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William "Wes" Stewart

#### Monica Thomas\*

Assistant Director of Facilities-Houston Texas Woman's University

#### \*Monica Thomas replaced Bill Bussman as Alternate Director for Texas Woman's University. Bill Bussman retired in August 2022.

#### 2023 ANNUAL REPORT

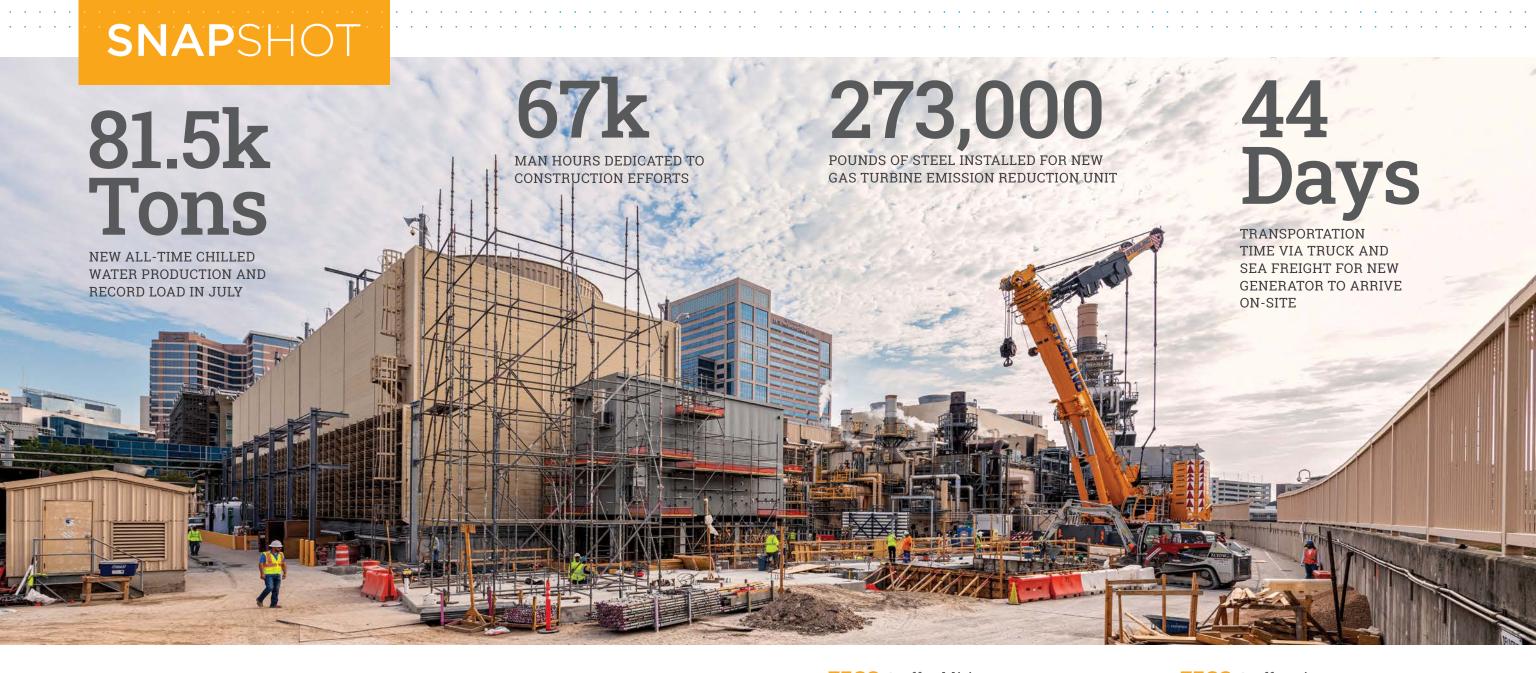
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#### THERMAL ENERGY CORPORATION

THE ENERGY BEHIND WHAT'S NEXT

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



# STATE OF **TECO** 2023

perations were busy in 2023, which saw significant and planned growth for both TECO's plant and customers. With ongoing capital projects, new staff additions, and (more) record heat, all facets of the organization worked diligently through challenges to ensure reliable service to customers. Thanks to our committed staff and dedicated partners, we are collectively "Building for What's Next."

