



# LEADING THE WAY

CELEBRATING

30  
YEARS

OF  
UNINTERRUPTED  
SERVICE

2022 ANNUAL REPORT

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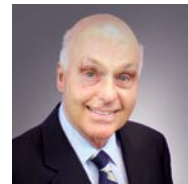
**Alec King**  
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Memorial Hermann  
Health System



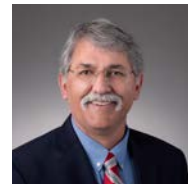
**Fatima Sheriff\***  
Vice President and  
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The University of Texas MD  
Anderson Cancer Center



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\*Fatima Sheriff replaced Ben Melson, who retired from The University of Texas MD Anderson Cancer Center October 2021.

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Photo: Hall Puckett

## THERMAL ENERGY CORPORATION

THE ENERGY BEHIND WHAT'S NEXT

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

## A LOOK BACK AT 2022

While Houston was spared the fury of significant weather events such as hurricanes or ice storms in 2022, external circumstances have the potential to impact operations at a facility such as TECO. Like many industries over the past year, TECO navigated labor shortages, supply chain sourcing issues, and lingering pandemic-induced considerations. There were also plenty of high temperature summer days — and 2022 was a hot one.



June and July were the hottest on record in Houston, and a **105-degree reading** on July 10 tied for the hottest July day in the city's history.



The Electric Reliability Council of Texas (**ERCOT**), the organization which operates Texas' electrical grid, set an all-time maximum peak demand record for the system in June.



The "Great Resignation" resulted in some **46.4 million Americans** voluntarily exiting their jobs in 2022.



**Supply chain issues** across the country affected businesses and consumers alike, resulting in delays of days to months for delivery of essential goods and materials.



Photo: Hall Puckett

**TECO** successfully maneuvered each challenge through thoughtful advanced planning, a culture of collaboration, routine situational analysis, procurement of alternative supply solutions when needed, and swift responsiveness throughout the year. Our track record of uninterrupted service continued, with impacts to customers and costs well-managed and mitigated.

SOURCES: Houston Public Media, Statista, ERCOT

# LEADING THE WAY



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

This year, TECO has seen our leadership teams grow and evolve, as both internal promotions and new hires to key positions usher in a next chapter built on both deep-rooted experience and genuine enthusiasm. We thank the team members who have supported this process — stepping in to ensure seamless transitions so that our organization can continue to lead the way as experts in this industry and a critical service provider to Houston’s medical and research community.

We also thank the Board of Directors for its guidance and forward-thinking mindset, which allows TECO to plan for the needs of our customers and begin devising solutions for opportunities that are years ahead. In this report, you will see the outcome of a reliability and optimization project that was approved and implemented in 2020, and is now delivering results in a time when energy prices have nearly doubled. Visitors to our campus in late 2023 will find a more visible effect of long-term planning — the addition of a new gas turbine generator. This generator is being installed to meet anticipated future demand and ensure a continued track record of reliability and resiliency.

Continuing to look back on 2022, perhaps one thing we can remark upon is the welcome lack of remarkable natural events. From Hurricane Harvey to COVID-19 to Winter Storm Uri, there has been a cycle of years which have brought unprecedented and unique challenges. We remain incredibly proud of our team’s nimble response to these seemingly constant and ongoing changes — always staying the course and keeping service on track.

As you review this year’s report, “Leading the Way,” you will read stories of the groundbreaking advances

taking place throughout the Texas Medical Center (TMC), including an update on TMC Helix Park, a world-class, research-driven campus which will stand at the forefront of next-generation medical advances. TECO is proud and honored to be supplying service to the new buildings currently under construction.

You will also find a recurring theme of the number 30 throughout these pages — first, in recognition of TECO’s milestone of 30 years of uninterrupted service and second, celebrating the 10 TECO employees who have reached 30 or more years of service with the organization. On page 8, they each share some reflections on what their careers mean to them and what they have learned along the way.

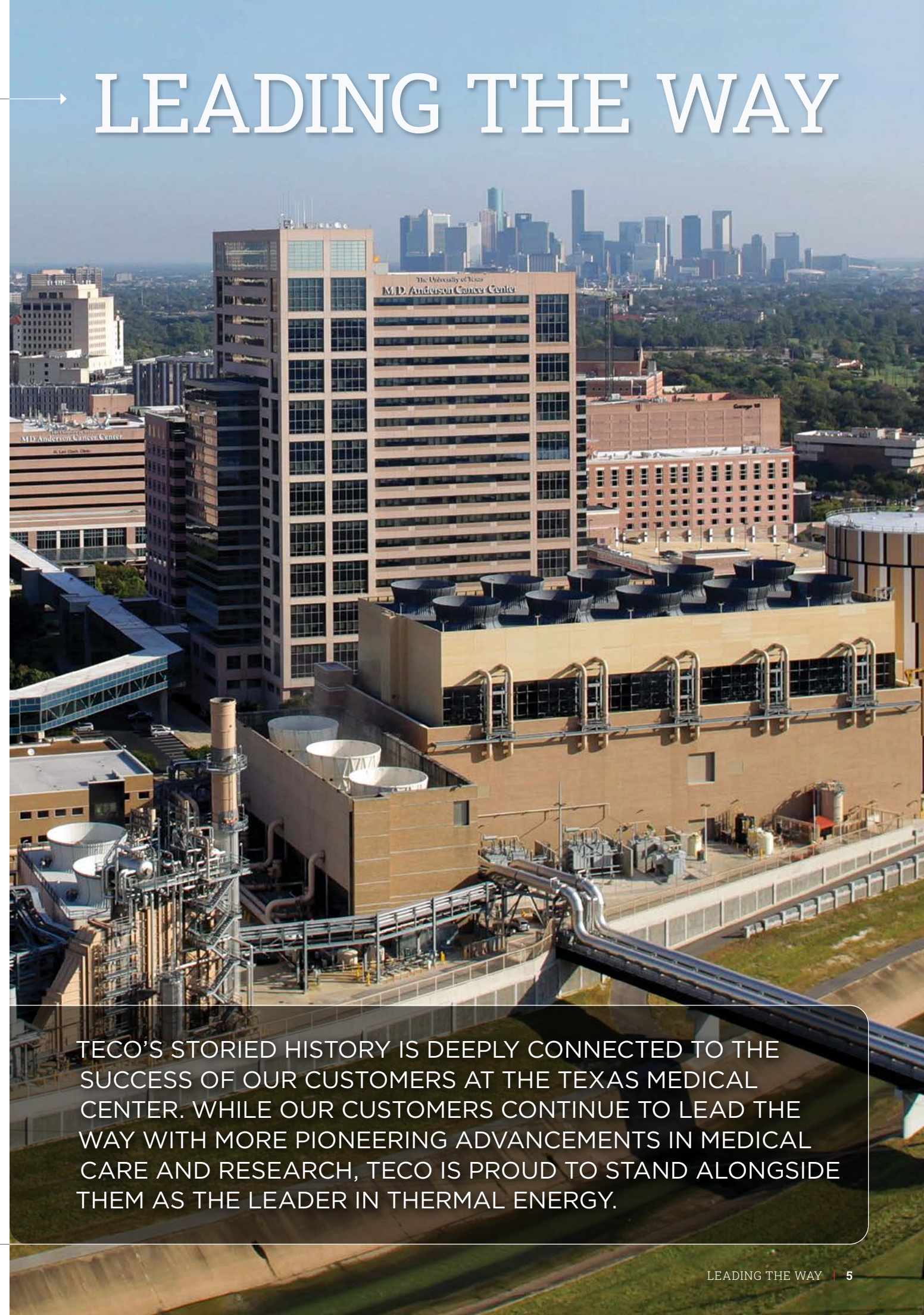
A common thread found in their comments is the understanding that TECO makes an impactful and critically important contribution to the work being done at the facilities of TMC — and how personally meaningful and motivating that contribution is. We expect this is a sentiment felt by TECO employees no matter the stage of their career.

