of this business, as long as I was willing to devote my own personal time and make the effort to complete the technical workbooks. Keeling McGaughey provided me with old SPP training materials and became my informal tutor. What I learned from that exercise still benefits me today. As a result, I feel it is my obligation to encourage and provide tools for others to fulfill their career goals.”



Dougherty with Finance employee Lovetta Hildebrand.



GRDA Engineer Nishi Ninan.

Nishi Ninan, GRDA’s first female engineer, feels happy to be working alongside a team of other engineers. She enjoys her work as a Relay engineer. Ninan acknowledges her experience so far at GRDA to be very enriching.

“I am happy to have received positive guidance and support from my mentor and all of my peers.

It is wonderful to be part of a great team and department. This has helped me gain confidence in the work I do and improve my skills to do my best as a Relay Engineer for GRDA.”

Another new experience for McKewon in her long list of new experiences was public power and GRDA’s impact in Oklahoma.

“I believe there are several benefits GRDA provides the area and the state.

Dona Parks, 3 years with GRDA

Current Position: Transmission System Planning, 15 years experience in IT field



It has always been evident to me as far back as my math and computer science classes in high school that fewer women are represented in those fields of study, and pursue careers involving them. I've never felt that my gender should play a role in my ability to handle the positions I have held. Over the years, however, I have come to realize that during my high school and even college years, I was not aware of all the other possible career choices that a math and computer science degree could mean for me!

The ratio of men to women in the industry of Transmission System Planning is even more unequal than what I saw in the IT industry. After joining the System Planning team here at GRDA, I have often been the only woman in an SPP Transmission Working Group meeting where there may be upwards of 100 men in attendance. It doesn't make me uncomfortable or inadequate, but it does make me very eager to want to tell young women (and when the time comes to explain it more to my own daughter who is just now 6) all the great possibilities for them when they explore the wonderful world of STEM subjects! I focus most of my mentoring these days between my daughter and my 3rd grade son for that reason. I try to talk about careers and the possibilities they can have with science and math. They haven't started to roll their eyes just yet when I describe equipment we can see in a substation we might pass by or talk about a transmission line that might be running alongside us on the highway.

All it takes are some short conversations to start that exposure process and, as time goes by, elaborate on the topics. Other exposures to areas of math and science like the Electric Express or encouraging your student to enter the Science Fair can introduce a child – even another young woman – to an awesome industry and to promising career opportunities in energy.

The low cost of power brings in business and industry, and in turn that provides more employment opportunities to people in Oklahoma.”

Dougherty grew up in the public power community of Wagoner, a community that first attempted to acquire its own electricity in 1898, and has been a GRDA customer since 1947.

“I'm a true believer of the public power model,” she said. “Working at GRDA is a way to make our local communities a better place.”

It is that connection- local, accessible, partnership- whatever name it's given, that is powerful and lasting. Those qualities have been driving and empowering public power communities since their inception.

“Public power is about quality of life,” said Pam Polk, City Manager of Collinsville, a city that began buying power from GRDA in 1946. “It keeps costs down and is home-owned and operated. It is an investment you make in your community. The money stays here. It goes back into the commu-

nity in streets and in parks. It is the community helping the community; it is self-sustaining.”

For Summers, the electric utility industry, and public power, both hold the potential for an exciting future.

“I have grown and developed along with GRDA and have been proud to be part of a company that offers such a vital service to people and their communities,” she said. “In my years of service, women's roles have most certainly advanced into those of decision-makers and into positions that had been predominately held by men. I feel the future for women at GRDA will continue to hold many possibilities and exciting opportunities.”

As for McKewon, that is a path she intends to follow.

“I plan to develop and grow as GRDA grows, gaining more knowledge in gas and wind generation. I want to be a positive influence on those I work with within GRDA, as well as a role model for others in the industry.”

New efficiencies, expanding training opportunities ...

Online training to benefit Team GRDA

When you have 500-plus employees, working at multiple facilities to produce a 24/7/365 necessity like electricity, how do you keep up with their training needs in a timely, efficient and productive manner?

The Grand River Dam Authority may have been asking that very question in times past, but today, the answer is as close as the nearest computer.

