Solar to Battery

Research project looks at battery energy storage
Visit
New Mexico goodwill ambassadors tour nuclear plants.

Black Dog
Last coal train pulls into station as new era begins.

Engagement
New survey provides better way to measure customer views of company.

Contractors
Increased efficiency the goal of new contractor management effort.

Safety Summits
Transmission hosts gatherings to make safety personal.

Solar to Battery
Utility-scale batteries and solar power tested for grid operations.

Tops Again
Company is the first to top 5,000 megawatts of wind power.

People
The most recent Friends We'll Miss and Retirements.

On the Cover
Solar power and utility-scale batteries were the focus of a research effort at the SolarTAC facility in Colorado. The battery installation is pictured in the middle of the photo.
NEW MEXICO AMIGOS AND GOVERNOR VISIT NUCLEAR FACILITIES

The Prairie Island and Monticello nuclear facilities recently hosted the New Mexico Amigos, the official goodwill ambassadors of New Mexico, including Gov. Susana Martinez and civic and business leaders from the state.

New Mexico is experiencing significant economic and industrial growth, especially in its southeast, and offers Xcel Energy the opportunity to meet the state’s needs for new and improved electrical infrastructure.

In partnership with Xcel Energy community relations managers from both New Mexico and Minnesota, the nuclear stations rolled out the red carpet, with more than 150 people touring the power plants and their training centers.

The group proceeded directly from their airplane onto four coach buses, with two going to Monticello and two going to Prairie Island. On the bus ride to the plants, the Amigos were briefed on nuclear energy in Minnesota.

The ride also presented an opportunity for the group to discuss some of the challenges faced by Xcel Energy and other nuclear operators in the country, including safety upgrades, used fuel storage and the general business environment.

“We’re always honored to host visitors at our facilities, and show off the tremendous work and dedication our employees demonstrate every day,” said Scott Northard, vice president of Licensing and Common Services. “When dignitaries such as Gov. Martinez are interested in our facilities, it makes it that much more special for our teams.”

In addition to touring the nuclear facilities, the community relations teams coordinated a number of meetings and events to connect the New Mexico business community with their counterparts in Minnesota. A reception on May 5, which included remarks by Ben Fowke, chairman, president and CEO, was one such opportunity.

“The Amigos group, our community relations teams and all of us at Xcel Energy offer a huge thank you to all of the people in Nuclear who supported the tour,” Northard said. “The security teams, training center and others who made time in their schedules for this group stepped up and made sure the event was interesting, educational and informative, and the Amigos group told us many times how appreciative they were of our efforts.”

Reception
Ben Fowke, chairman, president and CEO, joined New Mexico Gov. Susana Martinez and others at a reception for the New Mexico Amigos’ recent visit to Minnesota.

GOODWILL VISIT

NEW MEXICO AMIGOS AND GOVERNOR VISIT NUCLEAR FACILITIES
The end of coal generation at Minnesota’s Black Dog Generating Station continues an ongoing effort at Xcel Energy to create a clean-energy future for customers.

After more than 60 years of operation, Black Dog ended coal operations in mid-April. During a media event at the Burnsville plant, several Twin Cities’ media outlets covered the arrival of the final coal train to the plant.

Chris Clark, president of NSP-Minnesota, was on hand to discuss the end of the coal era at Black Dog, and how the closure of coal-burning Units Three and Four supports the company’s long-range plan to deliver 63 percent carbon-free energy to its Upper Midwest region by 2030.

“The end of coal operations at Black Dog is a significant marker because it reflects Minnesota’s common interest in pursuing progressive yet sensible ways of improving the environment,” Clark said. “It’s also one piece of a broader strategy for achieving the kind of energy future our customers want and need.”

Black Dog already operates a cleaner and more efficient natural gas combined-cycle unit that was installed in 2002. Future plans call for the addition of an efficient 215-megawatt, gas-fired combustion turbine peaking unit. The new unit will begin operating in 2019.

Also attending the media event were Brian Behm, plant director of Black Dog, and Elizabeth Kautz, mayor of Burnsville. Xcel Energy has joined in a development agreement with the city of Burnsville and Dakota County to enable construction of a trail system along plant property. Black Dog is situated in the Minnesota River Valley and is home to a variety of waterfowl, other wildlife and rare plant species.

