



2021 ANNUAL REPORT



STAYING THE COURSE



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* Fatima Sheriff will replace Ben Melson on TECO's Board for 2022. She is Vice President and Chief of Staff, The University of Texas MD Anderson Cancer Center.

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"I have served on many boards, but it is certainly unique for an organization to have board members representing the institutions they serve, as with TECO. That's really inspiring. As board members we find we have aligned common interests. We want to make sure that the critical chilled-water and steam needs of our institutions are met. As a result, we're a working board that gets into the details, ensuring the system grows as the campus grows."
—Howard Tellepsen TECO Board Member – 2017 to present



"Seeing the Central Plant outside my office window every day, I'm intrigued by the technology and the core business itself. TECO has a strong track record of reliability, success and partnerships that support our healthcare community. Serving on TECO's Board is about serving my healthcare community in an expanded capacity, in a different and meaningful way."

—Fatima Sheriff* Incoming TECO Board Member


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THE ENERGY BEHIND WHAT'S NEXT


Mission: Provide reliable and economical thermal services to the institutions of the Texas Medical Center.



 **Winter Storm Uri.** February 14-20, 2021. Unseasonably cold temperatures. Unprecedented snowfall. Significant power outages. Major water shortages.

4.8 million
Harris County **POPULATION** (home to Houston)

 Almost **2/3** of Harris County residents **LOST RUNNING WATER**

 Nearly 91% of Houstonians **LOST POWER**

 **13°F**
LOWEST TEMPERATURE recorded at TECO

 Average **LENGTH** of Harris County residential **POWER OUTAGE: 49 HOURS**

Sources: TECO and University of Houston-Hobby School of Public Affairs.



In spite of the storm, Thermal Energy Corporation provided uninterrupted steam and chilled-water service to customers at the Texas Medical Center. In turn, customers ensured patients remained safe, research continued and the future of healthcare was in focus.

Everyone stayed the course. 



To our customers in the Texas Medical Center, our friends in the community, and our energy industry colleagues



Thermal Energy Corporation (TECO) has a track record of staying the course — getting the job done — and 2021 was no exception.

The TECO team provided uninterrupted steam and chilled-water service through ongoing pandemic challenges and February’s record-setting Winter Storm Uri. In TECO’s 2021 annual report, “Staying the Course,” you will learn more about the team’s achievements against the odds and how TECO customers triumphed as well. They are an inspiration!

Much of the secret to success is the ability to adapt to change. In October 2021, TECO President and CEO Steve Swinson resigned his position to move out of state to care for loved ones. While we were sorry to see him go, we are grateful for his 16 years of steady, insightful leadership. He captained the ship as TECO underwent its largest-ever expansion and never let the company rest on its laurels. On page 14, we recognize Steve’s invaluable contributions to TECO and the Texas Medical Center (TMC) community.

With the news of Steve’s intention, the Board of Directors began a nationwide search for his replacement. We interviewed a number of extremely qualified candidates, but one individual stood out above the rest: TECO’s very own Vice President of Engineering and Maintenance Michael P. Manoucheri, PE.

Mike joined TECO in 2018, fitting seamlessly into the company’s culture and embracing its focus on reliability. He led TECO’s most recent master planning effort that identified the capital improvements needed to proficiently serve TMC’s growth. He also spearheaded an energy optimization program that reduced the company’s energy consumption by 7%, saving approximately \$768,000 between March 2020 and August 2021.

Mike has extensive experience leading large engineering and plant operation teams. Prior to joining TECO, Mike worked at The University of Texas at Austin, Utilities and Energy Management. He started with UT Austin as maintenance manager, moving up to associate director of plant operations. Earlier he worked in the petrochemical industry at The Dow Chemical Co. and Fluor Daniel Inc. in engineering, maintenance and operations roles.

Mike is a highly qualified professional engineer, graduating with a Master of Science in mechanical engineering from UT Austin and a Bachelor of Science in mechanical engineering from Colorado State University. He is a strong believer in continuous education and is an active member of the International District Energy Association.

Mike’s credentials, peer support and commitment to excellence made our decision clear. The Board is pleased to announce Mike Manoucheri as TECO’s new president and CEO. He will carry the mantle as TECO’s fifth leader in the system’s 52-year history.

Indeed TECO is in excellent hands as we begin to implement the new master plan and continue to support TMC’s ongoing development. I thank TECO employees for staying the course during the pandemic, Winter Storm Uri and the leadership transition. And I am grateful to our Board members — all of whom represent TECO customers — for their firm, ongoing commitment to stellar leadership and operation. The outlook for TECO is bright!

Bradley N. Howell
Chairman, TECO Board of Directors

Most of us in Houston have experienced a hurricane. But not many of us have experienced a winter storm quite like Uri, which made its mark on Houston — and the rest of Texas — in February 2021. It will be hard for most of us to forget. The impassable roads, the power outages, the frozen water pipes and the people affected make for indelible images.

Yet just as with other powerful storms, Houstonians rose to the challenge. We made it through with people helping people, stepping up to the plate to be of service and support. The doctors, nurses and staff made their way to Texas Medical Center institutions under trying circumstances.

TECO, too, stood tall and provided reliable steam and chilled-water service to customers on the TMC campus because dedicated employees kept our plants running. In fact, our Central Plant’s combined heat and power unit produced all of the power to meet our needs plus export the excess to Electricity Reliability Council of Texas (ERCOT), the Texas electric grid operator.

Day in and day out, it is the people who make TECO and our TMC customer institutions so special. We share their stories in this year’s annual report, “Staying the Course,” showing how individuals and institutions power through and adjust as needed in order to serve during a storm and a pandemic.

To say we are proud of our TECO employees would be an understatement. The team is strong and diverse, with employees ranging from less than a year to more than 40 years of service, as shown starting on page 30. It is a tight-knit group who grieved the loss of a fellow employee, who is memorialized on page 31.

TECO’s management team — honed over the years by Steve Swinson — is focused on TECO’s mission and guiding the way forward. He is an astute leader with a clear vision and a sense of humor who challenged us to be our best and enjoy the process! Thank you, Steve, for your service at TECO.

It is an honor to follow in Steve’s footsteps as TECO’s president and CEO. Our team is excited about the growth that lies ahead for both TECO and the Texas Medical Center.

Starting on page 8, you’ll learn how TMC³ will drive some of that expansion and give TECO a whole new view to the south of our Central Plant. In the coming years we can even enjoy the new helix-shaped park. While it is a transformative development, we anticipate even more new buildings on the main campus as well — and we will be ready to serve them.

We thank the Board of Directors for understanding the importance of investing in the planning and equipment needed to ensure reliable, resilient, energy efficient and environmentally sound chilled-water and steam service. And we extend a sincere thank-you to our customers for working so closely with us under all conditions, every day of the year. We are partners in providing an even better future for the Texas Medical Center and the people it serves.

Michael P. Manoucheri, PE
President and Chief Executive Officer

“The Board is pleased to announce Mike Manoucheri as TECO’s new president and CEO. He will carry the mantle as TECO’s fifth leader in the system’s 52-year history.”