#### **TECO** Staff Additions



Chris Wieland, maintenance manager

Joined TECO in January 2023. Wieland oversees the maintenance department to ensure the availability of resources and support required to deliver reliable service to customers.



**Kimberla Lawson,** vice president of finance and treasurer

Joined TECO in May 2023. Lawson leads the finance department and provides the management team with resource management and financial planning recommendations.

#### **TECO** Staff Retirements



Ram Goonie, former energy director

Retired in May 2023. We thank Goonie for his 42 years of service — which accounted for nearly 80% of TECO's history — and his lasting dedication to serving customers.



**Carolyn Luomala,** former vice president of finance and treasurer

Retired in May 2023. We thank Luomala for the outstanding work she did during her tenure and the advancements made to TECO's Finance Department.

#### TO OUR CUSTOMERS IN THE TEXAS MEDICAL CENTER, OUR FRIENDS IN THE COMMUNITY, AND OUR ENERGY INDUSTRY COLLEAGUES

rom its original 134 acres to today's nearly 1,345 acres, the Texas Medical Center (TMC) is the largest medical center in the world. Impressive not only for its size but also for the impactful work and world-class care provided by its member institutions, it is a recognized landmark in the medical community both here in Houston and across the globe.

As TMC continues to grow and expand its mission, one result is an increase in the number of buildings and conditioned space. Each new building or expansion is accompanied by a need for thermal utilities. Throughout its 50-plus year history, TECO has evolved as TMC has evolved and is currently in an active phase of planning and building for future needs.

The support and vision of TECO's Board of Directors has been critical in allowing TECO to be successfully prepared to reliably meet new demands on our system. These are multifaceted, complicated, and technical additions with many moving parts and considerations — each addition provides opportunities for our organization to overcome exciting challenges and showcase our expertise.

As of summer 2023, visitors to TECO's Central Plant have seen this in action for themselves. We are currently in the midst of installing a new GE LM6000 aeroderivative gas turbine generator — and all of the systems and processes needed to support it. While the building portion of this effort started in 2023, planning and development has been years in the making. The reliability driver for this project, and other future projects, was identified as part of an updated master plan in 2021. You can read more about the new generator and its benefits starting on page 8.

Whether the topics are physical or conceptual, we hope you enjoy reading through this year's report, which shares articles on the many ways TMC institutions continue to build for the future. TMC Helix Park, which was under construction and highlighted as part of last year's report, marked a highly anticipated grand opening with the TMC<sup>3</sup> Collaborative Building in October. Meanwhile, MD Anderson, UTHealth Houston, and Baylor St. Luke's Medical Center continue to frame new practices and protocols in the name of brighter futures for patients.

Building and supporting our team is a foundational focus for our organization as well. This year, we are pleased to welcome several new employees to the organization. For the first time since the pandemic, we were able to regularly gather together to recognize and celebrate our team with popular events and special team-building moments. Additionally, our HR department provided ongoing, dedicated support for our employees' personal and professional development through initiatives such as the annual health fair and relevant opportunities to continue their education.

"Building" takes on multiple forms and functions here at TECO — whether it's building our facilities, our capabilities, our team, or our vision. The end goal, however, will always be that we are building to reliably serve our customers.



Brad Howell Bradlev N. Howell

Chairman, TECO Board of Directors



Michael P. Manoucheri, PE President and Chief Executive Officer





# TECO'S HISTORY AS A **TMC MEMBER**

TECO holds dual roles as both a member and district provider to the TMC campus

Above: An aerial view of the Texas Medical Center in 1969 shows a stark contrast to today, highlighting the immense growth the area has experienced over the past 50-plus years.

Right: Earlier versions of the chiller bank laid the foundation for TECO's current facilities.



ECO, the largest chilled water district energy system in North America, proudly stands alongside the member institutions of the Texas Medical Center, a lineup which includes some of the world's leading hospitals, research, and education facilities. While TECO is acknowledged as an essential service provider to TMC, it is important to note that the organization is indeed a member of TMC as well.