We hope you find this look back — and ahead — to be a meaningful insight into the many ways TECO leads the way through trying and typical times alike.

Bradley N. Howell  
Chairman, TECO Board of Directors

Michael P. Manoucheri, PE  
President and Chief Executive Officer

Photos: © de la Torre Photos LLC (left), Hall Puckett (right) / Opposite: Paul S. Howell



TECO’S STORIED HISTORY IS DEEPLY CONNECTED TO THE SUCCESS OF OUR CUSTOMERS AT THE TEXAS MEDICAL CENTER. WHILE OUR CUSTOMERS CONTINUE TO LEAD THE WAY WITH MORE PIONEERING ADVANCEMENTS IN MEDICAL CARE AND RESEARCH, TECO IS PROUD TO STAND ALONGSIDE THEM AS THE LEADER IN THERMAL ENERGY.

# Celebrating 30 years of uninterrupted service

2022 marked three decades of zero major outages for TECO's customers in the Texas Medical Center



Imagine the power at your home hasn't had a major outage, despite storms and natural disasters, for 30 consecutive years. Unimaginable, right?

Well, that's exactly what TECO has accomplished by supplying chilled water and steam to buildings in the Texas Medical Center for the past 30 years without disruption.

When reflecting on how much the energy industry has evolved and advanced since 1992, it's incredible that TECO's succession of leaders and Board of Directors have been able to anticipate potential challenges by planning enhancements years in advance.

"Since I joined TECO in 1981, this ideology has been reinforced by the company's leaders. It started with our president and CEO at the time, Jack Huebner, whose direction paved the way for his successors to come in and take planning and reliability to a higher level," Ram Goonie, energy director, recalled. "Fast forward to 2005, when Steve Swinson led the execution of a master plan that ultimately laid the foundation for the initiatives we now see taking place under our current president and CEO Mike Manoucheri. The ongoing and innovative actions from our leaders throughout the years has enabled our success."

The less customers have to think about the reliability of their thermal utilities, the more they can focus on the work at hand. A loss of steam or chilled water at any one of the TMC institutions TECO serves could easily have devastating implications in terms of lost research or significant challenges for doctors and nurses to provide the medical service for which these facilities are known.

"Reaching this milestone means our customers have been able to focus on their core missions of research and patient care without worrying if the heating or cooling might go out," Jason Berrio, vice president of

plant operations, said. "We are really proud to have provided our customers with peace of mind and will continue to do so through our strategic planning efforts."

The last time TECO experienced an outage was on November 21, 1992, when Houston was hit by an unprecedented series of tornadoes. Six twisters touched down in Space City on that day, including an F-4-rated tornado, which is categorized to cause devastating damage.

One eventually hit near TMC and knocked out TECO's main transmission lines. Today, the probability of this outage occurring is much lower due to the installation of automatic switching and on-site power generation. As the technology was not available back then, TECO had to wait for a crew to come in and manually switch the lines over.

Since then — even in the face of notable weather events like Tropical Storm Allison, Hurricane Harvey, or Winter Storm Uri's potentially disabling effects — TECO has not had any major outages.

TECO's commitment to investing in redundant and reliable systems and proactive planning before issues arise has helped prevent service interruptions. This ranges from fortifying the plant through the floodwall constructed in 2004, which proved to be vital when Hurricane Harvey hit 13 years later, to installing water wells that have mitigated city water outages in the last few years, to the gas turbine installed in 2010. A second gas turbine is currently being constructed and will be installed next year to help maintain reliability as customer demand increases.

"We couldn't have reached 30 years of uninterrupted service without the incredible buy-in and support from both TECO's Board of Directors and our customers," Berrio said. "We have all worked together to think through contingencies, how to respond to them, and directly invest in sustainable solutions."



Above: Brandon Johnson (left) and Ian Dunn (right)

Opposite: Ram Goonie, Mike Manoucheri, and Jason Berrio all play a critical role in ensuring TECO's services remain uninterrupted. Below: TECO's original control room went through a major upgrade in 2010 (left) to meet the rising demand.



# Three decades club

## Reflections from career TECO team members



Left to right: Philip Muzar, Kevin Giblin, Clarissa Brewster, Antonio Lopez, and Mike Handorf.

Photo: Hall Puckett

While TECO is proud to recognize the organization's milestone of 30 years of uninterrupted service this year, it is also important to note that there is a class of employees on the TECO roster who can boast this same achievement.

There are currently 10 employees who have made impactful and successful careers of 30 years (or longer) with TECO. With more than 330 years of combined experience, the expertise represented by this group is immensely valuable and deeply appreciated. Below, they each share a few insights on what their work means to them, some well-earned wisdom, and what sets TECO apart both in the industry and as an employer.

**What advice or helpful tips would you give someone on their first day at TECO?** I would tell them that if you apply yourself and continue with formal training and education to advance within the company, then the possibilities are very high. I would also be sure to share that TECO is a very good company with great benefits and the team here feels like a second family.

**Ram Goonie | Energy Director**  
41 years

**What makes working at TECO special?** Working at one of the top facilities of its kind in the world is something to be proud of in and of itself, but knowing the work we do here directly and indirectly touches and possibly enhances the lives of those coming to the Texas Medical Center for treatment is the truly special part for me.

**Mike Handorf | Maintenance Supervisor**  
39 years

**What accomplishment are you most proud of in your TECO career so far?** The biggest accomplishment of my career is becoming an operations supervisor. I worked my way up from the bottom, starting in janitorial services. I moved through positions in maintenance and distribution and then on to operations as a trainee. In 1991, I became a shift supervisor before being promoted to operations supervisor in 2009, which is the position I currently hold. I am very proud of reaching this title in my career.

**Antonio Lopez | Operations Supervisor**  
39 years

**What is something valuable you have learned while working at TECO?** Dedication and teamwork really produce a great product.

**Philip Muzar | Sr. Project Engineer**  
33 years

**What would you say is the biggest contributing factor to your staying at TECO the past 30 or more years?** From the very beginning, TECO management has presented me with so many opportunities to learn and grow. I started as a receptionist and am now a

vice president! My journey has never been stagnated or mundane. I consider it a gift to have been able to reinvent myself in each position I've held.

**Clarissa Brewster | Vice President, Human Resources**  
31 years

**What is something you wish people understood about TECO?** TECO is not just an energy or a utility plant. Yes, it does supply thermal utilities to buildings, but when you look beyond that, it also supplies hope and the facilities to give people the chance to save lives, the lives that depend on the Texas Medical Center.

**Julian Brewster | Sr. Graphics Design Specialist**  
31 years

**What advice or helpful tips would you give someone on their first day at TECO?** Remember that no matter what position you hold here at TECO, everything we do, we do it for the people of the Texas Medical Center.

**Stephen Nagy | Shift Supervisor**  
31 years

**What is a technological advancement you found most interesting or impactful for your work over the course of the last 30 (or more) years?** You are going to laugh at this, but it's the absolute #1: the internet! When I first started in 1991, there was very little online activity in procurement. Today, I use the internet as my #1 tool to research, quote, and offer online options to the procurement, finance, and entertainment teams.

**Phyllis M. Sousley | Sr. Procurement & Special Programs Coordinator**  
31 years

**What is something you wish people understood about your position at TECO?** TECO is a great place to work. I want people to know that my job as OPS supervisor for over 20 years is greatly rewarding, full of challenges, responsibilities, and dedication. I do love my job and if I had to do it again, I would not hesitate at all.