A deep freeze

TECO and the Texas Medical Center campus looked a bit different than usual during 2021’s Winter Storm Uri when the campus dealt with weather whiplash. Houston’s high temperature February 10 was 68° F. By February 16 it was 18°, with a jump back to 61° on February 20.

Heading up hope one surgery at a time

» CUSTOMERS: DRIVING ACHIEVEMENT

Texas Medical Center institutions have always been high achievers. But during the pandemic and a historic winter storm, they surpassed even their own levels of excellence.

They have provided compassionate care while supporting strained staffs.

They have performed surgeries that few others in the world are capable.

They have broken ground on a powerful life science campus designed to seed vital innovation.

Their stories inspire and remind TECO why we do what we do. And how important it is to do it well.

Here is a look at some of our customers' recent achievements, true examples of staying the course.



Houston Methodist's Dr. David S. Baskin (left), Dr. Michael J. Klebuc (back center) and Dr. Mas Takashima (right) met with patient Chris DeHart (front) in April 2021.

Photo: Melissa Phillip / ©Houston Chronicle. Used with permission.

As a former offshore vessel repairman, Chris DeHart was familiar with challenges. But when he started experiencing memory issues in 2020, he had no idea he was facing the biggest challenge of his life: He was diagnosed with a brain tumor — atypical meningioma — the size of a softball.

His Louisiana doctor told him he needed the best-possible brain surgeon to remove it. Several deemed it inoperable, turning him down before he landed at Houston Methodist Hospital with Dr. David S. Baskin, neurosurgeon and director of the Kenneth Peak Brain Tumor Center. Not one to back down from a challenge, Dr. Baskin said he could successfully remove the growth. Six surgeries later, DeHart is expected to fully recover.

The aggressive tumor had grown through DeHart's skull and into his eye sockets, sinus cavity and nose. "I have seen a number of large, aggressive tumors

but never one like this that involved so many critical structures," says Dr. Baskin.

Using the most cutting-edge technologies available, Dr. Baskin removed the tumor from the brain and enlisted help from two top-tier specialists: Houston Methodist's Dr. Mas Takashima, otolaryngologist, removed the tumor in the nose and sinuses, and Dr. Michael J. Klebuc, plastic and reconstructive surgeon, reconstructed the vital barrier that separates the brain from the nose and related bacteria.

Before each surgery, the doctors employed the Houston Methodist Surgical Theater to plot out the procedure using virtual reality simulation. The doctors donned oculus rift 3D helmets that enabled each to "go inside" DeHart's brain and tumor.

"The clear message from such cases is don't give up hope!" says Dr. Baskin.

Customer since  2017



Propelling collaboration, transformation, innovation

Texas Medical Center is used to growth. Since its founding in 1945, its major institutions have consistently added buildings to accommodate a steadily increasing need for patient care, research and educational facilities. But the expansion now taking place — TMC³ — is unprecedented and game-changing. Announced in 2018, TMC³ is a planned new complex of collaborative translational research facilities designed to unite the best minds in medicine and commercialization. The master plan encompasses

approximately 6 million sq ft of life science development on the 37-acre campus directly south of TMC's main campus.

Phase 1 construction kicked off in January 2021 on the 250,000-sq-ft TMC³ Collaborative Building, the first campus building and TMC's first-ever joint research facility focused on collective commercialization of life science therapies. TMC³'s four founding institutions — Texas Medical Center, The University of Texas MD Anderson Cancer Center, Texas A&M University

An aerial rendering of TMC³ (left) looking south from Braeswood Boulevard shows TECO's chilled-water lines (bottom left) that will serve buildings on the new campus, including the Collaborative Building (right).

Health Science Center and The University of Texas Health Science Center at Houston — have invested a total of \$185.8 million in the building's design and construction. Scheduled for completion in fall 2023, the facility also will be shared with commercial life science companies and industry leaders.

"With broad intellectual capital and a long-term patient focus, TMC's capacity for innovation is second to none," says William McKeon, president and CEO of Texas Medical Center. "The joint power of TMC hospitals and academic institutions has accelerated the pace of scientific discovery for years. TMC³ extends our collaboration to Fortune 100 life science companies and entrepreneurial companies. The impact on patients around the world can change lives."

Phase 1 is backed by \$1.8 billion in financing from leading life science investment and property development

teams. In addition to the TMC³ Collaborative Building, Phase 1 will include an Industry Research Building; a 500-plus room hotel; a 350-unit residential tower; more than 2,000 parking spaces; and 18.7 acres of

public space featuring the Helix Gardens, a green space that weaves through the heart of the TMC³ campus.

"TMC³ is expected to generate a significant economic impact during the construction and operation phases," says McKeon. "All aspects are designed to attract talented people, innovative companies, entrepreneurial companies, industry partners and, ultimately, additional investment. From modern and exciting workspaces

to life-saving research to the commitment to improve the health of the planet, TMC³ is helping to define the future of science."

TEXAS MEDICAL CENTER AT A GLANCE

Largest medical city in the world

106,000-plus employees among 60-plus member institutions

10 million patient encounters annually

Home to four Level 1 trauma centers

Renderings courtesy Texas Medical Center. Left - ©Elkus Manfredi Architects. Right - ©Dennis Allain.

Navigating a storm during a pandemic

As 2020 rolled into 2021, the COVID-19 pandemic showed few signs of abating. Employees at Baylor St. Luke's Medical Center were feeling the strain. COVID patients filled emergency rooms. Surgeries continued. Babies were born.

Many employees who are parents had to temporarily move out of their homes or limit time with their children in an effort to remain healthy so they could

come to work. "It has been an incredibly difficult time for our team," says Doug Lawson, Ph.D., CEO of St. Luke's Health. "But they are passionate about their work and continue to provide the best of care for our community. They're doing more than we could ever expect of them. I'm proud of their dedication."

Baylor St. Luke's leaders have made it a priority to help staff cope with the mental health impact

of their work — from ensuring they have the right personal protective equipment to committing to a fully vaccinated workplace to providing respite areas where they can unplug and disconnect while on break or at the end of a long shift.

Students from area schools have also provided support, sending more than 3,000 cards and letters of appreciation to the medical center's nurses and clinicians. "It is quite a beautiful thing to see," says Lawson. "They are all individually written and very thoughtful and sincere."

Little did students know their words of encouragement would help staff weather another kind of storm as well: Winter Storm Uri. Baylor St. Luke's flagship facility at the Texas Medical Center maintained power and TECO's chilled-water and steam service, but experienced lower-than-normal water pressure. The institution implemented water conservation measures, secured water tankers, stored water throughout the hospital and supplied bottled water for staff and patients.

"We were also challenged by reduced blood supply and an influx of dialysis patients normally treated at dialysis centers," says Lawson. "They were redirected to us because of power and water outages. Our physicians and hospital leaders sprang into action to ensure these patients were treated on a timely basis."

