



Kiewit is one of North America's largest and most respected construction and engineering organizations. With its roots dating back to 1884, the employee-owned company operates through a network of offices and projects in the United States, Canada and Australia. Kiewit offers construction and engineering services in a variety of markets including transportation, water/wastewater, power, oil, gas and chemical, building and mining. Kiewit had 2012 revenues of more than \$11 billion and employs more than 30,000 staff and craft employees.

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KIEWAYS

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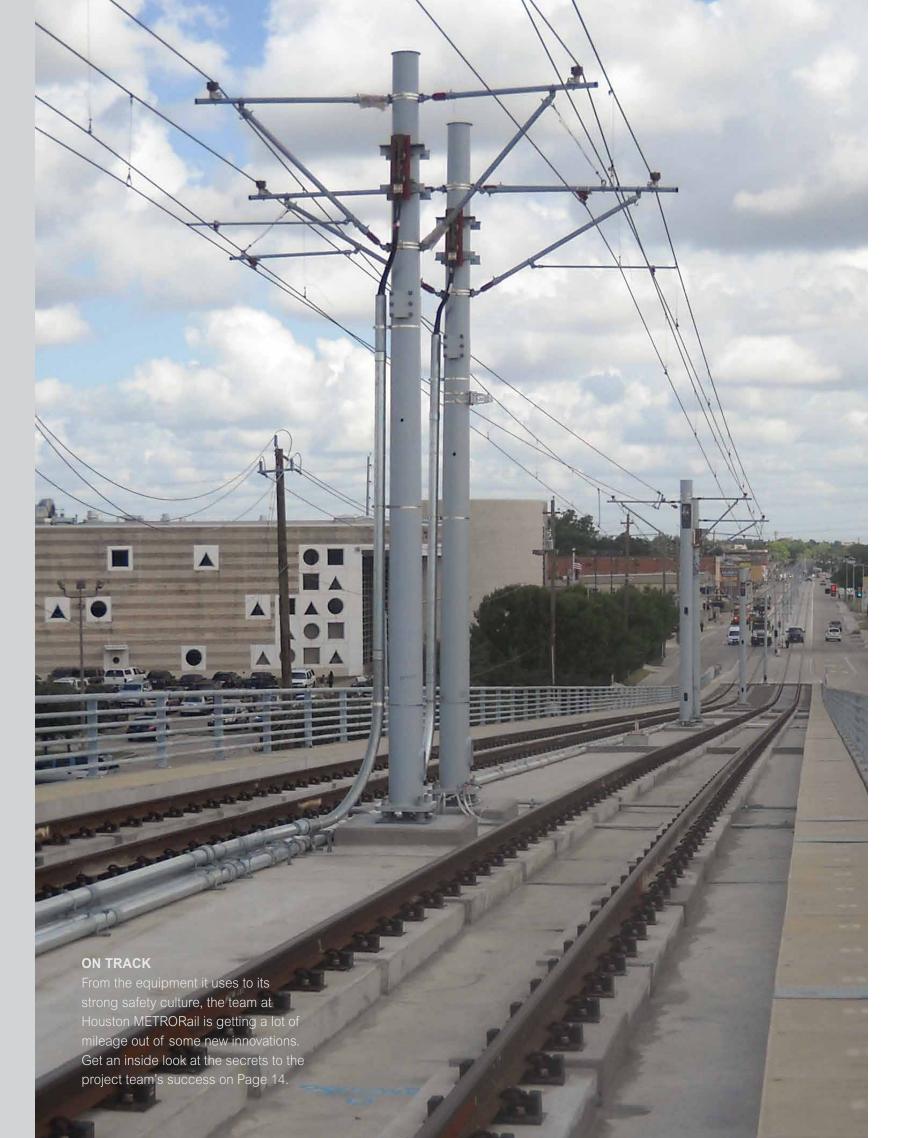
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PUTTING OUR CAPABILITIES TO WORK