“The city of Burnsville has had a great partnership with Xcel Energy, and the Black Dog plant has been our biggest business and a major landmark in the community,” Mayor Kautz said. “We look forward to a continued partnership, and we hope everyone will use the trail when it is complete in 2016.”

The transition at Black Dog builds on Xcel Energy’s track record of creating a clean energy future for customers. Beginning in 2005, the company embarked on a similar effort that replaced two coal-powered plants – Riverside in Minneapolis and High Bridge in St. Paul – with natural gas-powered units, and also installed state-of-the-art emission controls at King Generating Station in suburban Oak Park Heights, Minn.

“Those projects produced exceptional results, as air emissions from those plants were cut by more than 90 percent, more electricity was produced for our customers’ growing needs and energy bills were held below the national average,” Clark said. “These projects also enjoyed significant support from our customers, policymakers and a broad array of stakeholders.”
Reducing the environmental impact of Xcel Energy power plants is only one part of the company’s vision for a clean and affordable energy future, he added.

“In January, we submitted a 15-year road map for ensuring we have the best combination of resources available to meet our customers’ needs over the long term,” Clark said. “Our plan calls for helping our customers save energy through industry-leading efficiency programs, more than doubling our already significant renewable resources like wind and solar, achieving nation-leading carbon dioxide emission reductions, and reducing all types of air emissions by dialing back the use of our coal plants.”

The company can achieve – and exceed – the renewable and clean-energy goals that Minnesotans want with a diverse energy mix that also keeps costs reasonable and preserves the many benefits that a diverse supply portfolio provides, he said.

“While the majority of Minnesota’s energy is generated from coal, that’s not the case at Xcel Energy,” Clark said. “Today, 54 percent of the energy supplied to our Minnesota customers is CO₂-free, well above the national average of 33 percent CO₂-free energy.

“Under our plan, we will deliver 63 percent CO₂-free energy by 2030,” he added. “And it is important to note that we can achieve these results without taking the step of immediately shutting down our coal plants.

What made sense for Black Dog – a smaller, older and less efficient plant – does not necessarily make sense for the newer and more efficient Sherco Generating Station, he said. Instead, Xcel Energy can achieve significant and dramatic carbon reductions by gradually and responsibly dialing back the output from its remaining coal plants.

“This approach will allow us achieve nation-leading CO₂ emission reductions in a way that ensures reliable service at the greatest value to our customers,” Clark said.

Because of investments made by Xcel Energy, its customers and other utilities, power plants contribute far less to air-quality concerns than more widespread sources like cars, trucks, construction equipment, and wood and garbage burning, according to the Minnesota Pollution Control Agency’s most recent air-quality report. That’s a good thing, he said, and one that the company wants to continue to build on in the future.

“So let’s mark the passing of the last rail car of coal to one of our plants, but also celebrate our ability to pursue a clean-energy future in a creative, balanced and affordable way,” Clark said. “We have a good plan – one that positions us to be a clean-energy leader while keeping electricity reliable and affordable. We look forward to working with policymakers, community organizations, customers and others to make this plan a reality.”

Black Dog

Chris Clark, president of NSP-Minnesota, took part in a media event to discuss the end of the coal era at Black Dog.
CUSTOMER ENGAGEMENT

NEW SURVEY ALLOWS CUSTOMERS TO PROVIDE MORE DETAILS ABOUT DESIRED SERVICES

A better way to measure and track customer perceptions is under way at Xcel Energy.

In 2015, a new Customer Engagement Index (CEI) will serve as the company’s survey of record for residential and small- to medium-sized business customers.

It replaces the Voice of the Customer (VOC) relationship survey, which will continue this year to track Xcel Energy’s larger managed customers. The CEI is on the 2015 corporate and operating companies’ scorecards.

“This new tool will help us better align our business-planning efforts with customer feedback,” said Dan Nygaard, vice president of Marketing. “It also will help us develop action plans for improving customer engagement.”

Results from the CEI study will provide business areas within Xcel Energy with insights to address customer engagement – directly aligned with the Strategic Call to Action and the related drive to think and act like a competitive business.

While the VOC survey focused on single questions that measured overall customer value and satisfaction on a 0-10 scale, the new CEI uses multiple questions to model customer perceptions of Xcel Energy on a 0-1,000-point scale.

“With the CEI survey, we can provide more in-depth insight,” said Bruce Nielson, senior market research analyst. “The CEI disaggregates Xcel Energy’s score into key components of trusted brand, operational excellence and product experience, which can then be attributed to functional areas across the company.”