**Henry Barrios | OPS Supervisor**  
30 years

**What is a technological advancement you found most interesting or impactful for your work over the course of the last 30 (or more) years?** For me, three key things stand out: 1) Use of electronic documents in place of hardcopies to provide timely financial information to management, administrative staff, and outside parties. 2) Use of email as a primary communication source in place of hardcopy documents. 3) Use of online meeting platforms to communicate with both internal and external parties.

**Kevin Giblin | Sr. Controller & Finance Manager**  
30 years

We thank you all for being a part of the TECO team and helping us move our mission forward through your commitment, initiative, and hard work.



“I GO 110% IN EVERYTHING I DO. I HAVE ALWAYS PUSHED MYSELF AND MY TEAM TO BE THE BEST WE CAN BE EVERY DAY. I’LL BE THAT WAY FOREVER.”

—MYCAH JEWELL



## Mycah Jewell is poised to impact all facets of TECO in his new role

In May, the former maintenance manager was promoted to vice president of engineering and maintenance

When TECO President and CEO Mike Manoucheri transitioned to his current role last year, he left behind big shoes to fill. Instead of searching outside of the company, Manoucheri and TECO knew the best candidate for the vice president of engineering and maintenance position was already part of the TECO team — Mycah Jewell.

“Looking at his experience in engineering and maintenance roles, both within TECO and his past, he brings valuable insight and firsthand knowledge on a range of day-to-day and specialty areas,” Manoucheri said. “He’s very focused, very technically competent.”

Jewell joined TECO in 2016 as a senior project engineer and transitioned to maintenance manager in early 2018. After serving in that role for four years, his experience at TECO gave him a unique understanding of how maintenance, engineering, and planning can be used to enhance operations.

But it wasn’t an easy decision.

“I’m going to be honest; I was a little torn. I knew what I had in maintenance and knew I had some unfinished business,” Jewell said. “I also knew, being a degreed engineer and knowing what my pedigree is, that I liked the challenges the VP role presented and what areas we could improve.”

With a passion for maintenance and expertise in engineering, Jewell’s relentless drive makes him a natural leader.

“People really respect him,” Manoucheri said. “One thing Mycah does well is that he clearly communicates his vision and expectations.”

From there, whether he is helping direct daily maintenance, discussing long-term additions to TECO’s operations, or managing projects where needed, Jewell is happy to take on any challenge.

“I like dipping my hand in a lot of different things. I still like the maintenance side,” Jewell said. “Being a registered PE (professional engineer) in the state, I like the engineering side of things and the project management. I enjoy stuff flying at me all day long and solving problems.”

Now, in his first year as vice president of engineering and maintenance, he is focused on solidifying the organization’s spot as a pillar for reliability and efficiency in district energy.

“Our critical mission is the same, which is to provide cost-effective, reliable service to the Texas Medical Center. I had that mindset when I started here, had it as maintenance manager, and I have that mindset now,” Jewell said. “My number one goal is to continue to help TECO reliably meet the needs of our customers by ensuring we have the best systems and processes in place — not just today — but for decades to come.”

Photos: Hall Puckett

## TMC Helix Park: WHERE NATURE AND COLLABORATION COLLIDE



**Construction start date:** January 6, 2021  
**Expected completion date:** Q4 2023  
**Contractor:** Vaughn Construction  
**Architect:** Elkus Manfredi  
**Cost:** \$186 Million  
**TECO services at Industry & TMC<sup>3</sup>**  
**Collaborative Buildings:** Chilled Water

Breakthrough moments don't only happen in front of a computer screen or in a lab. Sometimes, just like people, ideas and innovation need a little space to breathe. TMC Helix Park — previously known as TMC<sup>3</sup> — is a project that blends dynamic green spaces and commercial offerings with top-tier research facilities for some of Houston's most foundational medical institutions. The first phase is on track to open in Q4 2023.

Comprised of 37 acres of land within the Texas Medical Center, this development is groundbreaking for the Houston health community. By empowering innovators in medicine, research, and academia with the latest in technology and equipment, while also weaving the campus into the overall fabric of Houston, TMC Helix Park integrates the city's research community with the larger urban landscape in an exciting new way.

"I think there is a dual mission here," Isaac Middleton, chief operating officer of TMC, said. "One of creating an area for collision [of ideas] but also expanding beautiful outdoor space here in Houston. We have a lot of green, but we could use a little more of an orchestrated outdoor beauty and I think we wanted to contribute to that."

### Phase 1 Highlights

Set to open in Q4 2023, Dynamic One, the first of four Industry Research Buildings, will unite research and industry components for TMC Helix Park. An exciting aspect of the project is the inclusion of retail offerings on all first floors of the campus. Tenants will

find modern labs and workspaces meant to facilitate advances in bench-to-bedside discoveries, while restaurant and shopping options welcome tenants and visitors alike.

Vibrant park components include thick grass, shade trees, and tranquil water features, while thoughtful seating, walkways, and dedicated spaces designed for receptions or presentations make TMC Helix Park's gardens accessible for a variety of occasions. The comprehensive ecosystem is intended to contribute to Houston's larger green space footprint, ultimately adding five public parks across the campus, each linked together in an appropriately themed double helix formation.

In addition to Dynamic One, the four-story, 250,000-square-foot TMC<sup>3</sup> Collaborative Building houses shared research labs, offices, and coworking spaces for MD Anderson, Texas A&M University Health Science Center, the University of Texas Health Science Center at Houston, and TMC. Also set to open in Q4, the building is purposefully designed for cohesive and cooperative work between the institutions as they collaborate on a shared agenda of advancing knowledge in areas such as cancer therapeutics and cell gene therapy, supported by data science.

"TMC Helix Park is the physical embodiment of the new strategy that TMC has for accomplishing our mission, which is encouraging innovation, encouraging research, and encouraging effective commercialization," Middleton said. "This is the thing we think we need to spring Houston into the next phase of the biotech ecosystem."

Rendering courtesy of Texas Medical Center ©Elkus Manfredi Architects



## Under Construction: HOUSTON METHODIST CENTENNIAL TOWER

Houston Methodist recently started construction on its new Centennial Tower, which will connect to the Walter Tower that opened in 2018. Featuring 26 levels, the Centennial Tower will include a new emergency department, enhanced imaging services, as well as the latest technology for operating rooms, ICU, and Universal Care bed floors. Houston Methodist Hospital was named the No. 1 hospital in Texas in the *U.S. News & World Report's* "Best Hospitals" rankings for 2022-2023, and this latest investment shows its commitment to the future of health care. TECO is proud to supply steam and chilled water to Houston Methodist's exciting addition to the Texas Medical Center.

**Construction start date:** April 2022  
**Scheduled completion:** October 2027  
**Contractor:** Vaughn Construction  
**Architect:** EYP, a Page Company  
**Construction cost:** Approximately \$970 million  
**Total square footage:** 1,329,055

Rendering of the Centennial Tower alongside Walter Tower.

Rendering courtesy of Houston Methodist



The University of Texas MD Anderson Cancer Center:  
**FOSTERING A CULTURE OF COLLABORATION**

The nation's #1 hospital for cancer care is focused on innovation and digital readiness to further healing and discovery for its patients.