More than five decades ago, TMC campus leaders realized the benefits a dedicated, centrally-located chilled water and steam source would offer their institutions — freeing them from the significant costs and time-consuming efforts of having to build and maintain such equipment on their individual properties and optimizing the use of the limited space in the area. Initially, this solution was provided by Houston Natural Gas Company, which constructed and launched operations of a district energy system for TMC in 1969.

It wasn't long before the expansion and growth of TMC necessitated an increased capability from the existing system to meet evolving needs. An advisory group was assembled specifically to evaluate the purchase of the current system and how it might be expanded upon. In 1975, the group of TMC leaders formed the Texas Medical Center Central Heating and

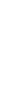
Cooling Services Cooperative Association (Thermal Energy Cooperative) to strategically consider energy supply, cost, efficiency, and conservation issues.

Over the next several years, feasibility studies indicated a cooperative ownership would in fact be a beneficial and actionable option. The process of acquisition was put into motion in early 1978, and by June 1 of that year, contracts were signed, and TMC member ownership of Houston Natural Gas Company's central cooling and heating plant and distribution system became the earliest iteration of TECO. As part of this process, TECO officially became a member of TMC and developed service agreements with TMC customers.

In 2003, TECO changed from its cooperative status to that of a 501(c)(3) not-for-profit corporation.

As a nonprofit and acting member of TMC, TECO both serves and is supported by its mission.

"It is always top of mind for TECO employees that we are 'Always On' so that TMC institutions can be successful in their mission," Mike Manoucheri, president and CEO, said. "Being part of TMC, I believe we all feel a unique responsibility to our roles and have a special awareness of the critical aspect of our mission."





# GAS TURBINE PROJECT CONTINUES PROGRESSION

The TECO team worked diligently through 2023 as the plant prepares for the new gas turbine generator

ECO's plant has grown with its customers over the years. In 2010, the organization invested in its first gas turbine generator to meet the rising load, which secured on-site generation and increased capacity to 62 MW.

As customers continue to expand their footprints in medical care — both in their groundbreaking work and physical presence — the ongoing gas turbine project is the latest in a line of pivotal additions that will solidify TECO's reliability for the coming years.

Though the original turbine and reciprocating engines sufficiently produce enough electricity to meet current on-site demand, the master plan completed in 2021 identified that TECO would need additional power capacity to meet the organization's short- and long-term requirements. With the installation of the new GE LM6000 aeroderivative gas turbine generator, the Central Plant will benefit from a unit that can be fully loaded quickly.

Even if the grid goes down completely, TECO can still produce thermal services for customers, minimizing any impact.

"The additional unit provides us flexibility, especially if we're looking at enhancements and maintenance on our existing unit that require extended out-of-service time," Mycah Jewell, vice president of engineering and maintenance, said, "When we took that turbine out of service in the past, we would have limited on-site power generation capabilities. With the new gas turbine, we'll still have enough on-site generation to be able to self-produce for our needs during the majority of the year, even with the existing unit outof-service."

The new unit is based on an aircraft engine, enabling its quick start time. Additionally, since this unit does not have a heat recovery steam generator behind it, it can be loaded quickly without risk of thermal shock to other equipment.

For example, a large utility gas turbine combined cycle unit is typically designed to start up to 10 times

#### **CONSTRUCTION UPDATE**

Substantial progress is being made on the installation of TECO's new gas turbine. Construction term planning as it anticipates the future needs Center. Thanks to the collaborative efforts of key contractors and TECO personnel, day-to-day

per year and may take hours to reach full load. The short start time of TECO's new simple cycle gas turbine unit helps minimize any service disruptions to customers, providing additional reliability and resiliency.

While the turbine's features allow for various operating profiles, the process of coordinating the design, construction, and manufacturing components presents unique challenges for the TECO team.

"This project requires critical coordination between all the entities involved so that we can manage the different elements happening at the same time," Jess Harper, engineering manager, said. "Due to all the variables, we are continually making adjustments based on the real-time ground conditions. I'm proud of the team and how we are working through all the factors."

With a project of this scale, the plant will soon reap the rewards. TECO looks forward to the over 46 MW output the turbine will provide in 2024, increasing the plant's on-site generation to more than 100 MW.