The survey also provides benchmarking against peer utilities and other competitive service industries – including retail banks, waste-management companies, and internet and cell-phone providers, Nielson explained.

The brand-trust portion of the CEI survey focuses on how...
customers and keep them with us for the long term.”

This new tool will help us better align our business-planning efforts with customer feedback. It also will help us develop action plans for improving customer engagement.”

the company performs in supporting local communities, protecting the environment, caring about customers and creating a good reputation, among other measures. This portion comprises 30 percent of the total CEI.

Another 40 percent of the CEI covers operational excellence. These questions focus on safety and reliability, billing and payment, and customer and field service.

CEI survey questions around product engagement query customers about awareness of benefits, product usage, and product features and design. This segment of the CEI comprises the final 30 percent index.

“It will help us identify which products and programs customers use, are interested in, or are not interested in,” Nielson said. “In the end, we discover where their interests lie, work with our peer companies to see how they are creating success, and then work to make our products and programs more attractive.”

In 2015, residential and small- to medium-sized businesses will be surveyed online on a quarterly basis. Large, managed customers will continue to participate in the VOC relationship survey this year, but may be incorporated into the CEI in the future.

Xcel Energy currently scores around the midpoint for residential customers among 29 combination electric and natural gas utilities, he said. The syndicated survey includes 125 electric and gas utilities across the United States.

Last year, a company team completed a bidding process in search of a vendor to provide a new customer survey and related metrics. The resulting choice of Market Strategies International provided the company with a way to improve customer engagement.

“We know from research that many customers who report high satisfaction levels will still select another service provider when given a choice,” Nielson explained. “This new survey will help us better understand changes we can make to engage our customers and keep them with us for the long term.”

First quarter 2015 earnings reported

Xcel Energy recently reported 2015 first quarter GAAP earnings of $152 million, or $0.30 per share, compared with $261 million, or $0.52 per share, in the same period in 2014.

First quarter 2015 ongoing earnings, which exclude an adjustment for a charge related to the Monticello life cycle management/extended power uprate project, were $0.46 per share, compared with $0.52 per share for the first quarter of 2014.

The decrease in ongoing earnings was largely attributable to the negative impact of weather. The extreme cold weather experienced in the first quarter of 2014 positively impacted earnings by approximately $0.05 per share.

The weather in 2015 was closer to normal, resulting in a net negative variance when comparing periods.

Other factors include higher depreciation, operating and maintenance expenses, property taxes and lower allowance for funds used during construction. These amounts were partially offset by earnings from higher electric margins due to new rates and riders in various jurisdictions.

“We had a solid first quarter, with progress on several fronts,” said Ben Fowke, chairman, president and CEO. “We achieved regulatory certainty with rate case decisions in Colorado and Minnesota, and resolution in connection with the Monticello nuclear facility prudence review.

“We increased our dividend 6.7 percent and raised our dividend growth target to 5 percent to 7 percent, reflecting the confidence we have in our business plan and our financial flexibility,” he added. “Looking ahead, we fully expect to meet our O&M growth target of 2 percent or less, and we are reaffirming our 2015 ongoing earnings guidance to $2.00 to $2.15 per share.

“We also received some welcome recognition recently that illustrates our long-standing commitment to environmental leadership, corporate governance and our nation’s veterans,” Fowke said. “The American Wind Energy Association named us the No. 1 provider of wind energy in the nation for the 11th consecutive year; Forbes Magazine put us on their 100 Most Trustworthy Companies in America list; and Military Times once again recognized us as a Best for Vets employer.”

First quarter 2015 GAAP earnings included a $0.16 per share charge related to the Monticello nuclear facility life cycle management/extended power uprate project, which in total cost $748 million. In March 2015, the Minnesota Public Utility Commission approved full recovery, including a return, on $415 million of the project costs, inclusive of allowance for funds used during construction, but only allow recovery of the remaining $333 million of costs with no return on this portion of the investment for years 2015 and beyond. As a result of this decision, Xcel Energy recorded a pre-tax charge of approximately $129 million.

News Brief
There is no small print in the new contracting initiative that Xcel Energy recently rolled out.

In putting together contracting agreements for new gas and electric construction, the company clearly spelled out the language – providing the opportunity for both contractors and Xcel Energy to increase efficiency, decrease costs and maximize investment yield.