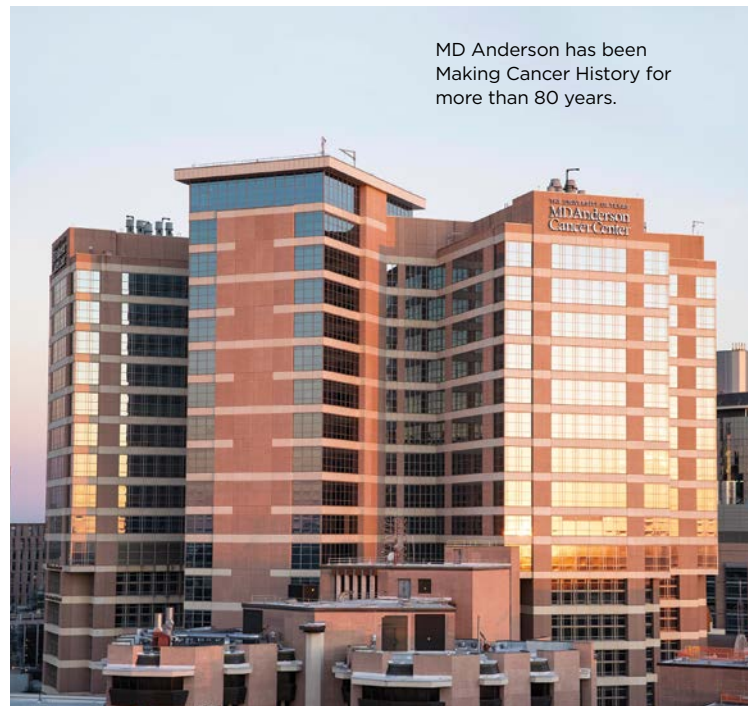
The University of Texas MD Anderson Cancer Center is one of the world's most respected centers devoted exclusively to cancer patient care, research, education, and prevention. The institution's sole mission is to end cancer for patients and their families around the world. MD Anderson was again named No. 1 in the nation for cancer care for 2022-2023 in the *U.S. News & World Report's* "Best Hospitals" rankings.

To support the 23,000 researchers, physicians, and staff tirelessly working to advance MD Anderson's mission, the institution has committed to optimizing its buildings, processes, and facilities to promote healing and discovery. This focus, combined with an ambitious master facilities framework and a large amount of planned growth over the next decade, led to the creation of MD Anderson's new Engineering and Building Systems Management team.

"This department brings together teams of experts responsible for building asset management, controls, renewal programs, engineering, utilities, and sustainability," Greg Norris, director of energy & utility programs at MD Anderson, said. "From an energy perspective, we work hard to execute on MD Anderson's commitment to developing and operating intelligent, safe, and efficient facilities that optimize our environmental and financial resources."

The innovative team collaborates across the institution to explore cutting-edge ideas in transformational engineering, technology, decarbonization, and sustainable solutions. These efforts will also help to ensure MD Anderson is digital-ready for the next decade.

Digital readiness evaluates how equipped an organization and its employees are to adapt to intelligent software and automated technologies. The engineering and building systems management team will incorporate concepts such as automated



MD Anderson has been Making Cancer History for more than 80 years.

Photo: Courtesy of MD Anderson Cancer Center

workflows, artificial intelligence, building information modeling, and data sharing to maintain smart, safe, and efficient facilities through the next 50 years.

"Our objective is to support the institution's growth outlined in our master facilities framework and to improve our management of all of our buildings," Pouyan Layegh, associate vice president of engineering & building systems management at MD Anderson, said. "We utilize technology to access information and optimize our facilities' support while we challenge ourselves to continually improve. Interactions within our new team helps facilitate these ambitions."

MD Anderson puts its core values of Caring, Integrity, Discovery, Safety, and Stewardship at the heart of every initiative. The structure of this new team allows it to focus specifically on Discovery and Stewardship to promote innovation.

"We're embracing our creativity, seeking new knowledge through diverse perspectives, and collaborating on all activities to improve our operations support," Norris said. "We're continuously finding new ways to be better."

UTHealth Houston introduces TEPHI:  
**PREPARING TEXAS FOR FUTURE PANDEMICS**

UTHealth Houston collaborated with state officials to form a new agency focused on creating sustainable pandemic preparedness for Texas.

The journey to navigate Texas through the COVID-19 pandemic has been prolonged and demanding. Rapidly emerging variants have compounded that challenge, and most recently, the reality of a "triple-demic" — in which COVID-19, RSV, and influenza threatened to swiftly overrun communities — has underscored the need to better prepare for future outbreaks.

"It's important to realize there will be a next outbreak of some kind ... every few years we have an outbreak of an infectious agent, and we need to be better prepared," Eric Boerwinkle, Ph.D., interim director of TEPHI and dean of UTHealth Houston School of Public Health, said.

The Texas legislature and UTHealth Houston have taken on that charge to help better prepare Texas. Established in the 87th Texas Legislature, the Texas Epidemic Public Health Institute — or TEPHI — is a new state agency housed at UTHealth Houston. The agency is working to better prepare Texas for

future pandemics through three key areas: training, readiness, and communications. One of TEPHI's largest initiatives is to recruit and train a statewide public health reserve.

"We were very fortunate to craft a vision for TEPHI that included training a reserve workforce that would be pre-deployed," Boerwinkle said. "The vision is that every community across the state will have individuals who are trained in pandemic preparedness."

Those individuals who make up the public health reserve will have the essential knowledge and resources to help build preparedness plans in their local community and will be equipped to respond when future outbreaks take place. In working toward this goal, TEPHI has launched a free online certificate program in pandemic preparedness, open to all Texans.

The agency also collaborates with key industries across the state to build resilience and provide resources that support their preparedness efforts. This includes developing and operationalizing "work and learn safe" protocols for small and rural businesses, schools, and essential food production.

Some of TEPHI's most innovative work is in early detection. In collaboration with UTHealth Houston School of Public Health and Baylor College of Medicine, TEPHI has launched the statewide Texas Wastewater Environmental Biomonitoring (TexWEB) network, which will act as an early detection system for community spread of viral pathogens. TexWeb will give public health departments, medical communities, and decision-makers access to real-time data about emerging viruses not yet on the clinical radar, allowing them to take measures to prevent disease and save lives.

In all its efforts, TEPHI works to build a holistic system that proactively prepares for and assesses potential infectious disease threats to keep all Texans safe and the economy strong. This approach fits naturally with UTHealth Houston. As one of the nation's most comprehensive academic health centers, UTHealth Houston not only focuses on educating health professionals and modeling best practices, but ultimately carries out its mission to advance the quality of life for individuals and communities. TEPHI can leverage the university's enormous talent pool, statewide administrative infrastructure, and access to world-class health faculty and staff — all to ensure Texas is at the forefront of pandemic readiness.



Eric Boerwinkle, Ph.D., interim director of TEPHI and dean of UTHealth Houston School of Public Health.

Photo: Courtesy of UTHealth Houston

## Memorial Hermann:

# DRIVING THE ADVANCEMENT OF ORTHOPEDIC CARE

Memorial Hermann | Rockets Orthopedic Hospital is one of few facilities in the country to practice osseointegration

In July, TIRR Memorial Hermann was recognized again as the No. 2 rehabilitation hospital in the country for 2022-2023 in the *U.S. News & World Report's* "Best Hospitals" rankings. That same month, Memorial Hermann Health System partnered with the Houston Rockets to form a new brand for its orthopedics and sports medicine service line, officially named Memorial Hermann | Rockets Orthopedics.



TIRR Memorial Hermann Coordinator of the Amputee and Limb Loss Program Kristin Reeves working with an osseointegration patient.

The Memorial Hermann | Rockets Orthopedics service line is led by a team of both independent and McGovern Medical School at UTHealth Houston physicians. Working in concert with the highly-skilled rehabilitation specialists at TIRR Memorial Hermann, the team creates a continuum of high-quality care and positive patient outcomes.

Together, this collaboration of providers promotes new concepts and innovation in orthopedic care. They practice cutting-edge processes, leading the way in treating limb-loss patients who require prosthetics. Today, Memorial Hermann | Rockets Orthopedic Hospital stands as one of only two facilities in Texas to offer a new FDA-approved procedure called osseointegration.

Osseointegration is a surgical technique that utilizes a piece of metal or orthopedic implant to physically and biologically fasten itself to a bone via skeletal attachment.