Many employees faced the same outages at home yet had to continue to care for patients. The medical center's Food and Nutrition Services leaders worked with catering agencies and restaurants to provide 50,000 meals for employees and their families contending with the difficult conditions.

"Baylor St. Luke's and its exceptional medical professionals have always faced challenges head on, caring for the 'sickest of the sick,'" says Howard Tellepsen, a 20-year board member at St. Luke's Health, a TECO board member, and chairman of Houston-based Tellepsen. "That continues today under the great leadership of Doug Lawson. He understands Baylor St. Luke's legacy and is committed to growing the institution and providing the highest level of medical care and achievement."

Photos: Left - Getty Images. Right - Courtesy St. Luke's Health.



Doug Lawson, Ph.D., CEO of St. Luke's Health (far right), is grateful for the ongoing commitment of Baylor St. Luke's staff to the well-being of their patients and community.



During the pandemic, MD Anderson employees have helped patients and families stay connected, read bedtime stories to children via Zoom, and continued to provide critical everyday services.

Moving forward together

The University of Texas MD Anderson Cancer Center has one of the largest cancer clinical trial programs in the world and offers the latest treatment advances in surgery, radiation and imaging. But it is its people who unite MD Anderson in its mission — to end cancer in Texas, the nation and the world.

All 22,000 employees from across the organization have kept the institution focused throughout the

pandemic. “We have an extremely vulnerable patient population who are susceptible to severe outcomes from COVID-19, so protecting them is very important,” says Fatima Sheriff, vice president and chief of staff at MD Anderson. “We have a COVID-19 core leadership team that has guided us, with the health and safety of our patients driving everything we do.”

Coincidentally, MD Anderson finished revising its infection control process two months before COVID-19

struck. “Lessons learned from that experience had already taken us up to the next level of efficiency,” says MD Anderson’s Chief Infection Control Officer Dr. Roy Chemaly. “So MD Anderson was as ready as it could possibly be when the pandemic arrived.”

About 30% of the workforce shifted to working remotely, while others adapted to fit changing needs. With cafeterias shut down, a food services supervisor shifted her focus to patient and family support when no visitors were allowed. She became part of a team that delivered whatever was needed — a change of clothes, a gift, a card — bridging the gap between loved ones and patients in the hospital.

MD Anderson’s on-site accredited K-12 school also adjusted and began to offer 3-to-6-year-old patients a virtual bedtime story read by the leader of its early childhood education program, Laura Rodriguez. She continues to use Zoom to read favorites such as *Bedtime for Peppa Pig*, saying the children are 100% engaged, with their faces lighting up as she acts out characters.

In addition to finding new ways to work during the pandemic, MD Anderson’s experienced incident command team stepped up when Winter Storm Uri hit. “We decreased operations for a short period of time, but we were able to keep essential services going for our patients 24/7,” says Sheriff. “It wasn’t easy, but we did it.”

Uri arrived shortly after MD Anderson announced a pivotal, multiyear strategy aimed at making the greatest impact on humanity by finally ending cancer. The new strategy incorporates the institution’s five core values — caring, integrity, discovery, safety and stewardship — and is a blueprint for its future success.

“What we’ve done is launch a strategy and begin executing to achieve our aspirational goals, in spite of the pandemic or unpredictable events like Uri,” says Sheriff. “We can work with just about anything you throw at us. There’s nothing that stops MD Anderson. We all want to end cancer — and we are working hard to make an impact in our lifetime.”

Photos courtesy The University of Texas MD Anderson Cancer Center.

STEPHEN K. SWINSON, PE

A salute and a thank-you



When Steve Swinson became TECO's president and CEO in 2005, the company's largest-ever expansion - \$377 million - was on the drawing board. Under Steve's guidance, the project was approved and constructed - on time and on budget - further enhancing service reliability and making TECO the

largest district cooling system in North America.

The project's 48 MW combined heat and power unit helped TECO weather Hurricane Harvey in 2017 and Winter Storm Uri in 2021, ensuring that TECO could produce all of its electricity needs when the electric grid is stressed. TECO's 100% reliability record now reflects 29 years of uninterrupted service.

Under Steve's watch TECO also set a new safety record with more than five years worked without a lost-time incident and two years without a recordable injury - exemplary numbers in any industry, let alone a heavy-industrial setting such as TECO. TECO also increased customer building space served by 61% during his 16 years with the company.

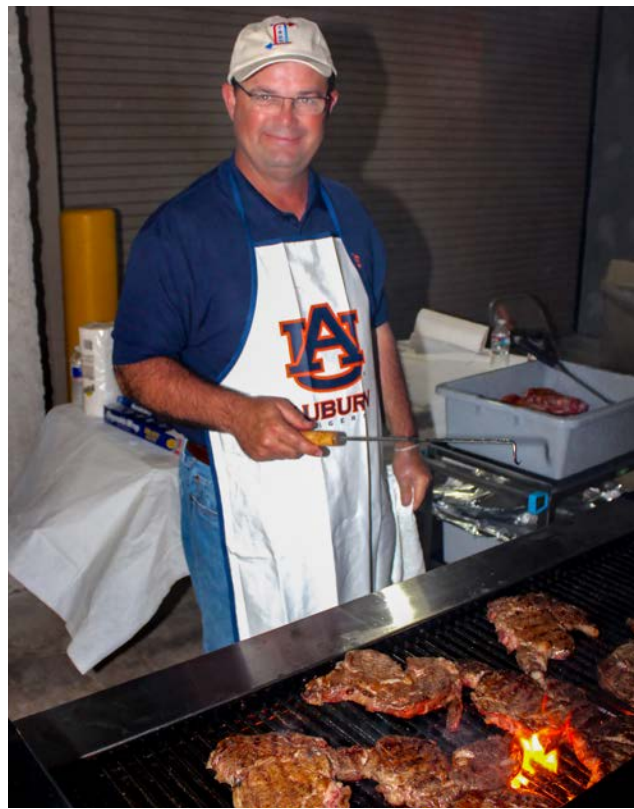
The leaders of the International District Energy Association (IDEA) took note of Steve's achievements, naming him the industry's person of the year in 2015. In 2019, IDEA selected TECO as its 2019 System of the Year based on the company's stellar performance.

For all of his accomplishments, however, Steve always circled back to the TECO team, explaining that his talented employees made it all possible. He was grateful for them, just as we are grateful to him for his years of service.