The new contracts roll contractor labor, overhead and equipment – all costs related to a job except materials – into a “unit-based” formula, such as “per foot” or “per pole.” They give contractors incentives to make their processes more efficient, as every process they improve helps them earn more money by installing more facilities.

The contracting effort came together through a close partnership between Distribution Operations and Supply Chain Sourcing, and is part of the “Distribution Way” program – the business area’s commitment to operational excellence through best practices, continuous improvement and a common operating model. The Distribution Way aligns with the company’s Strategic Call to Action and Productivity through Technology effort through its overall drive toward operational excellence.

“While we have used the unit-based approach in the past for some contracts, we saw an opportunity to expand the approach to other contracts that had been previously awarded on a fixed-lump-sum or time-and-equipment basis,” said Steve Foss, regional vice president of Distribution Operations and team sponsor. “While these approaches were competitively awarded, we felt there was a better way to gain efficiency and save money on typical and repeatable gas and electric distribution construction work.”

“The new unit-based pricing approach was established through multiple rounds of clarification, negotiation and competitive bidding,” added Bob Kunze, director of Supply Chain Sourcing and Purchasing. “It saves money and drives contractors to be more efficient because Xcel Energy only pays for work produced.”

Contractors, of course, also can improve efficiency and work to maximize their profits, while helping minimize costs for Xcel Energy. In general, the new contracting process gives contractors much more control – and responsibility – in managing all aspects of construction projects, Kunze said.

Plus, new gas and electric projects are being scheduled with plenty of lead time, offering contractors the opportunity to plan their work schedules and all related work, such as procuring materials, well in advance.

The new opportunities now being offered to contractors did not happen by chance. They came about by the company asking contractors what kinds of process improvements they wanted to see during the bidding process.

“During the bidding process for the unit-structured contracts, we specifically asked bidders for their input around critical success factors,” said Tim Virant, director of Contractor and Utility Services, NSP-Minnesota. “Their responses were informative, and we worked with them as we put this new process in place.”

Critical success factors mentioned by contractors included:

- Having work assigned to them well ahead of time.
- Having as much ownership and management of the process as possible.
- Allowing them to schedule work to minimize travel time, and assign work by geographic area to further minimize travel time.
- Standardizing the work as much as possible.
- Allowing them to be in control of materials so trips to Xcel Energy service centers are minimized or eliminated.

“In short, contractors were asking us for more control over how they do their work, and for plenty of advance scheduling to allow for ample planning,” Virant said. “And so far, the new contracting strategy is paying off for both parties.”

“Good planning and scheduling is
key,” he added. “The contractors now have more control over the day-to-day process, so they can schedule and use resources in optimal ways.”

For example, it is now crucial for contractors to be on top of scheduling and related communications. It costs them money to sit idle while waiting on materials, which they are now responsible for when it happens, Kunze said.

“All that said, however, Xcel Energy has a key accountability in keeping a rolling three- to four-month pipeline of work in front of our contractors,” he said, “so they can keep crew resources and materials consistent and balanced.”

In turning over control to contractors, however, it becomes even more critical to ensure the quality of work.

“We have an inspection program using Xcel Energy employees and/or third-party contractors to perform inspections of crews at regular intervals,” Virant said. “Any workmanship issues are addressed immediately, and inspection results are reviewed at ongoing Contractor Scorecard Review meetings. In addition, our contracts include a workmanship warranty of a minimum of one year.”

The increased control by contractors over their work—coupled with the new sense of accountability that the new contracts offer—has led to the expected and desired results, said Forrest Jenkins, director of Contracting and Utility Services, PSCo. Increased efficiency has led to increased savings for Xcel Energy, along with gains for contractors.

“The new model is largely unit-based, where our contractors bill us on pre-defined costs per foot of gas pipe or electric cable installed,” Jenkins said. “This process places responsibility for efficiency on the contractors. We have a stake in making sure we are not hindering efficiency.

“The more efficient they are, the more they can profit from each unit installed,” he added. “In this way, we stabilize our costs while allowing an opportunity for contractor profit. It is a win-win approach and has been well received by our contractors.”

The new process already has proven its worth in terms of increased savings for Xcel Energy. Company departments have been analyzing historic project costs with the new contracting process. For similar projects, savings of 8 to 13 percent have been realized.

In fact, based on cost-per-unit analysis, the company has seen an average 10 percent reduction in costs in just one year (2013 vs. 2014). Millions of dollars in savings lie ahead in the years to come, Jenkins said.