"TECO'S EVENTS **TEAM REALLY** ADDS TO THE WORK ENVIRONMENT, MAKES A POSITIVE DIFFERENCE, AND INCREASES MORALE."





# TECO'S TEAM BUILDING

The human resources and events teams elevate their efforts to support professional development, celebrate successes, and cultivate an engaged company culture

or all the incredible technology and capabilities found in TECO's chillers, combined heat and power (CHP) unit, distribution systems, and control processes, it is the people who are the real power behind the plant.

A supportive, engaged company culture, excellent benefits package, and team-centered environment are cornerstones of TECO's employee experience. This wouldn't be possible without the human resources (HR) and events teams, who each work hard to provide information on the tools, resources, and quality benefits available to employees — and have a little fun!

Even during the challenges of COVID, TECO's Events Team found creative solutions to show appreciation. Still, some popular activities were temporarily taken off the calendar in the interest of safety.

Fast forward to 2023, and the organization is proud to note that almost every annual event has made its full and official return — the most notable being the employee awards banquet. Held in January, the tailgating-themed awards banquet recognized employee safety and service awards for the 2020-2022 calendar years. Holiday gatherings, retirement luncheons, and the health fair all made their mark this

"TECO's events team really adds to the work environment, makes a positive difference, and increases morale," Karen Thomas, executive assistant and a longtime volunteer member of the events team. said. "Everyone looks forward to the things we do."

While their focus trends to more technical aspects of employee support, the three member HR team shows up in a big way, guiding and advising TECO employees through onboarding processes, benefits enrollments, and incentive programs. Ever-evolving, HR has strived to implement electronic processes to make access to plans and support more streamlined.

The HR department manages TECO's tuition assistance and reimbursement program where eligible employees may receive assistance or reimbursement upon completion of relevant courses. They also help employees obtain required approvals and documentation for their necessary industry certifications.

In the fall, HR hosts TECO's annual employee health fair. Representatives from TECO's insurance and financial providers are on hand to meet with employees and answer questions. Health screenings, "look and learn" booths, and a flu clinic are all available.

"Employees can participate in all the activities, receive personalized health reports to assist them in improving health, speak with representatives who are there to answer any questions, and address concerns," Clarissa Brewster, vice president of human resources, said. "The overall benefits are our employees get access to information about good health and are encouraged to get on track to a healthier lifestyle."

One final TECO tradition made its way back onto the calendar in late 2023 — employee birthday

"Everyone is excited about that," Thomas said.

#### CELEBRATING SAFETY: ONE YEAR INCIDENT-FREE



maintain a safe, reliable, and productive work environment for all.

#### **TEXAS MEDICAL CENTER**

# TMC'S MILESTONE MOMENT

Tn October, the Texas Medical Center marked the grand opening of Helix Park, a 37-acre life science campus that brings together institutions and industry. Anchored by the TMC<sup>3</sup> Collaborative Building and Dynamic One, Helix Park also features six distinctively double-helix-shaped, interconnected parks. While nestled within the largest medical complex in the world, Helix Park also sits at a unique intersection where community and collaboration meet via a purposefully planned vision.

First and foremost, Helix Park is designed to foster collaboration among health care practitioners, researchers, scientists, and business professionals, with the goal of driving groundbreaking advancements in medicine, diagnostics, and treatment. Shared discussions and interactions between peers can foster unexpected breakthroughs, which is why Helix Park was strategically designed to support and encourage these types of "collisions."

In October, the Houston community gathered to celebrate the opening of the TMC<sup>3</sup> Collaborative Building. Founding institutions, including The University of Texas MD Anderson Cancer Center, Texas A&M University Health Science Center, The University of Texas Health Science Center at Houston, and TMC, occupy labs and research spaces as well as traditional offices and common areas.

"The opening of the TMC Helix Park campus is the culmination of many years of planning and executing a shared vision of the country's leading ecosystem for advancing life science innovations in medicine and technology," William McKeon, president and CEO of TMC, said. "This uniquely collaborative model will undoubtedly lead to bold new therapies, lifesaving cures, and new relationships between our worldleading health care and academic institutions and industry partners. There is truly nothing else like it in the world."