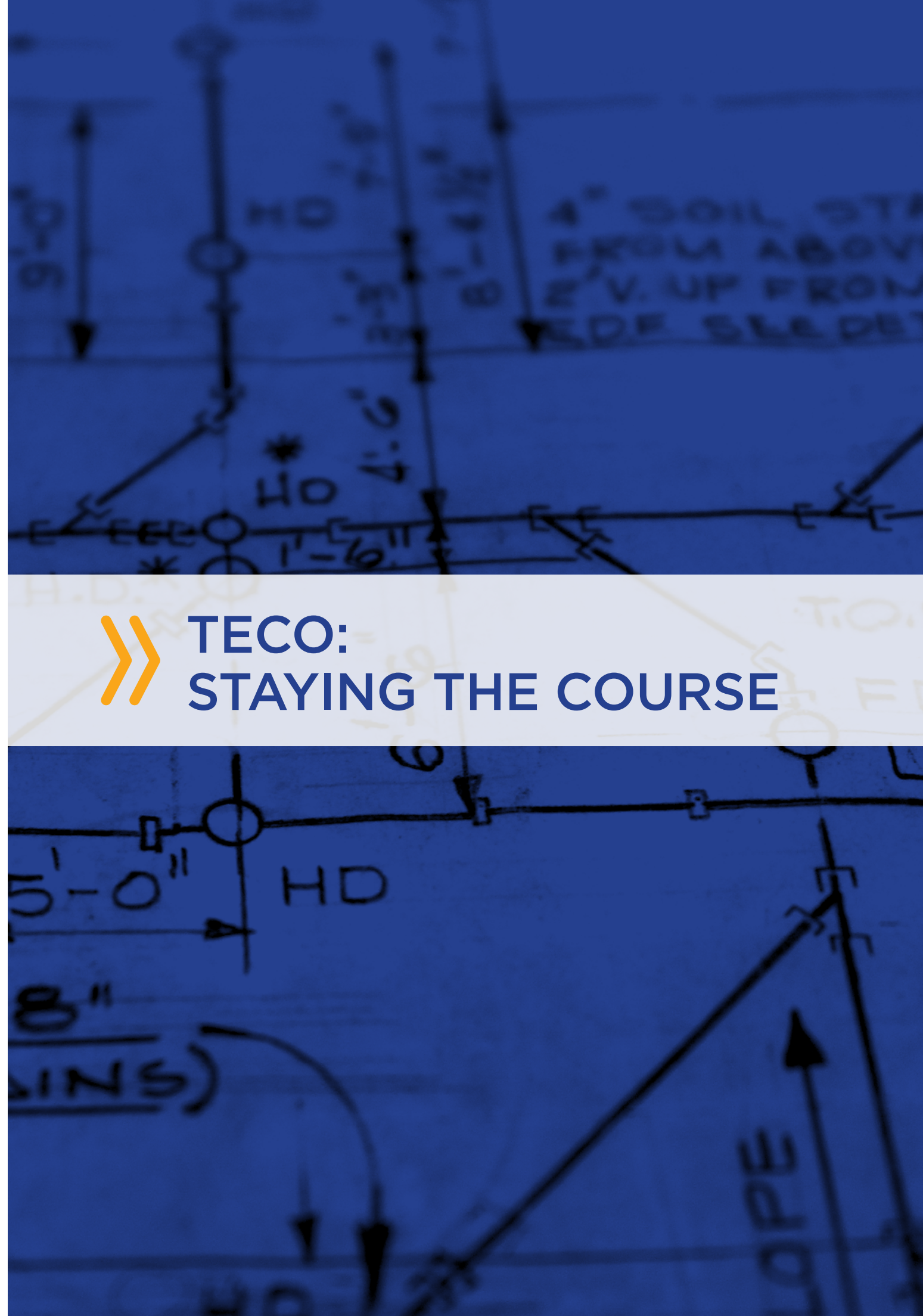
Fittingly, Steve was named to the Alabama Engineering Hall of Fame shortly before his resignation in October 2021. It is just another indication of Steve's value and impact on the world around him.

Thank you, Steve. We wish you the best. You are an exemplary leader who was dedicated to fulfilling TECO's - and the Texas Medical Center's - mission and vision.

At right from top: (1) In May 2011, TECO celebrated completion of its largest-ever expansion project with, from left to right, Greg Graves, president and CEO, Burns & McDonnell; Richard Wainerdi, PhD, president and CEO, Texas Medical Center; Paul G. Bell Jr., chairman of the Board, TECO; and Steve Swinson, president and CEO, TECO. (2) Steve annually dons his treasured Auburn University apron and manned the grill during TECO's employee appreciation cookout. (3) Prior to the COVID-19 pandemic, Steve would gather employees for luncheons to share information and mark achievements.



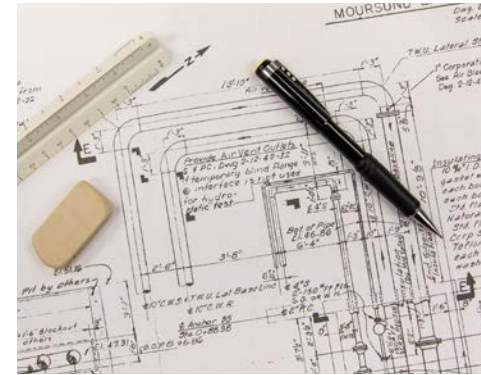
Photos top to bottom: Paul Howell, Julian Brewster, Bruce Bennett. / Opposite photo Julian Brewster.



TECO: STAYING THE COURSE

Reliability drives foresight and innovation

Photos Bruce Bennett.



From March 2020 through August 2021, TECO's energy optimization project saved 22.6 million kWh, reducing energy consumption by 7% and saving approximately \$768,000.



Joe Robles, Jeff Harper and Juan Jimenez are part of TECO's Engineering Department, which is planning additions to TECO's chilled-water distribution system to accommodate growth.

The coldest temperature ever recorded at George Bush Intercontinental Airport in Houston is 7° F in December 1989. TECO recorded 13° during Winter Storm Uri in February 2021. Both are a far cry from Houston's normal minimum temperature for February: 46.5°. Winter Storm Uri was an anomaly!

But TECO was ready because our engineers and consultants over the years had the foresight to design the steam and chilled-water systems for 7° and our gas turbine for 0° — extreme weather conditions. Reliability was the driving force. Although it cost more up-front for equipment and controls, it was a wise investment. Our customers reaped the benefits, with no loss of service during Uri.

Undeniably, planning is important. TECO recently completed a new master plan that provides a 20-year system road map to meet future campus load, which is projected to increase 30% by 2034. The plan evaluated TECO's existing chilled-water, steam, electrical and water systems and identified potential plant improvements over the next two decades related to capacity, resiliency, reliability and efficiency.

TECO and Burns & McDonnell developed the plan largely during the COVID-19 pandemic. "We only met once in person during the entire project," says Mike Manoucheri, PE, then TECO's vice president of engineering and maintenance who was project manager. "We held virtual sessions via Zoom and were able to

pull up different cameras throughout the plant plus operating data for simultaneous review. It actually expedited the process."

The resulting road map was comprehensive, but most immediately recommended TECO boost electrical system capacity and reliability with a gas turbine generator and increase the flow of the existing thermal energy storage tank. The new generator and storage tank projects have already been board-approved for design and construction.