“Viewing contractors as partners rather than adversaries was an important part of this process, as well as acknowledging that we have sometimes been part of the problem,” Jenkins said. “Understanding how contractors view the work required important and needed culture changes. And although those changes are not always quickly or easily accepted, when they happen, we see positive results.”

Culture Change
A shift in how work is completed under a new effort provides contractors more control over how they do their work.
TRANSMISSION SAFETY SUMMITS

There’s no better way of making safety personal than by getting together in person to share experiences with close calls, near misses and best practices.

“This includes learning from and sharing with our contractor partners,” said Dave Cenedella, director of Transmission Construction and Line Operations. “When it comes to safety, our industry and partners are more than willing to collaborate with each other and with us.”

This was the approach taken at the first-ever Transmission Safety Summits, held this spring in Amarillo, Denver and Minneapolis.

“We talked about how we can work together to help create an even stronger safety culture by making safety a personal issue,” Cenedella said. “The summits were a follow-up to our Safety Webcast in January, which helped reinforce safety expectations and communicated our safety plan for 2015.”

The “Partnering for Safety” Summits were attended by safety leaders and employees from Xcel Energy and its contractors – with representatives from more than 40 companies that contract with Xcel Energy. Combined attendance at all three summits totaled well over 600 attendees.

“The Safety Summits were designed to ensure everyone working at Xcel Energy worksites understands safety expectations, as well as to share best practices with the objective of preventing injuries and close calls,” Cenedella said. “Our shared values around safety are what make us partners, and each of us has the power to shape our common work environment and influence others to work safely.”

The keynote speaker at the summits, Jeff “Odie” Espenship, presented his “Back to Basics – Focusing on Safety Leadership Fundamentals,” which he has given to more than 100 top U.S. Fortune 500 companies. In his presentation, Espenship emphasized the importance of “being your brother’s keeper” through leading by example and always being aware of how one’s actions may influence others.

In addition, Mike Boyd, from the Fallen Lineman Organiza-
tion, provided a sobering reminder of how important it is to keep safety as the highest priority.

In her welcome address, Teresa Mogensen, vice president of Transmission, reinforced that message. “Everyone working on Xcel Energy projects needs to join together in putting safety as our top priority,” she said. “With our internal and external crews working together toward a common goal of zero injuries, we have an opportunity to be a role model in the industry, and most importantly, to create a safe work environment for everyone on the job.

“Xcel Energy has been on a Journey to Zero injuries — making steady progress each year,” she added. “We believe achieving zero injuries is possible. And to keep making progress, we want to talk about our injury trends and near misses or good catches, as each good catch heads off at least one injury.”

In the field environment at Xcel Energy, constant vigilance is required for identifying hazards, making safety improvements, reinforcing safety messages and communicating expectations, Mogensen said. “We want you to leave here today better equipped to do your part in continuing to advance our shared safety culture,” she said.

The summits included presentations on: safety intervention and stop-work responsibility; the Human Performance initiative; the job briefing initiative; and electrical induction and preferred grounding practices.

“The Safety Summit featured a lot of good content and speakers,” said Bill Koertner, president and CEO of MYR Group. “We send our thanks for investing in your contractors and including us.”

MYR Group is a specialty electrical contracting firm that has worked on Xcel Energy transmission and distribution construction projects in Colorado, Minnesota, Texas and Wisconsin.

A few key safety messages covered at the summits included:

- All safety rules, processes and procedures are to be followed at all times, by everyone.
- Doing a robust hazard analysis and a thorough job briefing are critical elements of working safely. Regularly ask, “What has changed?” And if something has changed, stop and repeat as many times as needed throughout the day or job to ensure safe work.
- Actively use Human Performance tools. These strategies have been tested across many industries and are proven to reduce errors as they support safe work.
- When a safety incident does occur, work together to put corrective actions in place that result in positive changes in processes, tools and training.

The Safety Summits were designed to ensure everyone working at Xcel Energy worksites understands safety expectations, as well as to share best practices with the objective of preventing injuries and close calls.”

The summits were aimed at reaching out to contractors to create a learning environment between the two groups, and to reinforce for contractors the expectations that Xcel Energy has around safety, said David Ott, manager of System Protection in Wisconsin.