The masterplan design of the campus, led by architecture firm Elkus Manfredi Architects in tandem with landscape design by Mikyoung Kim Design, intentionally creates an environment where public and private spaces benefit those living, working, visiting, and receiving care in and around TMC. The development is meant to draw Houston residents into the campus, with new opportunities to participate



The TMC<sup>3</sup> Collaborative Building is purposefully designed for cohesive and cooperative work between various institutions.

in its innovative ecosystem and experience a new destination for retail, restaurants, and green space. Helix Park's public open spaces (spread across the six parks) and ground floor will be home to a mix of programs, including book clubs and innovation talks, community celebrations, fitness activities, movies on the lawn, holiday events, and more.

"It was incredibly important to our teams that Helix Park be welcoming to the broader Houston community," Kristen Kupperman, vice president for real estate development at TMC, said. "With its mix of active ground floor, interesting open spaces, and dynamic programs, we are confident that Helix Park will quickly become a must-visit destination for the greater Houston community."

Next up for Helix Park is the occupancy of Dynamic One — a 700.000-square-foot industry research building set to open in Q4 2024. Future parcels include six additional industry buildings, a hotel, and a residential tower, with retail and event space on the park frontage. It will take approximately seven to 10 years to complete the development.

In the meantime, TMC is proud to celebrate the successful completion and debut of this first building and the potential it holds as a hub for health care and life sciences.

#### THE UNIVERSITY OF TEXAS MD ANDERSON CANCER CENTER

# ADDRESSING BREAST CANCER **DISPARITIES**

Toustonians know that The University of Texas MD Anderson Cancer Center is one of the world's most respected centers focused on cancer patient care, research, education, and prevention. The institution continually seeks new methods to better detect, treat, and prevent cancer in an evolving population.

In 2023, MD Anderson advanced its latest prevention efforts as it launched Texas Health Equity Alliance for Breast Cancer (THEAL), a collaborative initiative to reduce breast cancer disparities among Houston's vulnerable populations. Positioned as a county-wide effort, THEAL brings together the expertise and resources of prominent Houston health and academic entities, with the goal of decreasing the mortality gap among Black women by 15% over the next decade in Harris County.

"We're adopting a multisector approach, involving health systems, academic institutions, and community-

based organizations," Lorna McNeill. Ph.D., Chair of Health Disparities Research at MD Anderson, said. "Each of these organizations represents unique populations and has expertise in distinct areas. This consortium is exactly the group that we need to address this issue once and for all."

THEAL aims to confront the alarmingly high rates of breast cancer mortality among Black women. Studies show that while all populations of women are diagnosed with breast cancer at a similar rate, Black women have a 30-40% higher risk of dying from the disease. This is largely due to social determinants of health, including factors such as an individual's home or work environment, modes of transportation or access to educational opportunities.

All these factors contribute to vulnerable populations falling through the cracks of the health system.

To identify and address these gaps, THEAL will build a collaborative framework to facilitate shared planning, action, and learning among multiple sectors, and create a shared data platform to inform intervention development and drive implementation for improved

Convening these different organizations can also present challenges, which is why MD Anderson is the ideal leader for this work.

"MD Anderson is known as the top cancer center in the nation, and I firmly believe that we should equally be seen as leaders in addressing health disparities and improving health equity for all groups and populations," McNeill said. "We have the credibility and leadership in place to be able to use our expertise to coordinate and help spearhead such an ambitious effort."



Through THEAL, MD Anderson aims to build a collaborative framework that will help address gaps in resources and health systems for vulnerable populations

#### **UTHEALTH HOUSTON**

# SHAPING THE FUTURE OF MEDICINE THROUGH AI

mart virtual assistants. Online chatbots. Map apps suggesting the quickest route to your destination. These tools are small examples of how artificial intelligence (AI) already makes your day-to-day a little bit easier — but Al can do so much more. At McWilliams School of Biomedical Informatics at UTHealth Houston, it's transforming data to power human health.