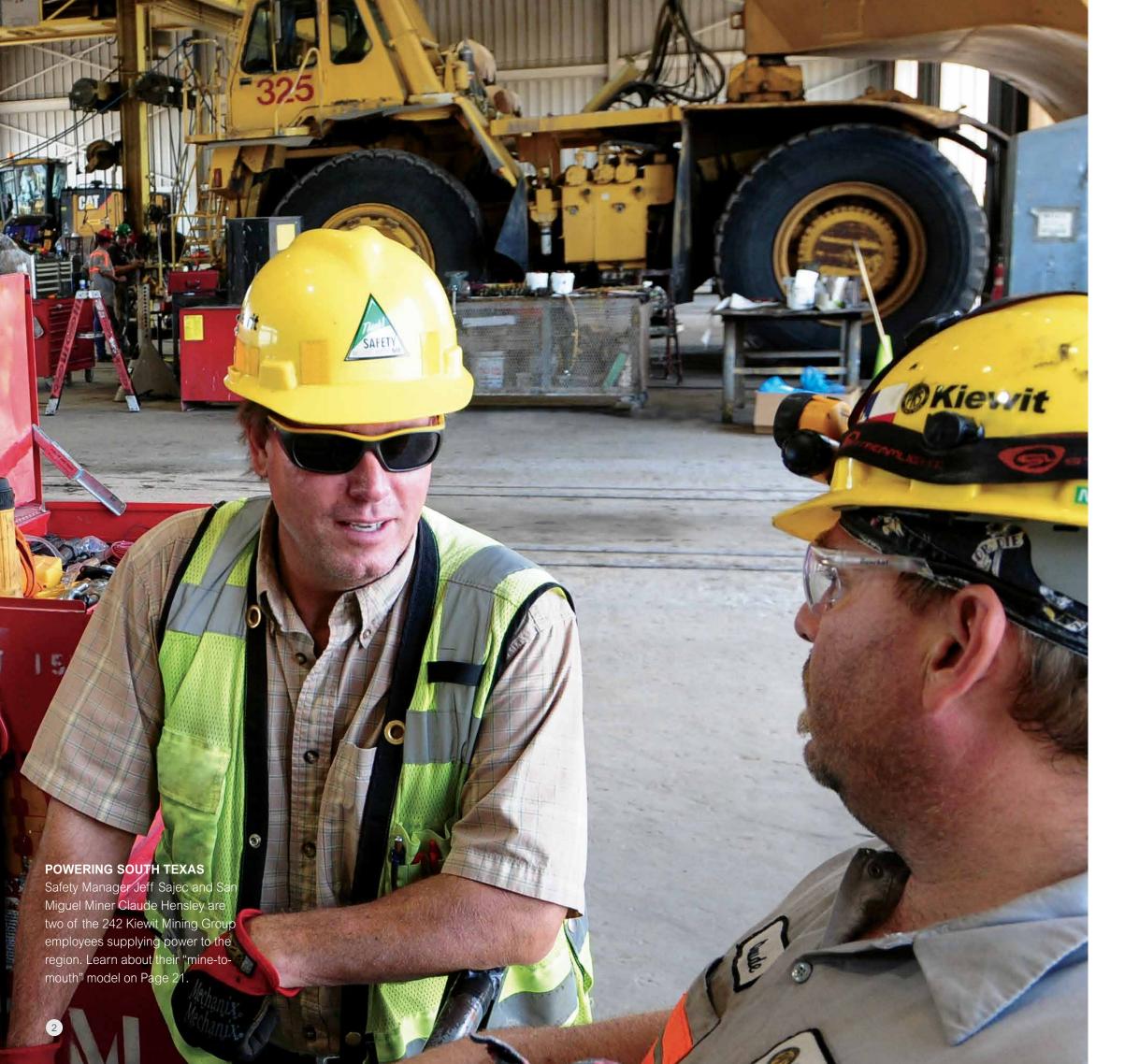
This issue of Kieways includes articles about three projects that showcase some of Kiewit's varying construction and engineering capabilities and our ability to tackle a range of challenges. For instance, to meet the tight schedule for Houston's METROrail light rail project (p. 14), our project team developed creative and innovative solutions and plans. When we became the operator of the San Miguel Lignite Mine (p. 21) in 2011, we took on the challenge of improving the productivity of existing equipment at an existing mine by coming up with innovative engineering and mine-planning strategies.

The Lower Mattagami River Project (p.4) is a great example of the mega-projects we build in Canada. It demonstrates Kiewit's abilities to mobilize people and equipment and build large and complex jobs, even in remote locations — abilities unmatched in North America. At \$2.6 billion, the project is the largest hydroelectric power generation initiative in Northern Ontario in 40 years. Located in a remote, geographically challenging location, the project requires crews to live in a dorm-style camp that can house 1,200 people. In addition to building the project, we've also built strong relationships with our client and the First Nations, whose contributions to the project's success have been outstanding.

Kiewit's structure and resources allow us to tackle megaprojects, especially those that have 'extra' challenges such as difficult terrain, inclement weather, remote locations and strict environmental standards. Our work in Canada has grown by more than 20 percent in the past decade — a clear indication that our clients know the value we bring and will continue to bring to their projects.

BRUCE GREWCOCK

Chairman and CEO



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MORE THAN MEETS THE EYE

Beneath the rugged surface of south Texas is a prehistoric energy source called lignite. Meet the team that is bringing it to the surface with clean, safe and efficient mining.

ON THE COVER

Built in 1966, the Kipling Generating Station is one of four Mattagami River generating stations being upgraded in Ontario. Learn how this big job is creating a lot of power with minimal impact on the environment on Page 4.



Ontario is Canada's most populous province, approaching 13 million people. Divided into two parts — Northern Ontario and Southern Ontario — it's the hub of a lot of action. But, until now, the province's energy grid has had only limited hydroelectric capabilities.

The Lower Mattagami River Project is a \$2.6 billion investment in clean, renewable energy for Northern Ontario — the largest hydroelectric power generation initiative in the area in nearly 40 years. Ontario Power Generation has entrusted Kiewit-Alarie, a Kiewit-led joint venture, with the project's execution.

The project includes replacing the old 52-megawatt Smoky Falls Generating Station with a new 270-megawatt station immediately adjacent to the current plant. In addition,

a new generating unit will be added to three other existing power-generating stations along the Mattagami River — Little Long, Kipling and Harmon. In total, energy generation will increase by nearly 440 megawatts, enough electricity to power up to 440,000 additional homes.