"We're taking a piece of metal, allowing it to osseointegrate into their amputated bone, and then we use that as a docking site to physically and percutaneously attach an artificial limb to the residual bone in the patient's leg," Dr. David Doherty, assistant professor in the Department of Orthopedic Surgery at McGovern Medical School at UTHealth Houston and affiliated with Memorial Hermann, said. "It's

directly attached to the skeleton, making this new leg a physical part of the patient. This gives the patient many advantages over traditional prosthetics."

The largest benefit for osseointegration patients is increased sensation and stability. Through osseoperception and the multidisciplinary rehabilitation that follows at TIRR Memorial Hermann, patients improve their transitional movement and increased weight loads to the bone. As a result, the patient can start to better feel the surfaces they walk on, drastically reducing the risk of falling.

"Osseointegration makes such a difference in the quality of life our patients see moving forward," Kristin Reeves, coordinator of the amputee and limb loss program at TIRR Memorial Hermann, said. "Gone are the struggles with traditional prosthetics: No more ill-fitting sockets, less sweating, and fewer struggles with skin conditions. It also means increased sitting comfort and improved hip range of motion. Plus, the fact that patients can more easily and quickly don and doff the leg aids in their self-esteem as they are less reliant on others and more independent."

To date, Dr. Doherty, Reeves, and the multidisciplinary rehabilitation team have helped nearly 20 patients. The most common feedback received from amputees is that the procedure is "life-changing."

"Watching them walk after, that's the real reward," Dr. Doherty said.



### THE FEMUR IS THE MOST COMMON BONE FOR OSSEOINTEGRATION

- First surgery to implant fixture directly to residual femur
- Three-month integration and recovery period
- Second surgery to insert an abutment through the skin and connect to the fixture
- At six weeks, physical therapy begins a loading and training protocol
- Nearly six-month process to achieve functional activity (\*Timeframes are approximate)

Photo: Courtesy of TIRR Memorial Hermann

## Reliability Rewind: HURRICANE HARVEY

August 2022 marked the five-year anniversary of Hurricane Harvey's landfall across portions of Texas and Louisiana — and the deluge of water and damage it brought with it. Houston faced this Category 4 storm on Thursday, August 25, 2017 with widespread flooding to follow. With the protection of floodwalls and floodgates installed along Brays Bayou in 2003 following Tropical Storm Allison, a dedicated ride-out team remained on-site for nearly six days to guarantee that TECO maintained uninterrupted service to our customers in the Texas Medical Center. This helped ensure that patient care could continue, and critical research was protected, even through the harshest conditions.

These are the situations that TECO always hopes to avoid, but for which we are prepared. TECO remains immensely proud of our advanced planning, committed employees, and skillful response to this historic weather event and is thankful for the support of our customers.



Above: A view of TECO and Brays Bayou in August 2017 as Hurricane Harvey's record-breaking rainfall pushes the bayou from its banks. Below: Another view of TECO showing the bayou in its usual conditions, with the floodwall at the ready.



Photo: (Top) Karl Spencer

# TECO exceeds projected savings with Optimum Energy despite record summer heat

Through August, TECO saved 41.5 million kWh, surpassing its projection of 35.3 million kWh



## 2022 LED THE WAY FOR RECORD HEAT IN HOUSTON

- Average temperatures are calculated by averaging the daily highs and lows for the month
- Both June and July finished as the hottest in each month's recorded history in Texas

Texas weather strikes again. In 2021, it was the cold and Winter Storm Uri. For 2022, it was the record heat throughout Houston and the state. While TECO leads the way as a pillar of reliability in district energy, June and July led as the *hottest* on record in the city's 186-year history.

According to Houston Public Media, June's average temperature was 86.7°F, followed by an average of 88°F in July. Despite the record heat and rising demand, TECO's preparedness prevented any disruptions to service.

"It was one of the hottest summers ever, but operations were normal at TECO. We monitor our equipment health and make sure our equipment is available with reserve capacity and operating at peak efficiency," Mike Manoucheri, president and CEO, said. "We know summer is our peak cooling period, so we ensure everything is available and running properly through our maintenance and operations practices."

Though maintenance protocols are standard, the Optimum Energy project initiated in 2019 enables TECO's plant to continually monitor, respond to, and optimize its operations as temperatures and demand surpass previous levels.

"The partnership with Optimum Energy helps lower our electrical demand peak and increase our efficiency. If we operate at the optimum point, we use less energy and reduce emissions," Manoucheri said. "We always aim to operate at the lowest energy input and the highest efficiency. That way, our customers will always win."

TECO's relationship with Optimum Energy spurred from a discussion at the International District Energy Association's (IDEA) annual conference in 2019. Manoucheri and Ben Erpelding, chief technology officer at Optimum Energy, struck up a conversation about efficiency and the challenges of drawing from the Texas electrical grid during the summer months. The two had worked together during Manoucheri's tenure at the University of Texas at Austin, improving district cooling operations.

The process to optimize TECO's plant started by sending Optimum Energy large amounts of data to analyze current operations. From there, the two entities worked closely to review opportunities for improvement and establish operational guidelines based on real-time data.

Optimum Energy's optimization algorithms are programmed into TECO's plant control system, and continuously display the recommended setpoints for chiller and thermal storage operation in the control room. Additionally, data is analyzed monthly by Optimum Energy and reports that track key performance indicators and metrics for equipment in the plant are generated for TECO staff.

The data is used to monitor plant health and prioritize maintenance as necessary to continue prime operations, reliability, and efficiency. As the partnership with Optimum Energy is ongoing, savings and other benefits yielded from this project require a focus and discipline in adhering to the recommended guidelines.

"We can have the best optimizer and strategies in the world, but if we are not following their guidelines or our operators aren't actively managing the

plant in accordance with those recommendations, then we won't meet the savings or efficiency goals," Manoucheri said. "It is a testament to our operations group on how well they're managing the plant and skillfully following those guidelines."

TECO anticipates its load to increase 30% by 2034 due to demand. Over the next 12 years, there will likely be more increased temperatures and record-breaking heat. To prepare, TECO and Optimum Energy are looking into even more ways to implement reliability and evolve optimization into capital plans that further reduce peak demand and deliver more benefits to customers in the Texas Medical Center.

Thanks to this project, TECO saved 41.5 million kWh, and reduced energy consumption by 6.6% with an estimated \$1.6 million in savings from March 2020 through August 2022. Aside from energy savings, the partnership has helped TECO maintain the capability to internally produce 100% of the electricity the plant consumes, even as the plant load has increased. This is an important reliability consideration, and a driver for the new gas turbine generator project currently underway.

"To date, the largest benefits our customers have received from this partnership are reliability and energy savings," Manoucheri said. "With the help of Optimum Energy, we have increased our efficiency throughout the year as well as lowered the peak during the summer, allowing us to be able to cover the electric load with the existing generating capacity that we have."

