2015 PRAIRIE STATE YEAR IN REVIEW

THE POWER OF PEOPLE

Owners + Employees + Communities

PRAIRIE STATE
Generating Company

www.prairiestateenergycampus.com
Prairie State is 95 percent owned by not-for-profit municipalities and rural electric cooperatives, serving more than 2.5 million families across the Midwest.

Prairie State’s employees are its most valuable asset. Our team of more than 600 industry professionals are setting the standard for the way coal and electricity should be produced.

Prairie State works to be a good neighbor by giving back to the communities surrounding the campus through our community giving and volunteer programs.
As we conclude another year, I am inspired by how much the Prairie State team has continued to develop as an organization in the ever-changing energy industry in which we operate. More than ever before, the member-communities that rely on power from our energy campus, are counting on the team at Prairie State to excel and evolve in each area of our business. One of my goals for Prairie State is that we prove to the world that coal-fired power has a place in our energy future. We strive to accomplish this while maintaining the highest standards for safety, environmental and regulatory compliance, reliability, and cost. It is truly the people that make the biggest difference and in 2015 we had a strong year thanks to a lot of dedicated employees. Unfortunately we can’t survive, let alone prosper, by standing still. Persistently low gas prices, marginal growth in energy consumption, ever increasing demands for higher levels of reliability, and a stricter regulatory landscape will continue to challenge Prairie State and the rest of the industry. It has never been more important to find new ways to get better and improve our operations. Like safety, continuous improvement is most powerful when it becomes a way of life. I am confident that our engaged and talented employees will drive us to become a learning organization to achieve necessary improvements. We know from experience, that progress doesn’t necessarily come in leaps and bounds, but follows from a passionate commitment to make things better, step-by-step. In 2016 we are focused on driving success, achieving our goals and ensuring that we always deliver results for our owners. The hallmarks of a winning culture are to develop a team of people that respects each other, trusts each other, and communicates well with each other. Success requires the best from all of us and working cohesively is crucial to unleashing our full potential. We strive to have a culture where great ideas, regardless of the source, are fast-tracked to make us better. The theme for Prairie State’s Year In Review, “The Power of People” further underscores how our 2015 performance was made possible by the collaborative efforts of our employees, our owners and the communities we serve. The energy industry is in a state of transition, and so are we. We will continue to look for ways to get our jobs done even better every day, and I remain confident we can build a bright future for Prairie State and for all of us together.
Prairie State is 95 percent owned by not-for-profit municipalities and rural electric cooperatives from across the Midwest. Our energy campus provides base-load electricity to its ownership group, which uses it to the benefit of more than 2.5 million families across 180 communities from Missouri to West Virginia. The electricity generated at Prairie State represents a portion of the large, diverse power portfolios that our owners manage.
The entire Prairie State team made significant improvements to campus operations in 2015, marking the best annual performance for both the mine and power plant since the start of commercial operations. As in previous years, operations has placed a strong focus on improving overall performance while constantly searching for cost reduction measures and advancing efficiencies.

Mine

In order to improve productivity, the mine leadership team redirected personnel to utilize all three shifts for production. This enabled the mine team to increase the use of a more efficient mining process known as “red light, green light.” Implementing this process increased the productivity metric of feet per mechanized mining unit (MMU) shift from 277 feet in 2014 to 292 feet in 2015. This new mining method helped drive a 29 percent increase in overall production tons in 2015, and reduced mining costs by 8 percent.

As a facility that is planning for the long term, asset preservation is one of Prairie State’s key focus areas, and the mine developed and introduced an out-of-seam dilution (OSD) initiative in 2015 to minimize the power plant’s future exposure to boiler erosion. The mine’s floor material is composed of clays and silicates, thus reducing the amount of floor being mined and sent to the power plant is important to the longevity of our campus operations.

As in previous years, operations has placed a strong focus on improving overall performance while constantly searching for cost reduction measures and advancing efficiencies.
To improve OSD, experienced mine operators mentored co-workers on the best cutting processes underground and Joy Global’s innovative “Smart Cut” technology was implemented on three continuous miners in 2015. As a result of these combined initiatives, there was a 35 percent reduction in floor material. Further technology developments and techniques to control OSD are being carried into 2016.

Power Plant

2015 proved to be a transitional year for Prairie State’s power plant performance with a year-end Equivalent Availability Factor (EAF) of 80.9 percent, a nearly 12 percent improvement over the previous year. Through continued efforts to increase power plant reliability, the average Equivalent Forced Outage Rate (EFOR) for 2015 was reduced by 5 percent and cost per megawatt hour was reduced by 6 percent, as compared to the previous year. Several new records were also achieved throughout the year, but the two most notable months of record-setting performance were in August and September. In August, unit one’s performance set the unit’s highest net generation at 588,628 megawatt hours, the highest Net Capacity Factor (NCF) at 97 percent, the highest monthly EAF at 99.8 percent, and the lowest monthly EFOR at 0.16 percent. In September, unit two’s performance set the unit’s highest EAF at 98.8 percent. Additionally, the highest plant monthly EAF was set at 97.8 percent and the highest plant monthly net generation was set at 1,115,765 megawatt hours. The initiatives and planning efforts that were executed by the entire campus team in 2015 were impactful to the year’s improved reliability and performance measures, but will also help to better position Prairie State in the decades to come.
Safety is our core value at Prairie State, and in 2015 we continued our efforts to develop this culture through dynamic processes that engage all employees. Prairie State strives to assure all of our campus operations are considered best in class, and the hallmark by which all power generation and coal mining safety and health processes are measured.