"It's a big, exciting project," said Eric Shintani, project manager. "It's really unique — everything from the project design to the camp. It's almost like its own city."

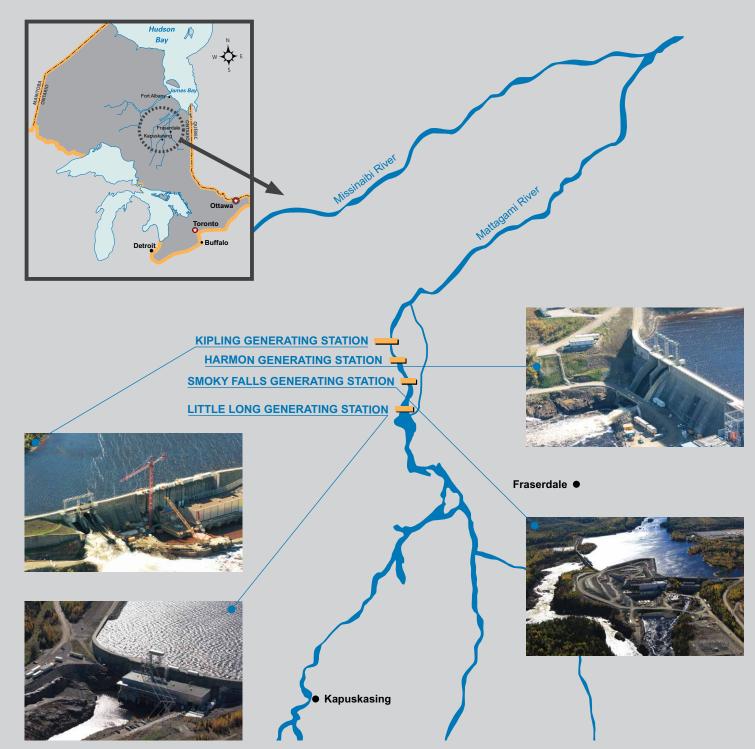


Lower Mattagami Hydroelectric Complex

The Lower Mattagami Hydroelectric Complex is made up of four generating stations on the Mattagami River: Little Long, Smoky Falls, Harmon and Kipling.

Smoky Falls Generating Station was built in 1931 to produce 52 megawatts of power. Kiewit-Alarie, a Kiewit-led joint venture, is rebuilding this older, smaller station to be the highest-generating station. The 3-unit station, when finished, will produce 270 megawatts of electricity — a 215-megawatt increase from the old station.

In total, after construction, the Lower Mattagami River Project will take the hydroelectric complex from a 486-megawatt capacity to a 924-megawatt facility.



6

One of the most important goals of the project was to meet or exceed a target of 200 man-years of First Nations' employment.

The project is on track to double that target.

ERIC SHINTANI,
PROJECT MANAGER

With such a remote location, workers stay in a dormstyle camp. At its peak, the camp will hold almost 1,200 employees.

PIECES OF A PUZZLE

With the project divided over four locations, communication has been key.

"Communication is a challenge on any project, but it's a bigger challenge at larger sites," said Shintani. "On top of that, we're a big site that also happens to be a camp job, where we have to coordinate arrivals and departures, and rooms and meals. We've been able to communicate effectively to our craft workers, staff employees and the client."

The need for effective communication is compounded by the project's aggressive schedule. Early on, unexpected rock problems at the Smoky Falls site delayed that portion of the job by several months.

"Our schedule is aggressive," said Murray Prier, subtrades coordinator at Smoky Falls. "We were able to schedule around the delay. We had several trades working at the same time to make up some of that lost time."

Client relations have also been a stand-out factor in the job's success.

"We got in early and worked with Ontario Power Generation on the proposal," said Shintani. "We have a very good relationship with the client. We've been able to build up a lot of trust, and I think that comes back to the excellent communication."

FIRST NATIONS INVOLVEMENT

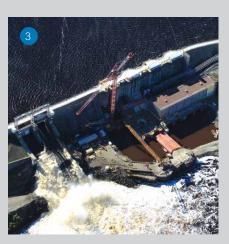
"The Lower Mattagami River Project is on the traditional land of the Moose Cree First Nations (MCFN). The MCFN are involved in the project as owners, subcontractors and as part of the workforce," said Shintani. "One of the most important goals of the project was to meet or exceed a target of 200 man-years of First Nations' employment. The project is on track to double that target. The project team, OPG, the MCFN, the unions and the individual workers can all be proud of the effort that has gone into beating this target."

The project team has also worked with the First Nations on plans to minimize the environmental impact of the project in the area.