“Our shared safety culture is what we make of it, and we want to create a partnership for safety with our contractors,” Ott said. “We can each contribute positively to our work environment and influence how safely our work is being done.”

The Safety Summits were designed to ensure everyone working at Xcel Energy worksites understands safety expectations, as well as to share best practices with the objective of preventing injuries and close calls.”
A passing cloud can provide relief on a hot summer day, but it also can cause issues with solar-power generation.

“Our experience shows that passing clouds can cause the output of solar photovoltaic (PV) resources to drop from 100 percent output to 20 percent in a matter of seconds – and then climb back to 100 percent just as quickly,” said Al Choi, manager of the company’s Emerging Technology team. “This variability affects our ongoing ability to manage the grid, especially as the amount of solar PV on the system continues to grow.”

With its top 10 rating for solar capacity in the United States – and ramping up for more – Xcel Energy has been researching the issue.

As more solar arrays continue to come online – including rooftop, community and utility-scale – efforts are under way to find a reliable, cost-effective way to store portions of the solar power being generated today and keep power distribution steady.

To that end, utility-scale batteries can supplement the grid during rapid fluctuations and “extend” solar energy to cover peak-demand periods, Choi said.

Battery technology has come a long way in recent years, and Xcel Energy recently completed a multi-year test of a utility-scale battery in a real-world setting. Working with the Electric Power Research Institute (EPRI) and others, the company created an energy-storage project to test possible solutions and produce results based on integrating storage systems with solar installations.

The demonstration project took place at the Solar Technology Acceleration Center (SolarTAC) in Aurora, Colo., where participating companies are testing their technologies in a real-world setting. SolarTAC was created in 2009 as a testing site for companies and organizations specializing in solar. The site provides a place where companies can test their technologies...
to see if they are ready for market or determine what improvements are still needed.

“This was a pivotal demonstration of the commercial viability of energy-storage systems,” Choi said. “The Solar-To-Battery (S2B) project demonstrated how battery-energy storage can smooth solar power’s variability and provide power when the sun isn’t there.”

Xcel Energy worked with Texas-based Xtreme Power on the demonstration project. The S2B project began in 2010, and at the end of 2011, the team threw the switch to connect a neighboring solar array to the battery storage system.

“The S2B demonstration has offered valuable insights into the performance and reliability of utility-scale storage technology,” said David Stevens, Emerging Technology’s project manager. “Solar is a growing part of our energy resource mix, and the variability common with solar-energy production can lead to potential voltage fluctuations and other grid-management concerns.

“Solar generation produced at SolarTAC provides an ideal opportunity to study the issue,” he added, “along with solutions related to accommodating large amounts of solar energy on our system.”

As costs of large-scale batteries continue to decline, the question is: “Can Xcel Energy benefit by integrating battery-energy storage with solar generation?” Although the answer is still largely dependent on the future cost of batteries, Xcel Energy’s Emerging Technology team is seeking to understand how batteries may optimize large-scale solar generation.

During the S2B project, the team worked with the battery over hundreds of days and thousands of cycles to understand the system’s smoothing operation and its limits, he explained. In the end, the effort demonstrated the capability of battery-energy storage to mitigate cloud-cover effects. Plus, the system was able to charge and discharge within microseconds to smooth...
the solar output before it reached the grid.

The S2B project also proved the concept of time-shifting – in which energy stored earlier in the day can be dispatched later to support increased demand in late afternoon and evening. At a predetermined time during the late afternoon, the solar energy stored was released back into the grid, essentially acting as a small peaking plant.

The Next Generation team continues to analyze the immense amount of data acquired during the project’s two and a half years of operation.

“The findings have furnished both EPRI and the utility industry with a greater understanding of the ability of battery storage to integrate variable solar generation into distribution grid,” said EPRI’s Nadav Enbar.

Emerging Technology’s engineer-analyst Michelle Lim added, “Our intent is to discover even more details that will benefit Xcel Energy and its customers as battery-energy storage continues to become more mainstream.”

The Next Generation team also is currently working on another battery project, called Community Energy Storage. This smaller 25-kilowatt system is connected to a simulated four-home neighborhood, where all of the houses have rooftop solar panels.

“Solar energy technologies are diverse and continue to rapidly evolve,” Choi said. “We hope these demonstration projects will prove to be a pivotal point in combining solar power with energy storage, and in turn underscore for utilities and other electricity providers that viable energy-storage systems can become a commercial reality.”