At the Prairie State Lively Grove mine, this action takes the form of daily pre-operation checks on equipment, work place observations and employee-led pre-shift safety discussion. In 2015, the mine implemented industry-leading engineering controls on equipment in the form of proximity detection systems on the continuous mining machines and advanced safety operational systems on ram cars. The mine also made significant improvements to its firefighting capabilities. This added level of protection will help to safeguard our employees and the mine in the unlikely event of an underground or surface fire. The result of this work at the mine was an all incident rate 41 percent below the industry average and 24 percent lower than the previous year.

The total number of reportable accidents also decreased by 7 percent, as compared to 2014.

The power plant engaged employees in their safety process development through three major projects to address workplace hazards, completed by the employee safety committee, and an upgrade to the plant’s emergency medical services response system. Forty-eight plant employees were trained and certified as Illinois state certified emergency medical first responders. The power plant team also engaged the regional joint venture contractor training center to provide a consistent, high level of safety training and screening for all contractors prior to coming to work at the power plant. These efforts contributed to the power plant’s lost time injury cases decreasing by 75 percent in 2015, which is 65 percent below the industry average.

Prairie State’s dedication to safety as our core value continues into 2016 through active employee engagement and ownership of safety initiatives to proactively prevent injuries and accidents.
Prairie State believes being a good environmental steward is important to the longevity of our energy campus, and is constantly seeking ways to reduce our overall carbon footprint and implement sustainable business practices. In 2015, two material handling upgrades were implemented at the power plant in order to improve the operating systems’ reliability and also the capability to beneficially reuse coal combustion residual (CCR) materials. Through the advanced emissions control processes in place at Prairie State, three CCRs are produced: gypsum, fly ash and bottom ash. The beneficial reuse of these CCRs has increased steadily over the last 30 years in the energy industry.

The mining and power generation industries are both highly regulated, and it takes a concerted effort across all departments at Prairie State to maintain, and in some cases, exceed expectations in regards to environmental compliance. There is no mandate for power plants to beneficially reuse CCRs, however Prairie State places a high focus on environmental responsibility and recognized the importance of launching a campus-wide program for sustainability and beneficial reuse. More than 160,000 tons of CCRs were beneficially reused in 2015, and this number will increase in 2016.
In addition to the avoided landfill costs of beneficially reusing CCR, there are also many environmental benefits, one of which is offsetting carbon dioxide (CO₂) emissions. Some of the fly ash produced at Prairie State was used as a replacement for Portland cement in concrete this year. For every ton of Portland cement manufactured, approximately one ton of CO₂ is released into the atmosphere. By substituting fly ash for Portland cement in concrete, those CO₂ emissions are avoided. Using fly ash in concrete instead of Portland cement is an exceptional way to “build green” without compromising cost or quality of the concrete. Nearly 19,000 tons of CO₂ were offset in 2015 through the use of Prairie State’s fly ash in Portland cement. An additional 4,900 tons of CO₂ were offset through land treatments on Prairie State property, a new transportation route for the disposal of coal mine waste, and tree planting. While we fully expect our sustainability and beneficial reuse programs to expand over time, Prairie State is proud to have made major strides in these efforts in 2015, thereby creating the platform for continued success.

Recycling Statistics

- 1,617 pounds of batteries and bulbs
- 185,519 pounds of single stream recycling
- 5,587 pounds of e-scrap
- 5,587 pounds of batteries and bulbs
- 1,617 pounds of single stream recycling
- 358,943 gallons of storm water recycled
- 9,625 gallons of oil recycled
Prairie State’s employees are its most valuable asset, and our team of more than 600 industry professionals are setting the standard for how coal and electricity should be produced, while also working to be good neighbors by maintaining an active role in the communities surrounding the campus. Through our community giving and volunteer programs, our employees partnered with local not-for-profits and youth programs to enrich our part of southern Illinois.

2015 marked the eighth successful year of Prairie State’s toy and food drive collections. Our employees are proud to have provided for more than 200 local children and families in need. As a part of our youth support program in 2015, Prairie State partnered with the local grade school to bring the Junior Achievement program to students in kindergarten through sixth grade. Junior Achievement educates young people about work readiness, entrepreneurship, and personal finance with hands-on, engaging programs.

For the first time in 2015, Prairie State’s employee golf outing was designed as a scholarship fundraiser. This program was established to encourage the children and grandchildren of Prairie State’s employees to pursue their career goals through higher education. The employee event and scholarship program were a huge success, and five $1,000 scholarships were awarded.

In January 2015, an all-volunteer group of employees who believed that we can and should invest in the community created a blood drive committee. Three blood drives were held at Prairie State in 2015 in which 295 pints of blood were collected, saving up to 885 lives. The committee recognized that blood donations could raise the outlook for healthcare self-sufficiency in southern Illinois, and the sheer importance of saving the lives of local people.

Prairie State’s employees plan to carry each of these initiatives into 2016, with the goal of further enhancing nearby communities and their not-for-profit programs.