"Even before kicking off master planning, we were looking at ways to cost-effectively and reliably improve efficiency before adding capacity," says Mike. TECO turned to Optimum Energy, which helped the company lower peak demand by 2 MW, allowing the entire plant to stay within the load capacity of our existing generators. From commissioning the system optimization project to the end of FY21 (March 2020 through August 2021), the project saved 22.6 million kWh, reducing energy consumption by 7% and saving approximately \$768,000. The project has helped TECO delay multimillion-dollar capital expenditures on power generation for at least several years.

"It's our job to anticipate the future so our customers know they can count on us even when a Uri or a Harvey hits," says Mike. "We're already planning expansion of our distribution system under Old Spanish Trail to serve buildings in the South District. We're up for any challenge!" 🌩️

Focused on preparation, communication, appreciation

Pipes. TECO has more than 35 miles of them underneath the streets and sidewalks of the Texas Medical Center. But there are miles of pipe inside our plants too. Steam pipes. Chilled-water pipes. Condensate pipes. Well water pipes. Municipal water pipes. The list goes on.

And all of them, indoors and out, had to remain operational — reliable — during the freezing temps of Winter Storm Uri.

Fortunately, most of our critical outdoor plant pipes and instrumentation lines have insulation and heat tracing systems that warm and protect them from the elements. “We conduct regular preventive maintenance on our heat tracing systems, so we were in good shape,” says Mycah Jewell, maintenance manager. “But our crew still walked the Central Plant site over and over during Uri to closely observe pipe performance. If we saw leaks caused by freeze and thaw, we were able to repair them quickly to minimize impact to plant operation.”

Ahead of Uri, Mycah identified a core maintenance team — an electrician, seven mechanics, two instrumentation technicians and two distribution system technicians — to stay at a nearby hotel on the medical center campus during the storm, just in case roads were impassable. Under “normal” storm conditions, TECO has a ride-out team on-site. Since Uri struck before COVID-19 vaccinations were widely available, hotel lodging gave the team quick access to the plant and kept individuals safe and separate.

After the storm, the maintenance team installed additional heat tracing elements and insulation on selected pipes

and instrumentation, plus recommended other upgrades to further harden the plant for cold weather. The tasks were added to the detailed, year-round corrective, preventive and predictive maintenance schedule that the department synchronizes with Operations.

“We conduct a weekly planning meeting with all maintenance groups and the folks in Operations to coordinate our efforts,” says Mycah.

“We need to know what equipment has to be operational when so we can work our maintenance and repair schedules around that. It’s also helpful that TECO hired two plant engineers who connect our departments, focusing on plant troubleshooting and capital projects. And we can’t forget inventory management. Given increased lead times for parts and equipment, we all have to be on the same page. I’m pleased with how we continue to improve our work processes.”

The Maintenance Department, which employs 40% of TECO’s staff, started a new tradition in 2020 — selecting a Maintenance Department Employee of the Year. Members of the maintenance crew nominate one of their own, indicating why that person should be selected as winner. All nominations are reviewed by a committee, and a winner is selected. “We have quality people with great work ethic and initiative,” says Mycah. “This is just one way for all of us to show them our appreciation.” ❄️



Photo Paul Howell / Opposite photo Bruce Bennett.

Mike Handorf, Mycah Jewell and Dakota Hall are a part of TECO’s Maintenance Department, which employs 40% of the company’s staff.

TECO conducts regular preventive maintenance on the plants’ heat tracing systems that warm and protect pipes from the elements.



Experience, flexibility get the job done

The Texas Panhandle is a long way from Houston. But on February 8, 2021, when ERCOT announced that a significant winter storm was likely near Amarillo, TECO still took notice. By February 11, TECO was on full alert as StormGeo — our weather subscription service — began predicting ice at TECO's Central Plant.

"The forecast set our winter freeze preparation plan in motion," says Jose Garcia, operations manager. "We began isolating and draining any pipes not in use, checking our chemical inventories and topping off diesel fuel levels. Then we set up two teams — six operators each for a night shift and a day shift — to work during the storm. For COVID safety and quick and easy access to TECO, they checked into a hotel at the medical center February 14 and stayed there until February 16."

With the power grid taxed by Winter Storm Uri's freezing temperatures, TECO ran its combined heat and power unit 24/7 to supply electricity to meet all of the Central Plant's needs, feeding any excess power to the grid. "Our crews did a great job, keeping the combined heat and power unit running and producing nearly a record amount of steam," says Jason Berrio, vice president of plant operations. "At one point, however, we could tell there must be some broken chilled-water pipes in some customer buildings because our need for system makeup water rapidly increased. Sure enough, some frozen pipes had thawed and had begun leaking chilled water from our system. We continued adding water to keep things

running until all the leaks were isolated or repaired. Service was never threatened nor interrupted."

Water was a challenge on many levels during the storm. Due to power grid curtailments, some TECO customers experienced a drop in municipal water pressure, potentially jeopardizing their healthcare services and patients. Although TECO's municipal water supply was also affected, we also have our own water well, so we offered to supply water to those who needed water to ride out the storm. "We quickly determined a way to set up a temporary truck loading station and safely fill tankers," says Jason. "An 18-wheeler would pull in with a 5,000-gallon tank on it, and we would fill up the tank. We sent out nearly seven truckloads of water."



At left, Antonio Lopez, Jose Garcia and Jason Berrio with TECO's 48 MW combined heat and power unit.

TECO customers continued to provide services — including care for COVID patients — during Uri. The pandemic has persisted, with TECO adapting procedures and staffing as needed.

"We maintain solid COVID protocols," says Antonio Lopez, operations supervisor. "In spite of everyone's best efforts, though, we had some operators get COVID during the August 2021 surge. They are usually on what is called a DuPont shift schedule — a four-week cycle — but we had to change that to a straight two-shift schedule for a few weeks because guys were out. Yet it didn't affect operation. We thank our employees for their flexibility. They are willing to do whatever it takes to make our operation seamless and service reliable." ❄️

Throughout Winter Storm Uri, TECO supplied all of its own electricity and fed any excess power to the ERCOT grid, which needed every available kilowatt-hour.

Photos Bruce Bennett.

Electricity, natural gas supply never in doubt

ERCOT data updates every two seconds, 24 hours a day, on a designated monitor in TECO's control room.



Brandon Johnson, shift supervisor, at one of TECO's two 138 kV local electric utility substations that feed grid electricity to TECO and also relay excess TECO-produced electricity to the grid when available.

Just like Rome, combined heat and power plants aren't built in a day, or even a few weeks, for that matter. That's why nearly 15 years ago, TECO made the decision to add a combined heat and power (CHP) unit to our system, ensuring reliability no matter the challenges faced.

The start of CHP operation in 2010 changed TECO, giving us the opportunity to not just produce all of our own power and improve operational efficiency but also to sell any extra power to the ERCOT grid when economical to do so. It takes special expertise to balance power production and sales, so TECO brought in EDF as our electricity retailer and qualified scheduling entity with ERCOT, the Texas electric grid operator.

"We are partners in understanding what's happening in the energy space in Texas," says Mary Anne Brelinzky, president, EDF Energy North America (EDF). "We make sure TECO is best positioned to meet its electricity needs in a way that's both reliable and economically viable, capturing the best value of their CHP asset. We assist TECO with managing the power sales and hedged power settlements on a real-time basis."