←  
IDEA featured this project's success on page 25 in the 2022 Spring/Summer edition of its *District Energy Magazine*

**"A three-phase initiative to explore and implement cost savings across the largest district cooling system in North America has paid off handsomely – and quickly – bringing significant system improvements even in the midst of the COVID-19 pandemic. Efficiency gains have been seen in condenser management, chiller operations and thermal energy storage."**

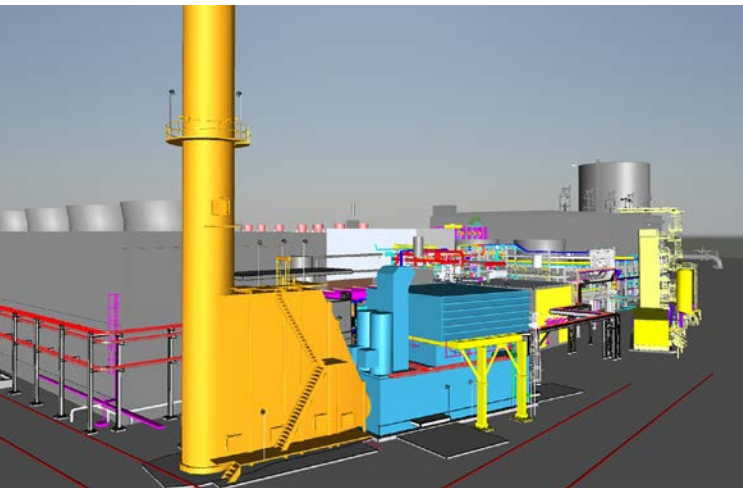
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## UPCOMING ADDITION TO TECO'S FACILITY WILL ENSURE RELIABILITY THROUGH THE NEXT DECADE

Work is underway for the installation of a new gas turbine that will nearly double TECO's electrical generation capacity

Reliable, cost-effective service is at the forefront of the mission at TECO. A major component of the plant's standard to supply continuous service stems from the ability to generate its own power separate from the main electrical grid.

Since TECO anticipates demand to continually rise over the next decade, extensive planning to increase load generation is imperative to provide uninterrupted service to customers at the Texas Medical Center.



New gas turbine generator to be installed at the Central Plant in 2023.

"TMC informs us years in advance of when they will expand," Rohnald Benfield, instrumentation and control system supervisor, said. "It's critical that we stay in the loop so we can properly plan to have the equipment here to support a new load. Our customers let us know what the expected demand increase will be, so we have ample time to identify if we need more power generation."

The plant utilizes a gas turbine and reciprocating engines to support on-site generation. These pieces of equipment have proved critical in the face of occurrences like Hurricane Harvey and Winter Storm Uri when backup generation was vital.

During the master planning effort that was completed in 2021, TECO identified the need to add a new

generator to maintain reliability as load growth continues in TMC. As a result, a new GE LM6000 aeroderivative gas turbine generator was selected and will be installed by the end of 2023.

This unit was chosen based on customer demand forecasts for the next 20 years, TECO's familiarity with this technology, and space constraints on the main TECO plant site. Space is a premium, so installing a smaller unit that would be outgrown in a few years wasn't efficient from a long-term perspective.

TECO's existing gas turbine generator, as part of its Combined Heat and Power system, is a similar model. The key benefit of the new unit is its flexibility. Since it does not generate steam, it is less complex and has a quicker startup time.

"This project is necessary to ensure reliability to our customers. Through our master planning process, we identified that our current on-site power generation was not enough to cover increasing loads if a disturbance to the electrical grid occurred," Austin Kelly, electrical engineer and information technology manager, said. "The new turbine allows us to maintain our full projected customer loads in the future while providing the security of generating power completely in-house without having to rely on external generation."

The second turbine will be located in the southwest corner of the Central Plant and is anticipated to add a nominal 50 MW output. TECO's current generation capability is 62 MW, which will increase on-site generation to over 100 MW.

With this added security, customers can rest assured that TECO is ready to meet any challenge or demand.

"If we have the ability to generate all of our own power at maximum customer load, that's less reliance we have on the ERCOT grid from the standpoint of transmission and generation," Kelly said. "The benefits of this new turbine allow us to hedge ourselves from the grid, which will decrease TECO's exposure to grid stress, and maintain reliability in terms of the power we generate."

Mycah Jewell, Austin Kelly, and Rohnald Benfield collaborate across departments to implement this pivotal addition.



"THE NEW TURBINE ALLOWS US TO MAINTAIN OUR FULL PROJECTED CUSTOMER LOADS IN THE FUTURE WHILE PROVIDING THE SECURITY OF GENERATING POWER COMPLETELY IN-HOUSE WITHOUT HAVING TO RELY ON EXTERNAL GENERATION."

—Austin Kelly | TECO Electrical Engineer and Information Technology Manager

Rendering: Courtesy of Burns & McDonnell

Photo: Hall Puckett

# THE PEOPLE BEHIND THE PROCESS

While the state-of-the-art equipment and facilities at TECO are necessary to maintain unmitigated, exceptional service to customers in the Texas Medical Center, it is the People Behind the Process who make TECO the industry leader it is today.

- Plant and equipment operations
- Chemistry monitoring and control
- Environmental monitoring and control
- Fuel procurement
- Water management
- NERC compliance
- Customer billing and invoicing
- Customer/facility relations
- Training

## OPERATIONS



Above: Antonio Lopez and Jose Garcia  
Left: Jason Berrio and Rosalie Arellano  
The entire operations team works together to ensure TECO functions reliably, safely, and efficiently.

## Providing security in a turbulent market

The operations team proudly and effectively navigated this year's volatile energy market to continue its quest to supply reliable and cost-effective thermal energy to customers.

"Many customers may not know this, but we conduct daily monitoring of energy consumption and usage to help identify potential issues or areas of opportunity to improve efficiencies for TECO and our customers," Jason Berrio, vice president of plant operations, said.

For example, operators keep a close eye on chilled water usage and makeup rates, which can be a

precursor to a chilled water system leak. They also routinely perform individual customer meter monitoring and weather regression analysis to evaluate if a customer's usage is in line with their budgeted forecast, or if there may be an undetected issue.

In addition to continuously monitoring energy pricing and usage, the operations team is committed to operating the plant safely and reliably while simultaneously executing their role in successfully bringing new equipment online in 2023.

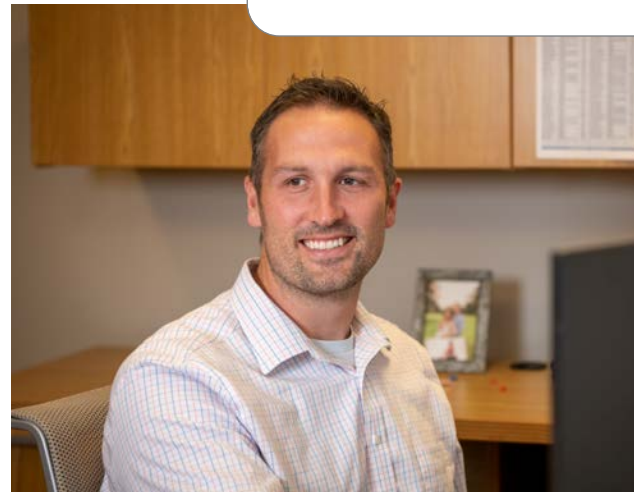
Photos: Hall Puckett

# FINANCE

- Financial reporting and analysis
- Internal controls
- Treasury management
- Accounting
- Rating agency interface
- Equity calculation
- Budget
- Audit
- Risk management

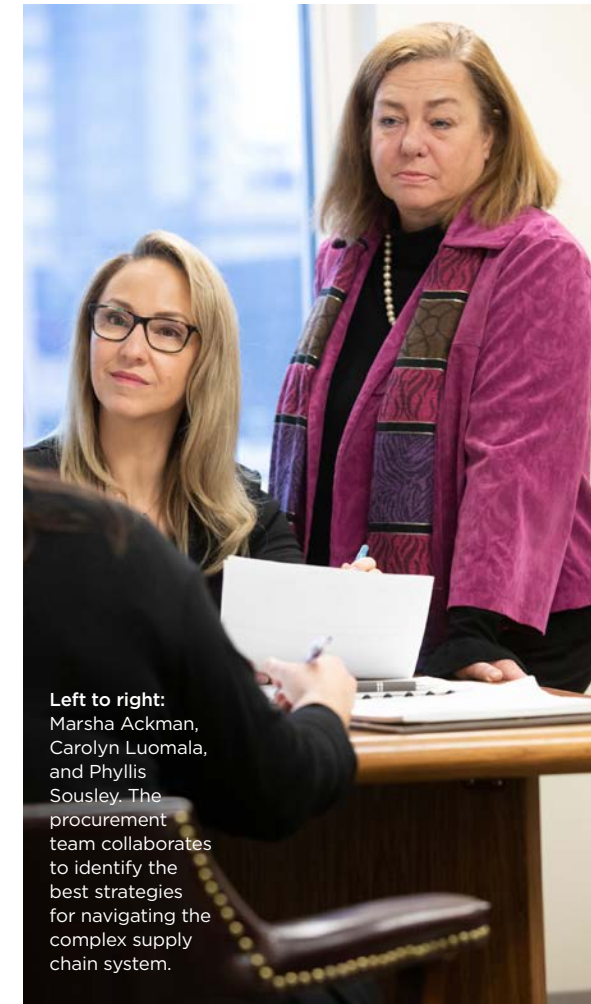


Clockwise: Jenice Ricks, Jared Schneider, Kevin Giblin, and Haley Ackman make up the four-person accounting team.