Lower Mattagami at a glance







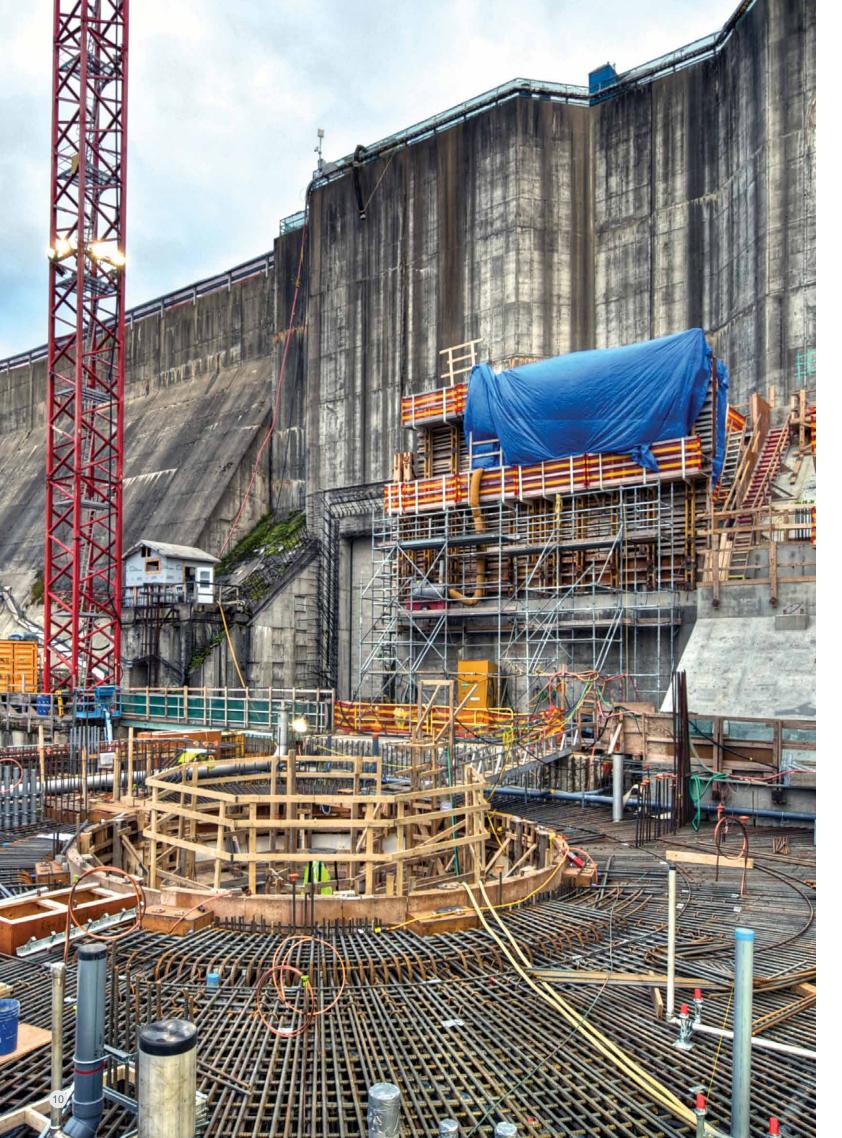








1. A team of supervisors poses proudly on a newly constructed bridge near the old Smoky Falls powerhouse. 2. This runner is a key piece during generator and turbine assembly. Water pressure and flow causes the turbine to rotate, which in turn spins the generator. 3. Built in 1966, the Kipling Generating Station is one of four Mattagami River stations being upgraded in Ontario. 4. Extreme cold and icy conditions often make work here a challenge for crews. 5. The new Smoky Falls Powerhouse makes better use of the water passing between the other power stations, increasing capacity from 52 megawatts to 270. 6. The team from Alstom Hydro Canada Inc. supplied the turbine generator sets used in this project. Here you see them inside the Smoky Falls service bay. 7. The new LEED-certified Smoky Falls Generating Station is expected to be fully operational by 2015.



"Our environmental team has done a great job," said Shintani. "Its approach with the owner, stakeholders and agencies has created an atmosphere of teamwork, transparency and trust. This has resulted in a quickerthan-usual turnaround time in project correspondence and deliverables for this group."

ENGAGEMENT AT EVERY LEVEL

For a project with this many moving pieces, buy-in from every level becomes even more important.

"Our engagement with craft workers has been very good," said Alain Leonard, project engineer at Kipling. "We've been able to connect with people at every level. They can see and feel that they're being listened to when they have concerns."

Craft and staff hold joint safety tours as part of a safety ambassador program, which opens up lines of communication. Safety orientation for new hires is conducted by fellow craft members. New employees are given green hard hats so that others can provide tips

and safety lessons.

"We've seen these programs work," said Shintani. "They have had a direct influence on the frequency of hurts. It's something we can all agree on — a win-win for everyone."

TEAM ATMOSPHERE

A camp setting creates a distinct working environment for a construction project. Employees are together around the clock during their rotations. On a large camp site, a key to success is ensuring that everyone is doing their part, working together with a unified, team mentality.

"There's no doubt that team-bonding is important on a project like this," said Shintani. "Whether people are with Kiewit, Alarie, the client or subcontractors, we all are working and living the camp project experience together. I think there is a direct effect on our performance in every aspect — the schedule, quality and safety. Everyone's looking out for each other. We all want the team to succeed. We're all in this together."