EDF is TECO's point of contact with ERCOT and helped TECO become a resource entity and generator owner. "We electronically pass along ERCOT information to TECO every two seconds, 24 hours a day, and that data is displayed on a dedicated screen in their control room," says Brelinzky. "But during Winter Storm

Uri, EDF was also in direct contact with TECO's operators to answer complex questions on pricing, externalities affecting the grid, the projected length of the ERCOT power curtailment, and more. Admittedly, TECO is one of the few 'feel-good' stories from Uri. They were able to operate through the storm because they pay attention to maintenance schedules, operations and winterization. It's part of their culture."

TECO also plans ahead when it comes to fuel risk management. Since 2009, TECO has consulted with DaCott Energy Services on strategies for power procurement and natural gas hedges. (Natural gas is TECO's primary fuel source.)

"When we first started working with TECO, we were looking at fuel contracts that were a year or two out," says David Geyer, president and CEO, DaCott Energy Services. "Now contracts are up to 10 years. That's intentional. Pricing can be volatile, and that's not helpful for TECO or its customers. By locking in prices, TECO has more certainty, and customers can go into their respective budgeting cycles knowing exactly what they will pay in the coming year."

DaCott meets with TECO regularly to discuss what's going on in the market and when to secure portfolio needs. "TECO had a steady supply of natural gas during Uri," says Geyer. "And that's because the right provisions were in the long-term contracts. There were no surprises — and that's exactly how we like it." ❄️

Photos Bruce Bennett

People are the most valuable resource

“We sent emails and texts and communicated by phone and Zoom meetings – whatever was needed. I always asked myself, ‘How would I like to be treated if I were in their shoes?’ and that’s how we approached it.”



A generator was running outside Clarissa Brewster’s window, but it wasn’t a generator at TECO. It was her portable home generator — a safety-achievement gift to TECO employees several years ago — that kept her electricity on and Clarissa connected to TECO during Winter Storm Uri.

Clarissa, vice president of human resources, remotely helped coordinate special employee work schedules and timekeeping procedures for those on-site and off throughout Uri. “It’s incredibly important for the payroll to be accurate even as it gets more complex during emergency situations,” says Clarissa. “We got it right, of course, but in the process we decided to prepare an ongoing inclement weather policy that clarifies how payroll will work during future weather events. Paired with our detailed emergency

operations plan, it gives us a complete storm preparation package.”

Keeping employees informed about schedules, payroll and procedures using all means possible was key for Clarissa and her team. “People want to know what’s going on and what’s expected of them,” she says. “So we sent emails and texts and communicated by phone and Zoom meetings — whatever was needed. I always asked myself, ‘How would I like to be treated if I were in their shoes?’ and that’s how we approached it. We want everyone safe and informed. We didn’t want them on the icy roads.”

TECO learned through past storm events like Hurricane Harvey how to track key expenses, including payroll, so claims may be promptly

From left, Linsey Whalen, Clarissa Brewster and Lori Cook stayed connected with employees to provide guidance on coming to work during the storm, logging time, accessing benefits and getting appropriate testing and care related to COVID-19.

submitted to the Federal Emergency Management Agency for reimbursement. Senior Controller Kevin Giblin is in charge of FEMA claims, streamlining the process so TECO is paid on a timely basis. Clarissa is certain TECO was one of the first to make a claim post-Uri!

But Uri wasn’t the year’s only test. The Human Resources Department also is TECO’s ground zero for handling the COVID-19 pandemic. The department helps employees and their families navigate what to do if anyone tests positive for COVID-19, plus issues notifications to any co-workers who may have been in contact with those employees. Timekeeping is affected as well and must be specially processed

for quarantines and illness. The process is time-consuming, but necessary, and continues to this day.

“No matter what I’m facing, I know my colleagues have my back,” says Clarissa. “Linsey Whalen and Lori Cook have taken on many additional responsibilities over the past two years. For instance, Linsey has assumed a broader role with benefits, and Lori is even handling front gate access and visitor tracking. It’s hard to describe how much I appreciate their efforts. Plus, there’s comfort in knowing I can bounce ideas around with my fellow VPs. The management team works like a well-oiled machine. We collaborate frequently and trust each other to make wise decisions.” ❄️

Photos Bruce Bennett.



ACCOMPLISHMENTS

FINANCE AND ADMINISTRATION

- Exceeded budget expectations for FY2021* and presented FY2022* budget that was approved by TECO's Board of Directors.
- Completed fiscal year with operating revenues \$57,107,318 over expenses. The Board voted to forego a customer rebate so those funds can be used to support expansion projects.
- Board accepted results of recently completed master plan in April 2021 and approved \$155 million in projects designed to further increase TECO's reliability and efficiency and accommodate campus growth.
- Completed FY2021 financial audit with no notable comments regarding financial results, accounting methods, process, or internal controls.
- Maintained TECO's financial closing on third business day of the month.
- Met on a regular basis with Board members outside of regularly scheduled meetings and met with senior executives for many customer institutions.
- Prepared accurate forward-year rate forecasts in March 2021 for institutions that needed them for early-in-the-year budgeting.
- Conducted employee survey for 2021.
- Produced and distributed TECO's 2020 Annual Report, "24/7."
- Managed through COVID-19 pandemic while maintaining no service interruptions.

* Fiscal year September 1 - August 31

OPERATION

- Provided 100% chilled-water and steam reliability to customers, including full resiliency during Winter Storm Uri in February 2021.
- Managed peak power requirements during the periods Electricity Reliability Council of Texas (ERCOT) measures peak power consumption, saving TECO more than \$3 million during these periods.
- Successfully followed Energy Policy initiated by Board of Directors in 2006, which helps TECO lock in fuel purchases at lowest-possible cost.
- Continued Operator Training and Certification Program as scheduled. One operator received his City of Houston's Third Grade Stationary Engineer license in FY2021.
- Conducted 3,284 man-hours of training in FY2021, adapting to remote learning as needed.
- Experienced no recordable incidents in FY2021. Achieved Workers Compensation Experience Modifier of 0.87, which continues to be below the industry average.
- Successfully completed, on schedule and budget, capital projects to enhance performance, efficiency and reliability.
- Continued Major Equipment Replacement Program (MERP) and insurance reserve fund. MERP ensures funding will be available for future equipment replacement as needed assuming normal equipment lifecycles. By regularly allocating money to insurance reserve fund, TECO can raise deductibles and reduce insurance premiums. >>



Photo Bruce Bennett.

Forty years of service and growth

If there is anyone at TECO who has stayed the course, it is Energy Director Ram Goonie, CEM, who in 2021 marked 40 years of service. He is TECO's longest-serving employee ever.

"I started in March 1981," says Ram. "I was young, but I was fortunate to join TECO as it was gearing up for growth. I've worked for every leader of the company, and there have always been new opportunities."