- Procurement
- Vendor partnerships
- Special programs, such as the Hurricane Program
- Uniforms for maintenance, operations and instrumentation
- Events team support and logistics

# PROCUREMENT



Left to right: Marsha Ackman, Carolyn Luomala, and Phyllis Sausley. The procurement team collaborates to identify the best strategies for navigating the complex supply chain system.

## Improving relationships one process at a time

The finance department set out to advance all areas of TECO's finances in 2022. The dedicated four-person team was successful in completing the FY22 financial audit with zero proposed adjustments; providing timely and accurate financial information to management, administrative staff, and outside parties; continuing efforts to convert vendors from hardcopy checks to electronic payments; and maintaining TECO's financial closing on time each month.

"Our main objectives this year were to focus on continuous improvement of business processes and maintaining strong partnerships with other departments," Carolyn Luomala, vice president of finance, said. "To support our objectives, the team was busy preparing for new accounting software that went live on January 1, 2023. We look forward to the time-saving efficiencies the new software will provide."

Photos: Hall Puckett

Photos (left): Hall Puckett, (right) Bruce Bennett

## Creating partnerships by supplying best practices

Widespread supply chain issues faced by businesses and consumers across the globe made recurring headlines this year. The procurement team proved to be vital in helping TECO overcome factory closures and critical part shortages by locating and expediting alternate sources of supply.

In addition to working through supply chain complexities this year, the team was successful in streamlining several key areas, including electronic payments and approvals, as well as automated reporting for contracts and insurance.

"Now is the time for the procurement team to become a more strategic business partner," Luomala said. "We can help identify when we are overspending for parts and services, assist with sourcing to ensure critical parts are accessible, and identify best practices for OEM (Original Equipment Manufacturer) purchases."

Aside from their typical day-to-day functions, the procurement team also manages the Hurricane Program, which is designed to shelter 40 employees in place for up to seven days — including meals, amenities, and sleeping accommodations — to ensure the plant can continue operations in the face of any challenge.

# ENGINEERING

- Plant and distribution system engineering
- Project engineering and management
- Environmental health and safety
- Information technology



The engineering department stays busy year-round managing capital improvement projects at TECO.

## Advancing critical campus upgrades

A variety of exciting capital projects are in full swing at TECO. These projects range from small instrument upgrades to large equipment installations to distribution system expansions. However, one thing they all have in common is, to some degree, they are all touched by the engineering department.

While the workload is high and project schedules have been fluid due to supply chain constraints impacting timelines, the engineering team has adjusted to overcome scheduling challenges and ensure projects are delivered on time.

“Everyone has done an excellent job managing priorities and their time to meet project demands,” Mycah Jewell, vice president of engineering & maintenance, said. “Our goal is to continue to execute capital projects on budget and on schedule, as well as provide exceptional service for our customers.”

As the engineering team prepares for 2023, they are eager to kickoff a busy construction year — specifically the installation of the new gas turbine generator — and are excited about the improved reliability these projects will produce for customers.

Photo: Hall Puckett

# MAINTENANCE

- Equipment health and reliability
- Inventory management
- Plant and distribution system maintenance



The maintenance department, which features mechanics, technicians, and electricians, accounts for nearly half of TECO's staff.

## Maximizing reliability through proactive measures

TECO achieving 30 years of uninterrupted service didn't just happen by chance. This incredible feat was obtained through proactive planning and maintenance measures. The TECO maintenance team has built an extensive maintenance program that focuses on corrective and preventive services, not only to the TECO chillers, generators, and boilers, but also to the systems that support them.

With a dedication to providing excellent service, the maintenance crew understands the importance of their ability to juggle necessary service updates and planned outages alongside working on new projects and ongoing training.

Photo: Hall Puckett

“Our primary goal in 2022 was to execute our work in a cost-effective and safe manner, while ensuring critical service was uninterrupted to customers,” Jewell said. “The department delicately balances regular equipment service and planned outages with operational requirements to maximize plant reliability. It is a testament to the knowledge and flexibility of the team to fill these crucial support functions to provide high-quality, reliable service to our customers.”

This year, and every year, the maintenance team remains focused and committed to TECO's mission to provide reliable and economical services to our customers in the Texas Medical Center.

# HUMAN RESOURCES

- Hiring
- Salary and wage administration
- Benefits administration
- Employee retention
- Employee performance evaluation
- Payroll processing
- Health and financial wellness programs
- Tuition assistance



Clarissa Brewster, Linsey Whalen, and Lori Cook continuously adapt and evaluate process improvements to better support both on-site and remote employees.

## Embracing flexibility & adaptability

A key word for the human resources team in 2022 was adaptability. Since COVID-19, the team works in an ever-changing environment, but through it all, they never skipped a beat.

Through multidepartment collaboration, the team continued its focus on becoming more flexible and effective in supporting a hybrid work environment, automating and improving processes, and providing tools and techniques that support the health and wellness — both physically and mentally — of all employees.

“Some of our employees are still working from home,” Clarissa Brewster, vice president of human resources, said. “This hybrid work environment creates special challenges with managing our wellness programs. We must think about how to engage our employees on-site while ensuring those working at home receive the best experience possible.”

The human resources team is already full steam ahead for 2023, where they plan to offer both on-site and virtual benefits and wellness events to ensure all associates have equal opportunities to take advantage of the resources provided by TECO.

Photo: Hall Puckett

## FY2022

### FINANCE AND ADMINISTRATION

- Exceeded budget expectations for FY2022\* and presented FY2023\* budget that was approved by Board of Directors.
- Completed fiscal year with operating revenues \$6,251,054 over expenses. The Board voted to forego a customer rebate so those funds can be used to support expansion projects.
- Named new vice president of engineering and maintenance and transitioned project management of large capital projects to the new VP.
- Completed FY2022 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 with Board members outside of regularly scheduled meetings and met with senior executives for many customer institutions.
- Prepared accurate forward-year rate forecasts for institutions that need them for early-in-the-year budgeting.
- Conducted employee survey for 2022.
- Produced and distributed TECO’s 2021 Annual Report, “Staying the Course.”
- Continued to manage through the COVID-19 pandemic and supply chain disruptions while maintaining no service interruptions.

### OPERATIONS

- Provided 100% chilled-water and steam reliability to customers.
- Conducted 4,997 manhours of training in FY2022, adapting to remote learning as needed.