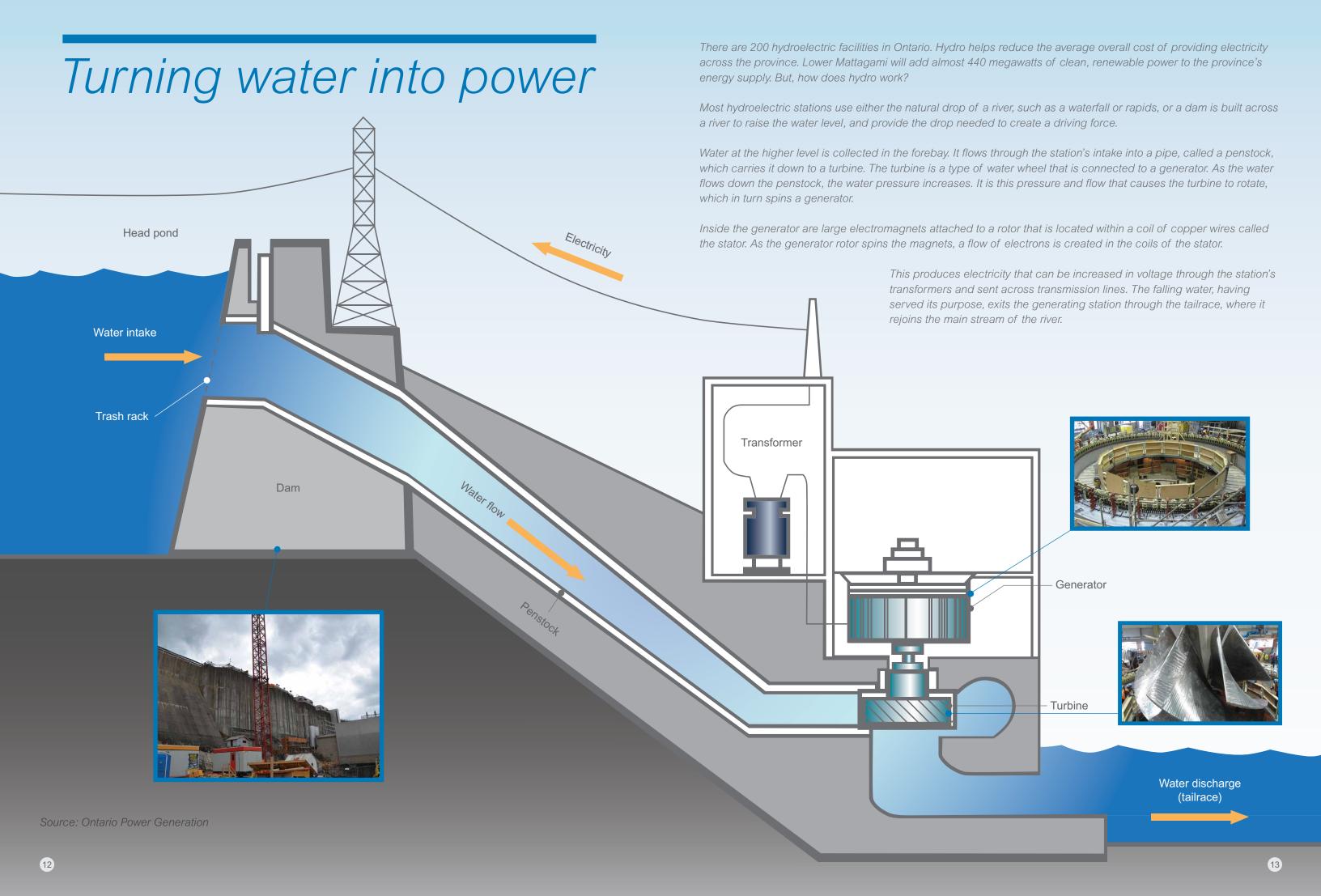
The Lower Mattagami River Project will produce enough electricity to power up to 440,000 ADDITIONAL HOMES.



- Additional homes powered by Little Long
- Additional homes powered by Harmon
- Additional homes powered by Smoky Falls
- Additional homes powered by Kipling

One illustrated home equals 10,000 real homes.

Source: Ontario Power Generation



HOUSTON CRAFT

KEEP SAFETY AND INNOVATION

ON TRACK

In 2004, the city of Houston opened the first stretch of its METRORail system to the public. Almost ten years later, the country's fourth-largest city is expanding that light rail system to accommodate its annual 11 million passengers.

Mass. Electric Construction Co. (MEC) is part of the design-build team contracted to dramatically increase the light rail's reach across the city. The project scope for MEC includes all four systems electrical components: overhead catenary, traction power, train controls and communications.

"We're adding the north, east and southeast extensions from downtown's existing corridor, as well as two new control centers, three train yards, two maintenance facilities, and 17 substations," said MEC Project Manager Jake Neeley.

Based on the tight schedule, all of the facilities and line sections needed to be constructed simultaneously, which means coordination and cooperative involvement have been key.

The project is currently on schedule with plans to open the North Rail corridor to the public in December

2013. Much of the civil work for the overall project is coming to completion now, and MEC is focused on bringing the project across the finish line. The final portions of the project are targeted to be completed by August 2014.

"Our project teams and managers really need to cover a lot of territory every day to stay on top of all the work that is happening," said Neeley.

INNOVATIONS IN TRANSIT

The \$178 million dollar job is not only one of MEC's largest to date — it's also turning out to be one of its most innovative. In order to complete all this work on time, MEC had to be creative when developing the plan.