Recently, GRDA purchased a web-based training software, and implemented an online training program. This not only allows employees to access thousands of industry-standard training courses, but also gives GRDA the option to produce and place its own specific courses online.

According to GRDA Assistant Superintendent of System Operations Training Scott Labit, the new online learning management system will put the content at employees' fingertips, when and where they are able to complete training.

"This system gives us flexibility to allow employees to train more on their schedule, from their location," said Labit. "That's important when you are considering factors like multiple locations and shift work."

While the system will not replace the need for all group training sessions (like CPR and pole-top rescue), the wide access it offers, along with its ability to provide accurate and up-to-date information, helps to solve some of the problems of the past, said GRDA Safety Coordinator Bob Scudder.

"The training system allows employees to attend training as their schedule permits, provides the ability to track progress and gives us the option of creating GRDA-specific content. Employees can receive task-specific information training that we can create," he said. "This system provides an efficient method by which we can provide training to our employees as their schedule permits. And ultimately, this will benefit our customers, as our employees will be updating their knowledge and skills without the added expense of training off-site or through bringing a trainer on-site. An added benefit is that the courses can be paused if something comes up, and resumed at a later time, whereas if employees were in a traditional class they would miss the information or have to reschedule."

It can also be viewed from any location. While it is expected that most training would be done during working hours, all an employee needs is a computer with internet access to log in and view a training session.

"That is a feature we wanted," said Labit. "It is important that our employees are able to access this from computers outside of the workplace so they can complete training anytime that fits their schedule."

Each employee is supplied with a login identification and can set up their own password to access the system.

Going forward, Scudder said the new online training will be an efficient, effective complement to the hands-on, in-person sessions that will still take place, while also offering more and more options in the future. Already, GRDA has access to 3,692 different training courses.

"There is still a lot of training that can never be done online," said Scudder. "However, if it can be done online, or even if we get a request to develop some new online training, that can be done with this system."



GRDA employees have access to online training through the LMS site, found at www.grda.com.

Spotlight on Team GRDA ...

Substation Department helps keep power flowing

by GRDA Summer Intern Callie Colclasure

Team GRDA is one phrase that comes to mind when Grand River Dam Authority Substation Superintendent Choya Shropshire describes the department.

GRDA has 97 stations at 69,000 Volts (69 kV) and above, in addition to 213 distribution stations below that range across 24 counties throughout Oklahoma. The electricity leaves generation stations, such as GRDA's Grand River Energy Center (formerly Coal Fired Complex) or Pensacola Dam, at voltages ranging from 69 kV to 345 kV traveling through the transmission lines to substations where it is then converted to voltages below 69 kV, and sent to industrial areas where it travels through distribution lines to pole transformers and then into businesses.

"We are all like family and work well both together, and with other departments," said Shropshire. "We are always willing to help out when the need arises. The department has made GRDA a trusted source of information and help for customers. We are often asked for information, and the crew is always there to assist."

"The substation is made up of 15 men broken down into four crews," Shropshire said. "The crews have been selected to perform certain tasks on a routine basis. These tasks include Doble testing, inspection and maintenance."

Shropshire said every member receives cross training allowing them the flexibility to move from crew to crew without any problems.

"We maintain a vast variety of equipment within the substations," said Shropshire. "Additionally we also restore power after substation-related outages,

and install mobile substations for maintenance or replacement of transformers and test equipment."

Along with these duties, they interact with other departments of GRDA including Line, Relay, Engineering, Metering and Supervisory Computer and Data Acquisition (SCADA). When new substations are built or upgraded, they also work heavily with contractors.

One of their preventive maintenance duties is a Doble test. "A Doble test measures the power factor on a transformer or breaker, and then comes up with a grade for that piece of equipment," said Bryan Shaffer, substation electrician.

Shaffer said weather conditions play a large part of performing this test. If the weather is too cold, rainy or humid, a test could be inaccurate.

Jerry Johnson has worked in the substation department for 20 years and says there have been many changes to the equipment within a substation. They are constantly upgrading the equipment, which often requires training.