Ram began as plant operator, becoming operations supervisor before being promoted to energy manager in 1990. Ram's responsibilities started with customer billing, plant energy management and the production budget for rate projections. Over the years he has prepared building energy consumption and cost data for customers' operating budgets, including new facilities. (He worked with Baylor St. Luke's Medical Center and its consultants on the new O'Quinn Medical Tower.)

Ram started what is now the customers' Facility Advisory Committee. Today he has even more responsibilities, including rate development, fuel hedging, power sales and customer service. He plays a major role in TECO's master-planning efforts.

"Ram has been here for 80% of TECO's history," says Vice President of Plant Operations Jason Berrio. "He has a wonderful demeanor that has helped nourish long-term relationships with our customers, business partners and other members of the TECO team."

Congratulations, Ram!

FY2021

>> *Operation, continued*

- Had no citations relating to environmental, safety or regulatory requirements.
- Continued to operate and maintain The University of Texas Health Science Center's Research Park Energy Plant, South Campus. TECO remotely monitors plant operations 24/7 and operators visit plant daily, bringing UTHealth significant economic savings and improved operational benefits.

CUSTOMERS

- Conducted 2021 customer satisfaction survey, with 100% of respondents replying that TECO's chilled-water and/or steam service met their expectations very well (highest rating) over the past year. Same was true in 2020, 2019 and 2018.
- Continued providing invoices and reports for customer access via TECO's customer portal.

CONSTRUCTION STARTUP:
July 2020

TOPPED OUT: June 2021

SCHEDULED COMPLETION:
February 2023

ARCHITECT: HKS Inc.

GENERAL CONTRACTOR:
Harvey-Cleary Builders

COST: \$426 million



New O'Quinn Medical Tower, new TECO connection

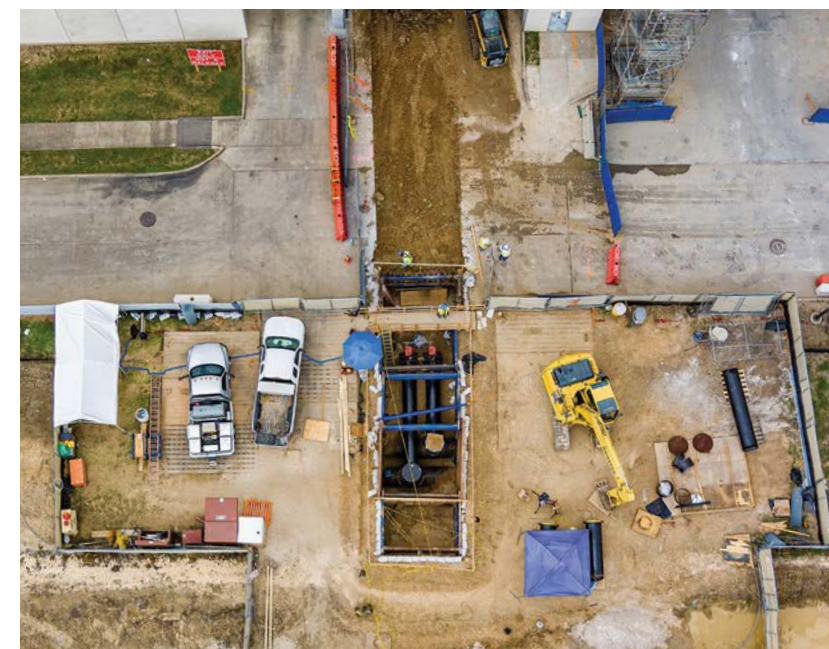
TECO is pleased to welcome Baylor St. Luke's new O'Quinn Medical Tower at the McNair Campus to our district cooling network. The 12-story, 400,000-sq-ft tower will support and provide personalized care to patients and families and expand Baylor St. Luke's outpatient capacity.

The building will serve as the new clinical home for the Dan L. Duncan Comprehensive Cancer Center, which is ranked among the 50 top cancer hospital programs in the country by *U.S. News and World Report*. "We're truly excited about the new O'Quinn Medical Tower," says Doug Lawson, Ph.D., CEO, St. Luke's Health. "It represents the consolidation of our cancer programs under one banner, allowing us to amplify our care for cancer patients. It is one of only three National Cancer Institute-designated cancer centers in the state of Texas."

The new tower also will house multiple outpatient services including radiology, endoscopy and an ambulatory surgery center.

Between March and May 2021, TECO installed two new 30-inch chilled-water connections to serve the new O'Quinn Medical Tower and adjacent buildings on the McNair Campus.

Between March and May 2021, TECO installed two new 30-inch chilled-water connections to serve the new O'Quinn Medical Tower and adjacent buildings on the McNair Campus.



Top photo Bruce Bennett / Bottom photo Arch Aerial LLC.

“I am pleased that we can count on TECO providing chilled water and steam 24/7, rain or shine or freeze or hurricane.”

Customer respondent, 2021 TECO Customer Satisfaction Survey

“I have had the pleasure of working with the TECO team for more than 17 years and would rate them as my most important partner.”

Customer respondent, 2021 TECO Customer Satisfaction Survey

“The chilled-water and steam service continues to be extremely reliable with maximum up-time. This is extremely critical for our operation.”

Customer respondent, 2021 TECO Customer Satisfaction Survey

	Chilled Water	Steam
CUSTOMERS		
Number of customers	17	15
Number of buildings served	51	37
Square feet served	24.3 million	19.7 million
Energy sales	341,826,998 ton-hr	1,343,775 Mlb
ENERGY SOURCES		
Paul G. Bell, Jr. Energy Plant - Central Plant		
Number of boilers, chillers/fuels	14 chillers electricity & natural gas	7 boilers natural gas & diesel
Thermal storage tank	8.8 million-gallon chilled-water storage tank	n/a
South Main Plant		
Number of boilers, chillers/fuels	13 chillers electricity	2 boilers natural gas & diesel
OPERATIONS / DISTRIBUTION		
Capacity	120,170 tons (including thermal storage)	980,000 lb/hr (with heat-recovery steam generator & duct firing)
Supply temperature	40° - 43°F	450°F
Supply pressure	55 - 90 psi	400 psi plant 250 psi distribution
Return temperature	52° - 55°F	150°F
Water volume in system	12.4 million gallons	n/a
Piping type	Welded steel coated with coal/tar epoxy	Welded steel, Schedule 40 with insulation
Piping diameter	6 to 60 inches	2 to 16 inches
Piping distribution trench length	7.7 miles	7.7 miles (portions of the line have three pipes)
Power		
Paul G. Bell, Jr. Energy Plant - Central Plant		
Combined heat and power system	48 MW	
Standby generation	14 MW	
South Main Plant		
Standby generation	2 MW	