"We needed to be flexible with the construction schedule, as design was constantly evolving along with the project requirements," said Neeley. "We decided to set up our



own signal fabrication facility and wire shop where we could build elements of the system off-site while civil work was progressing and designs were being finalized."

The way MEC is building the work has also given them more control with scheduling.

Another idea that has paid off is a bucket truck with integrated regulating arms, which has made overhead contact systems work on the project safer and more efficient. It's the kind of innovation then-District Manager Al Sori encourages in all projects. (Sori is now a division manager for Kiewit Infrastructure Group.)

"Creative ideas like these ensure our success and allow MEC to continue to be seen by clients as the systems contractor of choice," said Sori.

PLAYING IT SAFE

A strong emphasis on safety has been another theme of this project, with crews working in the Texas heat and in high-traffic areas — right in the heart of Houston's busy downtown, medical and university districts.

"There's a lot of foot and car traffic, including shutdowns that have to accommodate major city events such as professional baseball and football games," said Neeley.

Expanding Houston Metro Existing line Station Transfer station Current MEC work Future expansion MEMORIAL PARK DOWNTOWN MINUTE MAID PARK TOYOTA CENTER 59 TEXAS MEDICAL CENTER **RELIANT STADIUM** 288

"Keeping our people safe is not a goal or initiative; it is the way we do our work."

Neeley delivered that message from the beginning. "Just as the systems construction was getting started, we shut down the project for two days to hold an offsite safety conference for craft, staff and subcontractors."

The two-day event focused on craft involvement, training and how to achieve full commitment to zero injuries.

"We received a ton of great feedback in those events, which were the impetus for our official craft-led Project Safety Committee," said Neeley. "The focus hasn't changed and the message is still the same, but we wanted to get people involved rather than preaching to them."

To encourage stronger craft engagement, the project team asked the local union hall to identify an expert — not just someone who could talk about safety; instead, a veteran craftsman who could relate to the rest of the craft. They chose Michael Davis, a 30-year veteran electrician, to lead the charge as MEC's new safety representative.

"Having worked in the field for years, I've seen the safety person come in and people would say, 'Here come the police.' We don't want that to be the case here," said Davis. "As a union electrician, I've known many of these guys for years. They trust me and know I'm here to help, not police them."

FINE DETAILS MAKE A BIG DIFFERENCE

Little things, such as a suggestion box, wearing personalized "Why I work safe" badges, and having access to management and the right training tools help keep employees invested in safety management.

"Another small thing we do is print people's names on the back of their safety vests," said Project Operations Control Center Manager Kristen Sojak. "It makes it easier for all team members to approach each other in the field, improve camaraderie and engagement and keep things personal. It's the easiest way to get to know someone too. It breaks the ice, so you at least have a name in big bold letters to start with."

Keeping things personal is exactly what Davis wants. He remembers past jobs with other contractors, where the safety programs seemed to be motivated by insurance. Davis says on this project, it's a different story. "We are concerned for the safety of our people. Here, everyone

66 There's a lot of foot and car traffic, including shutdowns that have to accommodate major city events, such as professional baseball and football games. Keeping our people safe is not a goal or initiative; it is the way we do our work. ??

JAKE NEELEY,
PROJECT MANAGER

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has input. People see that this company goes above and beyond and genuinely cares about our well-being."

That concern begins when a new employee walks through the door.

"When I came on board, I was challenged to improve the orientation process," said Sojak. "Most companies hit you with a bunch of videos or slideshows, but I knew the initial experience had to be more personal."

With more than 100 craft and staff employees working on the job, it is crucial to make sure everyone has a voice and truly buys into the program. Neeley says craft development is also a top priority as he expects plenty of transit work on the horizon.

"Many of the people working with us in Houston have come here from other MEC projects. We're hoping that as we complete this project, we'll be able to send those workers and some new ones onto other projects with enhanced skillsets. This only helps us all get better."



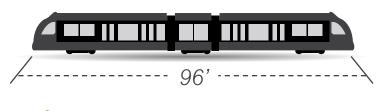




1. This platform truck is ideal for two-person operations. The scope of MEC's work includes more than 16 miles of overhead catenary, consisting of nearly 1,000 OCS poles, 1,500 cantilevers and 455,000 linear feet of overhead wire. 2. MEC's custom-built bucket truck with integrated regulating arms makes overhead contact systems work safer for the crew. 3. MEC's wire-stringing operation requires significant planning and preparation to ensure excellent execution.

In March 2013, an average of 38,000 people rode the Houston Metro each day. By its completion, rails will be able to handle nearly triple the capacity. Below are the cars thousands of people will ride each day.

H1 CAR



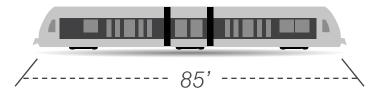


99,500 pounds





H2 CAR



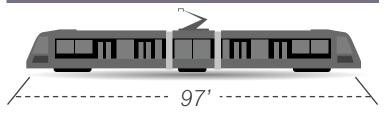


98,000 pounds





H3 CAR





99,200 pounds



242-person maximum capacity

Source: gometrorail.org

Houston Metro Phase II by the numbers

16 Double-track miles

New yards, plus one expansion

New control centers

28 LRT stations

Traction power substations, plus one upgrade

10 Interlockings

18 Grade crossings

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All but a dozen of the existing employees were rehired to the Kiewit Mining Group team. That meant introducing new expectations to the workforce, many of whom were used to 14 years of doing things another way.