"I enjoy the people I work with," Johnson said. "I also enjoy having the ability to travel to all our different locations."

Overall the department loves what they do, and it is reflected in their work.

"I personally consider the substation department at GRDA to have many unique qualities from the variety of equipment to the professionalism of all the employees I work with. The constant ever changing world of the power industry provides new challenges every day and in my opinion, you couldn't ask for a better group of guys (employees) to overcome these challenges with," said Jody Brown, substation electrician.



GRDA's Substation Crew has many years of combined experience maintaining these important components that keep the power flowing.

From the Himalayas to Lake Hudson ...

Nepal visits Kerr Dam

Tucked into Southern Asia, between China (to the north) and India (to the south, east and west) the country of Nepal (officially the Federal Democratic Republic of Nepal) is home to eight of the world's ten tallest mountains, including Everest.

However, this mountainous country that is home to the Himalayas is also home to quite a bit of hydroelectric power potential. In fact, some estimates place that potential at 40,000 megawatts due to the country's steep topography and perennial river flows coming down through the mountains. Potential is the key word though, because only approximately 600 MW of hydropower has actually been developed so far.

That may be changing though. In fact, the Grand River Dam Authority may have even played a small role in Nepal's efforts to explore and gather information on future hydroelectricity projects. In mid May, Mr. Anmol Singh, a representative of Asian Pacific Power Tech (Nepal) and a member of the Mailun Khola Hydro Power Company board of directors paid a visit

to GRDA hydro facilities as part of the United States Department of State's Professional Exchange Participant program.

Along with 11 other representatives from Nepal and Bangladesh, Mr. Singh was in the United States for four weeks, taking part in the program through a coordinated effort with the University of Oklahoma. That time allowed him the opportunity to see the inner-workings of Pensacola Dam, Kerr Dam and the Salina Pumped Storage Project.

For Singh, who says he was drawn to a career in hydropower due to it being a renewable source of energy that did not create emissions into the environment, it was an opportunity to note differences and similarities between hydro operations not only in different countries, but also different hemispheres.

"GRDA's operation is bigger in scale than what we have in Nepal. We have more run-of-the-river type hydro power plants," he said. Run-of-the-river hydro facilities are those that have little or no water storage capability and they work well in Nepal, where rivers and mountainous areas are plentiful.

However, capturing the renewable power of falling water to make electricity is the common denominator in both countries, and in Nepal work is well underway to capturing more and more.

"We see lots of potential for new hydropower projects venturing into Nepal," said Singh. "Countries like India, China, Korea, Brazil have already presented their consent for developing big dam type hydropower projects in Nepal."

In mountainous Nepal, more and more hydroelectric facilities are being developed (provided by Mr. Singh).





Above: Mr. Amnol Singh, with Asian Pacific Power Tech pays a visit to GRDA's Kerr Dam, along with Paula Hofford (Guernsey Engineering) At right: three images Mr. Singh provided of hydroelectric operations in his home country of Nepal.

Hydroelectricity is an important generation source across Asia. Next door to Nepal, the country of China is home to the world's largest hydroelectric facility, Three Gorges Dam, with a generation capacity of 22,500 MW. Currently, Nepal's largest power plant of any kind is the Kaligandaki A Hydroelectric Power Station. It is a run-of-the-river facility with 144 MW capability.

As for GRDA's operations, Singh was impressed with the technology that has been put into place over the years, noting that "wherever possible GRDA has introduced automation."

However, one lasting impression from his visit was the economic impact of hydroelectric and related-recreation opportunities, said Singh.

"It amazed me how a power plant can bring economic changes to the small town of Langley by bringing in visitors to town by promoting the lake made by the dams of GRDA as a holiday destination," he said. "This is something interesting and I shall implement back in Nepal for promoting and educating people on power plants by organizing similar visits to power plants."





GRDA contractor Haverfield Aviation, Inc. performed helicopter operations during September along a high voltage power line running between GRDA's Grand River Energy Center (formerly Coal Fired Complex), and the Tonnece Substation near the Arkansas state line. The work consists of the helicopter hovering above each transmission structure as a lineman removes old insulating components from each structure. The line remains energized while the lineman performs the work.



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