## ACCOMPLISHMENTS

- 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 the lowest-possible cost.
- Continued Operator Training and Certification Program as scheduled. One operator received his City of Houston Second Grade Stationary Engineer license and two operators received their City of Houston Third Grade Stationary Engineer license in FY2022.
- Experienced one recordable incident and no lost time incidents in FY2022. Achieved Workers Compensation Experience Modifier of 0.86, 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 the insurance reserve fund. MERP ensures funding will be available for future equipment replacement as needed assuming normal equipment life cycles. By regularly allocating money to insurance reserve fund, TECO can raise deductibles and reduce insurance premiums.
- Had zero 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 hours a day, and operators visit the plant daily, bringing UTHHealth significant economic savings and improved operational benefits.

### CUSTOMERS

- Conducted 2022 customer satisfaction survey, with 100% of respondents replying that TECO’s chilled-water and/or steam service met their expectations very well or well over the past year. The same was true for years 2018 thru 2021.
- Continued providing invoices and reports for customer access via TECO’s customer portal.

\* Fiscal year September 1 - August 31



# METRICS

## FY2022

### Chilled Water

### Steam

#### CUSTOMERS

Number of customers	17	15
Number of buildings served	51	37
Square feet served	25.42 million	20.6 million
Energy sales	357,727,372 ton-hr	1,018,091 M-lb.

#### 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
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#### 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 (portions of the line have three pipes)	7.7 miles

### 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
--------------------	------

"Keep building the relationships amongst our team members; it means a lot."

"When asked what customers were particularly pleased about related to TECO and its services, one customer responded with 'Reliability! Expertise of the team.'"

"Keep up the good work."

Customer responses from 2022 TECO Customer Satisfaction Survey

# FINANCIAL AND OPERATING STATISTICS

## FY2022

### Rates and Units

Fiscal year September 1 - August 31

#### CHILLED WATER

	FY2022	FY2021
Rate (\$/ton-hr)	\$ 0.1780	\$ 0.1730
Rate (\$/MMBtu)	\$ 14.80	\$ 14.41
Peak Demand (tons)	76,003	76,607
Average Demand (tons)	40,836	39,021
Load Factor	54%	51%
Peak (sq ft/ton)	311	309
Production (sq ft/ton-hr)	0.070	0.069
Production (ton-hr)	357,727,372	341,826,998
Cooling Degree-Days (3,510 normal)	3,716	3,335
Fuel Consumption MWh (natural gas and electricity)	285,805	265,979

#### STEAM

Rate (\$/Mlb)	\$ 15.28	\$ 14.69
Rate (\$/MMBtu)	\$ 13.84	\$ 12.95
Peak Demand (lb/hr)	334,469	418,784
Average Demand (lb/hr)	116,220	153,399
Load Factor	35%	37%
Peak (sq ft/lb)	66	47
Production (sq ft/Mlb)	19.4	15.5
Production (Mlb)	1,018,091	1,343,775
Heating Degree-Days (1,081 normal)	1,129	1,295
Fuel Consumption MMBtu (natural gas)	1,362,999	1,760,525

### Revenue and Expenses

Fiscal year September 1 - August 31

#### OPERATING REVENUE

	FY2022	FY2021
Chilled Water	\$ 63,794,434	\$ 63,270,187
Steam	\$ 16,903,993	\$ 16,718,986
Customer Rate Reduction	\$ 0	\$ 0
CHP Revenue	\$ 2,122,631	\$ 40,936,600
Other	\$ 5,120,801	\$ 3,764,733
<b>Total Operating Revenue</b>	<b>\$ 87,941,859</b>	<b>\$ 124,690,506</b>

#### OPERATING EXPENSES

Fuel*	\$ 13,203,583	\$ 7,418,140
Water and Water Treatment	\$ 5,020,348	\$ 3,987,349
Other Operating Expenses	\$ 58,177,840	\$ 55,111,334
<b>Total Operating Expenses</b>	<b>\$ 76,401,771</b>	<b>\$ 66,516,823</b>
Net from Operations	\$ 11,540,088	\$ 58,173,683
Non-Operating Revenue/(Expenses)	\$ (5,289,034)	\$ (1,066,365)
<b>Excess Revenues Over Expenses</b>	<b>\$ 6,251,054</b>	<b>\$ 57,107,318</b>

TECO completed fiscal year 2022 with operating revenues 4.9% over budget and operating expenses 6% under budget. The favorable variances were driven by the operation of the combined heat and power unit, where TECO was able to sell approximately 16,200 MWh back to the grid and liquidate 65,600 MWh of electricity hedge. Other notable variances include personnel costs that were 14% below budget due to a combination of unfilled positions and capitalized labor costs.

TECO's excess of revenues over expenses in fiscal year 2022 was \$6.25 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 TECO's rates during a budget year.

The company met all of its planned cash, internally set financial, and debt covenant requirements for fiscal year 2022.

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

# LEADING THE WAY

## The **TECO** Team and their years of dedicated service:

Haley Ackman, 5  
 Marsha Ackman, 20  
 Craig Acree, 8  
 Rosalie Arellano, 5  
 James Arnett, 4  
 Priscilla Avila, 5  
 Henry Barrios, 30  
 Rohnald Benfield, 28  
 Christopher Beroo, 8  
 Jason Berrio, 5  
 Clarissa Brewster, 31  
 Julian Brewster, 31  
 Adolfo Caballero, 1

Callen Clark, 4  
 Juan Colunga, <1  
 Lori Cook, 3  
 Milton Cowan, 8  
 Charles Darden, 22  
 Steve Del Toro, 20  
 Ryan Doucet, 10  
 Jackson Fay, 5  
 Manuel Gamez, 18  
 Joey Garcia, 10  
 Jose Garcia, 15  
 Kevin Giblin, 30  
 Ross Goedeke, 5

Phillip Gonzales, 8  
 Vincent Gonzales, 6  
 Ram Goonie, 41  
 Elias Guerrero, <1  
 Dakota Hall, 3  
 Travis Hampton, 8  
 Mike Handorf, 39  
 Jess Harper, 12  
 Tyler Harris, 1  
 Shoaib Hasan, 1  
 Troy Hollin, 18  
 Mycah Jewell, 6  
 Juan Jimenez, 18

Brandon Johnson, 24  
 Brady Jones, 18  
 Austin Kelly, 12  
 Nolan Lambert, 28  
 Antonio Lopez, 39  
 Silvano Lopez, <1  
 Carolyn Luomala, 3  
 Anthony Manning, 4  
 Mike Manoucheri, 4  
 Jared Marish, 19  
 Eddie Martinez, 6  
 Joel McCormick, 10  
 Lamont McInnis, 14

John McNeil, 6  
 Dennis "DJ" Morosin, 2  
 Fred Musil, 28  
 Philip Muzar, Jr., 33  
 Stephen Nagy, 31  
 Christopher Olson, 3  
 Fidel Orizaba, 8  
 Walter Pascua, 12  
 Thomas Penzi, III, 18  
 Shelly Pesak, 22  
 Kelly Powell, 21  
 Sean Price, 18  
 Faustino Quiroz, 14

Brandon Rapp, 2  
 Tim Reardon, IV, 6  
 Jenice Ricks, 7  
 Melissa Ripple, 4  
 Joe Robles, 1  
 Joey Rodriguez, 4  
 Juan Rodriguez, 8  
 Carlos Romero, 3  
 Jake Ruttle, 9  
 Mike Salgy, 2  
 Marty Sarch, 3  
 Jared Schneider, 8  
 Anthony Schreckengost, <1

Phyllis Sousley, 31  
 Ramon Tapia, 7  
 Karen Thomas, 20  
 Justin Underwood, 7  
 William Van Noy, 2  
 Salomon Vega, 8  
 Scotty Walker, 14  
 Nicholas Walsh, 1  
 Linsey Whalen, 4  
 Shane Williams, 8

## Key Business Partners:

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





# LEADING THE WAY



Thermal Energy Corporation  
**The Energy Behind What's Next**

1615 Braeswood Blvd.  
Houston, TX 77030  
Tel: 713.791.6700