"Our policies and procedures were very different from the previous operator," said Tim Turner, engineering manager. "Suddenly, we were asking the workforce to do a new type of paperwork, realigning the crew structure and implementing a new safety plan. Some of those changes led to a little resistance."

A SAFE TRANSITION

The resistance included adapting to Kiewit's Safety First initiative, Safety Manager Jeff Sajec added.

"We like to say we brought Stretch and Flex (a Kiewit flexibility exercise that teams use on the job) to south Texas, but the team bought into it very quickly. We've seen gains in overall safety."

The transition has taken some adjustment on both sides. As the Kiewit team has become familiar with the south Texas culture, and as the existing mine employees have seen the value in Kiewit practices, the relationship has grown.

Today, the mine is seeing improved equipment productivity and is moving more total units, thanks to a valuable workforce and the practices the team has introduced.

HEAVY LIFTING

Lignite is the youngest of coal formations and is a low-cost, low-BTU product with high moisture content. The lignite mined at San Miguel comes from the Jackson formation, a



seam that runs through Mexico to east Texas. San Miguel is the only mine in the state that runs out of Jackson.

The mining process includes everything from clearing the vegetation, salvaging topsoil and removing overburden — layers of soil and rock — to mining the lignite and parting seams. After the coal is removed, the team re-grades the land and completes final reclamation in compliance with Texas and U.S. government standards.

Two three-person dragline crews do the heavy lifting — literally. Skilled operators remove nearly 28 million yards of overburden every year. It's a process that requires exceptional teamwork and coordination among the crew: The material is carefully removed in order to take it out efficiently and avoid damaging the seam exposed at the base of the overburden.

CLEAN MINING

A lignite mine is known for thin, soft seams. The minable lignite is separated by only 15 to 30 inches of waste material, making the lignite sensitive to dilution if mixed with the waste.

An average of 10,000 tons of coal are shipped from San Miguel Mine to the power plant every day. Consistently achieving that level of production means determining where the right balance of quantities and qualities of lignite are located, providing the correct blend needed for the SMECI plant to produce power efficiently.

A special piece of surface mining equipment called the Easi-Miner helps highly skilled operators accurately separate the lignite from the waste material to remove as much coal as possible — a process that requires considerable finesse and teamwork.

"Our blade operators and surface miner operators work together to keep track of where the roof and floor are. That helps us get closer to the seam itself," said Turner. "The more coal we can cleanly mine, the less land we disturb every year and less waste comes out of the power plant."

IMPROVING MAINTENANCE PRACTICES

For this contract, Kiewit also has been challenged with a threefold responsibility: to provide low-cost solutions to improve the productivity of existing equipment; to increase the amount of time the equipment is operational; and to design innovative engineering and mine-planning strategies.

Millions of years in the making

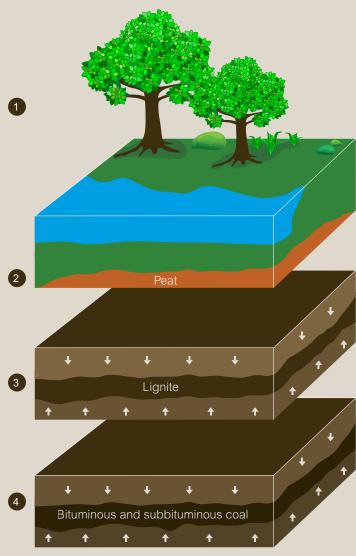
Texas lignite truly is prehistoric, with an origin that dates back more than 33 million years to the Eocene epoch. This low-grade coal was formed when plant remains, or peat, were compressed by layer upon layer and heated over time.

Lignite has been a Texas mining staple since the early 1800s. Lignite mined for the San Miguel Mine is found in the east Texas Jackson formation, the newest layer of strata from the Eocene.

One of four main types of coal, lignite is used almost exclusively for generating electric power. With a tendency to crumble easily and high moisture content, it's not practical to ship lignite — so it's become a prevalent source of energy for nearby power plants.

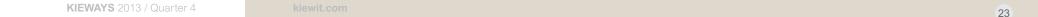
Today, Texas is the fifth-largest producer of coal in the United States and the top lignite producer. It's estimated that lignite accounts for about 25 percent of the electricity generated in the state.





How lignite is formed

- 1 Forests and vegetation grew around 300 million years ago, covering most of the earth.
- 2 Vegetation died and formed peat.
- 3 Peat is heated and compressed between sediment layers to form lignite.
- 4 Further compression forms bituminous and subbituminous coal.





Predictive maintenance has proven crucial to improving the number of hours equipment is available for use.

"SMECI has an older fleet of equipment, so we work very hard at scheduling maintenance to stay ahead and be proactive," Equipment Manager Brian Johnson said. "Some trucks have 80,000-plus hours on them and are a challenge to maintain. We have to think innovatively."

In addition, some of the custom-built coal trains in use are more than 20 years old. As they age, it becomes harder to find replacement parts. That's why Johnson and his team perform "salvage yard maintenance," traveling throughout the United States and Canada to look for parts they know they'll need someday.