Battery Power

On pages 12 and 13, the housing for the battery portion of the Solar-to-Battery project is removed after a multi-year research project recently came to a close. On this page, personnel work at removing the battery installation. Research on the data from the effort continues.
Company releases 2014 CO₂ emissions information

Xcel Energy saved more than 2.5 million tons of carbon dioxide (CO₂) from its operations in 2014 compared to 2013, the equivalent of taking about 480,000 cars off the road for a year, according to the company’s latest emissions reporting.

“Through the company’s use of renewable energy, energy efficiency and plant modernization projects, we continue to see a downward trend in CO₂ emissions,” said Jack Ihle, director of Environmental Policy.

2014 results show that Xcel Energy has reduced CO₂ emissions 22 percent since 2005, with the company projecting a 30 percent reduction by 2020, based on current energy forecasts, he said.

Xcel Energy’s 2014 CO₂ worksheet is published in advance of the annual Corporate Responsibility Report and is available for customers and others interested in the company’s CO₂ emissions and calculating their own emissions associated with energy usage. The worksheet includes CO₂ and energy mix information for Xcel Energy and each of its three operating systems.

“Four years ago, Xcel Energy released the first CO₂ worksheet, and we continue to evolve this tool to provide customers with another means of quantifying our CO₂ emissions,” said Ihle.
Snowy Owl Sighting

After a snowy owl was spotted a few times near Wisconsin’s Ashland Service Center, Larry Bird, lineman-journeyman, recently was able to get within 10 feet of the owl for this photo. He said the owl noticed him and his camera, but he was able to take several photos of the bird on the power poles laying in the yard. Then the owl flew right by him on its way out of the yard. The snowy owl sighting was a first for Bird.

Editor’s Note: “Photo Op” is a standing feature in Xtra. Each issue, a photo submitted by a reader or produced by a member of Corporate Communications will be published. Please submit high-resolution digital photos to the editor at the email address listed on the back page of this publication. By submitting images for “Photo Op,” employees give Xtra permission to run the photos.
Eleven years and counting now, Xcel Energy has been named the country’s top utility wind-energy provider by the American Wind Energy Association (AWEA), as the company continues to lead the nation in providing wind energy to its customers.

“Xcel Energy is proud to have grown the use of clean, emissions-free wind energy at a reasonable cost for customers,” said Ben Fowke, chairman, president and CEO. “Our wind portfolio is second to none.”

In 2014, wind energy made up about 16 percent of the company’s energy supply. Currently, Xcel Energy has more than 5,700 megawatts of wind power in its portfolio, enough to meet the energy needs of nearly 2.8 million homes.

Xcel Energy is the first U.S. utility to exceed 5,000 megawatts of wind, according to a new AWEA report. Only nine countries in the world, in addition to the states of Texas, Iowa and California, have more than 5,000 megawatts of wind capacity.

After Xcel Energy’s No. 1 ranking with 5,735 megawatts of wind power comes Berkshire Hathaway Energy (including PacifiCorp, NV Energy and MidAmerican Energy) at 4,992 megawatts. Ranked third is Southern California Edison with 3,531 megawatts, followed by American Electric Power (2,185) and Pacific Gas and Electric (2,060).

“Today, we have enough confidence in our wind operations and forecasts that we can back down less efficient fossil fuel plants during times when high winds are predicted,” said Frank Prager, vice president for Policy and Federal Affairs. “It’s a practice that is reducing fuel costs for customers and saving nearly a quarter million tons of carbon dioxide emissions annually.”

In addition, the top 10 states for wind capacity include three in the company’s service territory: Texas ranks No. 1, Minnesota is No. 8 and Colorado is No. 10. As well, North Dakota comes in at No. 11.

In 2013, Xcel Energy announced plans to expand its use of wind power by another 40 percent by 2016. The company is adding nine projects throughout its service territory, representing 1,900 megawatts of new wind energy resources, enough to serve about another 900,000 homes.

The projects were all acquired at prices competitive with new natural gas-fueled generation, Prager said, and are estimated to save customers more than $900 million over the length of the contracts.

At the end of 2014, one-third of this commitment was fulfilled as three of the contracted wind projects came online in Colorado, Texas and Oklahoma, totaling about 650 megawatts. The remaining six projects are on schedule to be completed later this year.
**People**

**We’ll Miss**

**Richard L. Anderson**
76, senior routing specialist, Meter Reading, Chestnut Service Center, Minneapolis, Minn., died on March 29, 2015. He worked for NSP from 1958 to 1996.