Rates and Units

Fiscal year September 1 - August 31

	FY2021	FY2020
CHILLED WATER		
Rate (\$/ton-hr)	\$ 0.1730	\$ 0.1669
Rate (\$/MMBtu)	\$ 14.41	\$ 13.91
Peak Demand (tons)	76,607	78,600
Average Demand (tons)	39,021	41,093
Load Factor	51%	52%
Peak (sq ft/ton)	309	301
Production (sq ft/ton-hr)	0.069	0.066
Production (ton-hr)	341,826,998	359,975,226
Cooling Degree-Days (3,510 normal)	3,335	3,699
Fuel Consumption MWh (natural gas and electricity)	265,979	297,571
STEAM		
Rate (\$/Mlb)	\$ 14.69	\$ 14.58
Rate (\$/MMBtu)	\$ 12.95	\$ 13.72
Peak Demand (lb/hr)	418,784	378,856
Average Demand (lb/hr)	153,399	145,160
Load Factor	37%	38%
Peak (sq ft/lb)	47	52
Production (sq ft/Mlb)	14.7	15.5
Production (Mlb)	1,343,775	1,271,605
Heating Degree-Days (1,081 normal)	1,265	1,032
Fuel Consumption MMBtu (natural gas)	1,760,525	1,752,842

Revenue and Expenses

Fiscal year September 1 - August 31

	FY2021	FY2020
OPERATING REVENUE		
Chilled Water	\$ 63,270,187	\$ 67,664,759
Steam	\$ 16,718,986	\$ 17,951,859
Customer Rate Reduction	\$ 0	(\$ 15,510,127)
CHP Revenue	\$ 40,936,600	\$ 618,928
Other	\$ 3,764,733	\$ 4,104,262
Total Operating Revenue	\$ 124,690,506	\$ 74,829,682
OPERATING EXPENSES		
Fuel*	\$ 7,418,140	\$ 13,848,115
Water and Water Treatment	\$ 3,987,349	\$ 3,537,604
Other Operating Expenses	\$ 55,111,334	\$ 54,768,850
Total Operating Expenses	\$ 66,516,823	\$ 72,154,569
Net from Operations	\$ 58,173,683	\$ 2,675,113
Non-Operating Revenue/(Expenses)	\$ (1,066,365)	\$ 1,291,502
Excess Revenues Over Expenses	\$ 57,107,318	\$ 3,966,615

TECO completed fiscal year 2021 with operating revenues 49.5% over budget and operating expenses 17.8% under budget. The large favorable variances were driven by the operation of the combined heat and power unit, specifically during Winter Storm Uri, where TECO was able to sell approximately 17,900 MWh (\$40.3 million) back to the grid and liquidate 2,500 MWh (\$8.1 million) of electricity hedge. Other notable variances include (1) water costs that were 27.8% below budget due to the WaterWise program through the Harris-Galveston Subsidence District and (2) personnel costs that were 6.3% below budget due to a combination of favorable health insurance costs and capitalized labor costs.

TECO's excess of revenues over expenses in fiscal year 2021 were \$57.1 million.

TECO achieved its below-budget fuel cost without deviating from its energy policy, which provides fuel price stability so that rapid increases in fuel costs do not affect rates during a budget year.

The company met all of its planned cash, internally set financial, and debt covenant requirements for fiscal year 2021.

*FY2021 fuel expense includes an offset of \$8.1 million for electricity hedge liquidation related to Winter Storm Uri.

 20-40 YEARS OF SERVICE



10-19 YEARS OF SERVICE 



The **TECO** Team

and their years of dedicated service.

Haley Ackman, 4
 Marsha Ackman, 19
 Craig Acree, 7
 Rosalie Arellano, 4
 James Arnett, 3
 Priscilla Avila, 4
 Henry Barrios, 29
 Rohnald Benfield, 27
 Christopher Beroo, 7
 Jason Berrio, 4
 Clarissa Brewster, 30
 Julian Brewster, 30
 Adolfo Caballero, <1
 Callen Clark, 3
 Brian Connell, 2
 Lori Cook, 2
 Milton Cowan, 7
 Charles Darden, 21
 Steve Del Toro, 19
 Shawn Dennis, 5
 Ryan Doucet, 9
 Jackson Fay, 4
 Kerry Fischer, 33
 Manuel Gamez, 17
 Joey Garcia, 9
 Jose Garcia, 14
 Kevin Giblin, 29
 Ross Goedeke, 4
 Phillip Gonzales, 7
 Vincent Gonzales, 5
 Ram Goonie, 40
 Manny Guerra, 32
 Dakota Hall, 2
 Travis Hampton, 7
 Mike Handorf, 38
 Jess Harper, 11
 Tyler Harris, <1
 Shoaib Hasan, <1
 Armando Herrera, <1
 Troy Hollin, 17
 Mycah Jewell, 5
 Juan Jimenez, 17
 Brandon Johnson, 23
 Brady Jones, 17
 Austin Kelly, 11
 Nolan Lambert, 27
 Antonio Lopez, 38
 Carolyn Luomala, 2
 Anthony Manning, 3

Mike Manoucheri, 3
 Jared Marish, 18
 Eddie Martinez, 5
 Joel McCormick, 9
 Lamont McInnis, 13
 John McNeil, 5
 DJ Morosin, 1
 Fred Musil, 27
 Philip Muzar, Jr., 32
 Stephen Nagy, 30
 Christopher Olson, 2
 Fidel Orizaba, 7
 Walter Pascua, 11
 Thomas Penzi, III, 17
 Shelly Pesak, 21
 Kim Pettis, 4
 Kelly Powell, 20
 Sean Price, 17
 Faustino Quiroz, 13
 Brandon Rapp, 1
 Tim Reardon, IV, 5
 Jenice Ricks, 6
 Melissa Ripple, 3
 Joe Robles, <1
 Joey Rodriguez, 3
 Juan Rodriguez, 7
 Brad Rogers, 7
 Carlos Romero, 2
 Jake Ruttle, 8
 Mike Salgy, 1
 Marty Sarch, 2
 Jared Schneider, 7
 Phyllis Sousley, 30
 Don Stowe, 11
 Steve Swinson, 16
 Ramon Tapia, 6
 Mike Thamm, 15
 Karen Thomas, 19
 Lucas Townsend, <1
 Justin Underwood, 6
 William Van Noy, <1
 Salomon Vega, 7
 Scotty Walker, 13
 Nick Walsh, <1
 Linsey Whalen, 3
 Shane Williams, 7

Key Business Partners

Burns & McDonnell
 CenterPoint Energy
 ChemTreat
 Cool Solutions
 DaCott Energy Services
 EDF Energy Services
 Frost Bank
 GE Gas Power
 HALO Branded Solutions Inc.
 Jackson & Ryan Architects
 Johnson Controls
 Merrill Lynch
 Optimum Energy
 Stanley Consultants
 Tellepsen
 Toshiba International Corporation
 Westerlund Communications Inc.
 Willis Tower Watson



In memoriam

Shawn Dennis
 1966-2021

Family man
 Outdoorsman
 Loyal friend
 Operator I
 Dedicated employee since 2016

You are missed.

Photo courtesy the Dennis family.



📍 5-9 YEARS OF SERVICE



📍 <1-4 YEARS OF SERVICE





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