"The relationship we're building with the plant is allowing us to approach equipment repairs from several different angles," he said. "Their understanding and cooperation has allowed us to begin making a difference."

Since taking over operations, Kiewit has made considerable improvements in equipment availability. The maintenance team performs predictive maintenance every 500 hours. The work has paid off: Easi-Miner availability has risen 14 percent and coal train availability, 15 percent.

A LONG-TERM VIEW

Planning beyond just today is also important for the engineering services group. Tim Turner's group is involved in short-term operation as well as forecasting needs 10- to 20-years out.

"We're continually going to new pits to conduct exploration drilling, ensuring our coal model is updated and correct," he said. "We always want to make sure we're shipping a consistent product."

Engineering works closely with the permitting agency for the mine, the Texas Railroad Commission, to confirm the mine is meeting environmental requirements. The commission inspects the mine once a month.

Once Kiewit took over management of San Miguel, the engineering staff had to hit the ground running. "Thin, multiseam mining is new and different from most of our previous operations," said Turner.

"With a can-do attitude, quick learning curves and teamwork, we've continuously supplied lignite to the power plant without interruption. Our staff is continually looking forward for improvements in reducing costs and overall mining operations."

MOVING FORWARD

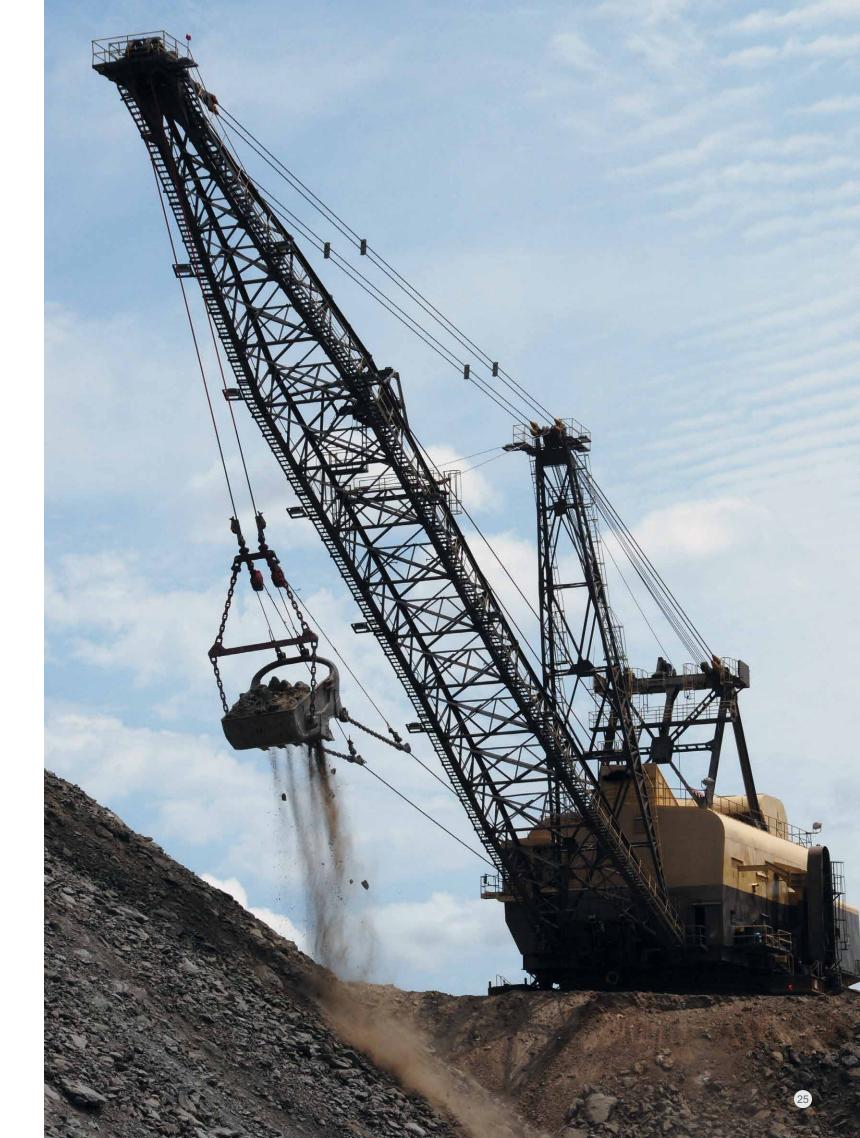
Nearly three years after bringing the Kiewit culture to San Miguel, both operator and client feel it's a positive partnership. Kiewit Mining Group is contracted to manage the San Miguel Mine through June 2019.

"The client wants options. Because we now have a better understanding of their needs and our own abilities, our planning process helps provide more options to find the most cost-effective and efficient solutions," said West.

Mark Weatherston, fuels manager at SMECI, said he appreciates Kiewit's ability to jump in and learn what they can do as a partner to improve all aspects of the mining operation.

"With Kiewit's experience in mining across the United States, they realize how competitive it is and the pressures we're under to stay in business."

"I'm confident about their ability as a team and the way they've come to understand San Miguel's culture," he added. "They have a good understanding of what we will be facing the next 10 years and beyond. I'm very comfortable with where we are moving forward."





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