**Kenneth C. Bernson**
63, heavy equipment operator, Transmission Construction, Amarillo Technical Center, Amarillo, Texas, died on April 8, 2015. He worked for SPS from 1992 to the time of his death.

**Morgan H. Clarity**
77, Minnesota, died on March 26, 2015. He worked for NSP from 1957 to 1993.

**James R. Darsow**

**Virginia M. Donahoe**
91, employee education supervisor, Employee Development and Training, 414 Nicollet Mall, Minneapolis, Minn., died on March 26, 2015. She worked for NSP from 1945 to 1983.

**Edward J. Johnson**
59, senior originator, Energy Trading, 414 Nicollet Mall, Minneapolis, Minn., died on April 19, 2015. He worked for Xcel Energy from 1994 to the time of his death.

**Robert F. Jonas**

**James M. Ellinger**
66, risk quantitative assistant analyst, Load Forecasting and Analysis, 1800 Larimer, Denver, Colo., died on April 12, 2015. He worked for Xcel Energy from 1980 to 2013.

**Stephen M. Fait**

**James J. Gentile**
93, lead street fitter, Gas Street, Lipan Service Center, Denver, Colo., died on March 18, 2015. He worked for PSCo from 1948 to 1976.

**James L. Kalisch**

**Raymond E. Marjamaki**

**Ivy A. McGeath**

**James J. Gentile**
93, lead street fitter, Gas Street, Lipan Service Center, Denver, Colo., died on March 18, 2015. He worked for PSCo from 1948 to 1976.

**Joan B. Peterson**

**Lana G. Pierce**

**Fred J. Raber**

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**Letters**

**‘Your people did a great job’**

Dear Xcel Energy:
During the last cold spell, your people did a great job! We never lost power, and we were warm and comfortable. Thank you very much!

—Elton and Janis

**‘He was the nicest person’**

Dear Xcel Energy:
I would like to compliment the technician who recently came to my home to inspect my furnace. I suspected a natural gas leak, and your employee responded to my call. He was the nicest person, had a sweet spirit and was very thorough in his inspection. He was kind and patient, and I wanted to thank you for hiring employees like him.

—Shirley

**Getting a callback meant a lot**

Dear Xcel Energy:
I just finished doing business with Erika Rodriguez (customer contact center associate) on the phone. She was amazing!
She took care of all my needs, and helped do it as quickly and painlessly as possible. She followed up with me afterward and handled my problem perfectly. Getting her callback really meant a lot to me. Great service. Thank you!”

—Jeanine

**Going beyond expectations**

Dear Xcel Energy:
I want to thank Matthew Friell (correspondence representative) for his prompt response and thorough explanation. I really appreciated his help and timely assistance.
I figured I misunderstood the bill, but any time that much money is involved, I get concerned. I thanked him for providing clarity.
Furthermore, I appreciated him going beyond my expectations to adjust my current bill. I very much appreciated his help and was impressed with how quickly he responded.

—A Colorado Customer
Richard B. Reetz

Jack L. Riley

Robert G. Savoren

Joseph F. Schilds

Heather M. Steele
35, customer contact center associate, Customer Contact Center, Skypark, Eau Claire, Wis., died on April 24, 2015. She worked for Xcel Energy from 2014 to the time of her death.

Delbert D. Stover

Retiring

Jennifer A. Cornell
(jacornell2@gmail.com), storekeeper, Stores, Kipling Service Center, Lakewood, Colo., retired on April 30, 2015. She worked for Xcel Energy for 35 years.

Robert C. Correll
(thecorrells@hotmail.com), facility attachments consultant, Facility Attachments, Rice Street Service Center, St. Paul, Minn., retired on April 30, 2015. He worked for Xcel Energy for 36 years.

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Richard B. Reetz

Jack L. Riley

Robert G. Savoren
Got an old fridge or freezer, working and wheezing away in your garage? Call Xcel Energy. We’ll pick it up, haul it away and recycle it—for FREE.* You’ll save money on future bills and you’ll even earn a $50 rebate for doing such a responsible thing. Why? Because that’s how we roll.

* Participation in this program is subject to important rules and eligibility requirements, including but not limited to certain size requirements and types of units, which are detailed at ResponsibleByNature.com/Fridge. Program not available in all markets.