"Al is to medicine today what the X-ray was to medicine a century ago," Jiajie Zhang, Ph.D., dean, professor and The Glassell Family Foundation Distinguished Chair in Informatics Excellence at McWilliams School of Biomedical Informatics, said. "It can process massive amounts of data more quickly and accurately than humans, enabling doctors and clinicians to see and predict patterns — which were previously unidentifiable — that inform disease prevention and care."

McWilliams School of Biomedical Informatics is the largest biomedical informatics program in the nation, and the only free-standing school, with more than 400 students and 65 regular and 68 adjunct faculty. The school's research and education programs support innovation that can be scaled globally.

In 2023, the school achieved a funding milestone: From August to September 2023, faculty members were awarded 16 grants totaling more than \$31 million. All grants support medical Al innovations and advancements. More than half the grants focus on using AI to address challenges related to aging and Alzheimer's disease, the most common type of dementia which impacts thought, memory, and language.

"People are living longer than ever, which increases their chances of being diagnosed with Alzheimer's disease," Zhang said. "Today, it is difficult to diagnose and there's no cure. But with these grants, we can conduct critically important research that may provide clarity on how to better diagnose and treat the disease in the future."

For example, one grant explores the genetic root of this disease. It will fund a genetic mapping project to discover patterns that may help with earlier diagnosis and treatments. Another grant will examine clinical and medication data across multiple institutions to determine why some patients may or may not



Jiajie Zhang, Ph.D., dean, professor, and The Glassell Family Foundation Distinguished Chair in Informatics Excellence at McWilliams School of Biomedical Informatics

respond to certain Alzheimer's treatments in clinical trials. Understanding this information will help develop personalized precision medicine to slow progression and treat the disease more effectively.

"Through data, technology, and the power of AI, our research and discoveries are transformed into actionable information, tools, and resources that will eventually treat millions of patients at a time," Zhang said. "It's exciting to be a part of that transformation." **BAYLOR ST. LUKE'S MEDICAL CENTER** 

# UNVEILING A STATE-OF-THE-ART CANCER CENTER

👕 n May, Baylor St. Luke's Medical Center reached a milestone with the opening of the O'Quinn Medical Tower at the McNair Campus. The team who designed the 12-story, 420,000-square-foot facility left no stone unturned when thinking through the patient and visitor experience. This is especially true for the Dan L Duncan Comprehensive Cancer Center (DLDCCC), which tripled in size when it relocated to the tower.

"We had an opportunity to build a facility that better reflects the needs and preferences of our patients today and in the years to come," Dr. Mothaffar Rimawi. executive medical director and associate director of clinical affairs of the DLDCCC, explained. "We asked for patient feedback and then created many of the spaces and experiences based on what they told us."

Notably, the new space combines all cancer treatment, research, and education capabilities into one location to promote seamless and compassionate coordination of care for patients. The expanded 80-bay infusion suite offers the option of privacy or community while patients receive treatment. To encourage a

healing and comfortable environment, there's curated art, calming gardens, and natural light. Finally, the state-of-the-art pharmacy includes robots to increase efficiency and speed.

Through Baylor College of Medicine, the DLDCCC is one of only three National Cancer Institute-Designated Comprehensive Cancer Centers in Texas. and is renowned for its groundbreaking research and education programs for future doctors and scientists.

"Our research and education programs focus on developing new and better approaches to preventing. diagnosing, and treating cancer for all patients," Rimawi said. "We represent patient diversity in all



The Dan L Duncan Comprehensive Cancer Center blends state-of-the-art services with enhanced amenities to cater to the needs of its patients

that we do to reduce health disparities and improve survival rates. Our work not only affects our patients, but also makes a global impact."

Stopping cancer in its tracks is a group effort. The move into the patient-centered O'Quinn Medical Tower provides enhanced innovation and collaboration that advance those efforts.

"From the teams who work at reception and security to the nurses, clinical staff, research staff, and physicians, we all want to do our part to eliminate the pain and suffering that comes with cancer," Rimawi said. "Someday, I hope we'll have been so successful that we go out of business and no more precious lives must end because of this disease."



#### TECO's master planning process sets the tone for reliability

key driver of TECO's continued success through the years is the skilled ability of employees to address growing customer loads and implement modifications to the plant outlined in the master plan while fulfilling day-to-day services. Thanks to the organization's spirit of collaboration, balancing daily plant needs alongside capital project management isn't as daunting as it may seem.

The engineering, maintenance, and operations teams meet regularly to review plant and project status and ensure all are aligned on the current and near-term plans. On average, there are 70-75 employees and numerous contract workers on-site. Coordination and scheduling for everyone is critical to safely and reliably meeting real-time plant operational requirements while constructing and implementing new projects.

The capital projects team meets biweekly to review the state of each project, identify what barriers they may be facing, and communicate critical information to the rest of the organization. TECO typically assigns anywhere from two to eight team members per project depending on the scope.

While operations and maintenance focus on day-today activities, the master plan incorporates TECO's mission and vision elements and is the overarching roadmap for the future.

"We aim to balance the plant's long-term operational needs with those of our customers when updating the master plan. Once the plan has been approved, TECO

assigns engineers with project managers to begin executing long- and short-term projects," Jason Berrio, vice president of plant operations, said. "The operations team keeps a finger on the pulse of the customer and analyzes load growth based on their past peaks and our current projections. With the business side in mind, we help coordinate project timing with the real-time plant outlook."

As TECO's teams prepare to implement a project, collaboration continues to correlate daily functions with

each new initiative. Communication within and across departments is an integral part of this process. By involving key stakeholders in conversations — whether they are in engineering, maintenance, operations, finance, procurement, or a customer — each

component of the organization is aware of ongoing project details and operates with the same focus.

Before commissioning a new piece of equipment or system, the operations, engineering, and maintenance teams each develop new operating discipline for the departments. This involves updating and creating plant training materials and procedures, as well as modifying

maintenance practices as the plant evolves.

Support from TECO's Board of Directors to invest in strategic master plan projects has prevented many potential disruptions to services. This includes electrical substation upgrades, the floodwall constructed in 2004, the gas turbine installed in 2010, the water wells installed to mitigate city water outages, and most recently, the ongoing gas turbine project, which will double on-site generation upon completion in 2024.

generation upon completion in 2024.

By ensuring consistent and collaborative diligence in reviewing and updating the master plan, TECO is prepared to reliably meet daily and future customer demand in the face of any challenge.



Mycah Jewell (left) and Jess Harper (right) collaborate to strategize the engineering process and design for capital projects.

# Eddie Martinez, operator II, helps ensure that the Optimum Energy guidelines are incorporated into daily functions.

#### **OPTIMIZING OPERATIONS**

When it comes to TECO's partnership with Optimum Energy, knowledge is power. Together, we are using data to increase TECO's efficiency and reliability and decrease peak demand and costs.

From March 2020 through August 2023, we have:

- Saved 59.7 million kilowatt-hours (kWh), surpassing our projection of 50 million kWh
- Totaled more than \$2 million in power savings, exceeding our projected total of \$1.7 million
- Reduced energy consumption by 6.6%
- Maintained capability to produce 100% of our electricity requirements

As we continue to look for optimization opportunities, our partnership with Optimum Energy will play a critical role.

# **MAINTENANCE**

# MEANINGFUL MUSINGS FROM THE MAINTENANCE DEPARTMENT

he technicians, electricians, mechanics, and plant workers comprising the maintenance department are responsible for the upkeep and care of all instruments and equipment within TECO's operations. They are highly skilled, highly dedicated workers who value serving the Texas Medical Center and share the sentiment that a great day means no one gets hurt. Over the years, maintenance team members have enjoyed the cohesive environment and opportunities to develop skills and knowledge that may not be possible at other facilities.

Below are reflections from several maintenance department team members on TECO's culture and camaraderie, what makes a safe and successful day, what they value most about working at TECO, and how maintaining the equipment that serves TMC makes their jobs fulfilling.

We are grateful to our colleagues on the maintenance team for keeping TECO's systems reliable and safe every day.



#### What do you wish people knew about your job?

I wish people could see what it takes to maintain and keep reliable energy to TMC. We catch the little things before they become big problems to keep the public safe. We take pride in our work. It's about quality and doing things right the first time.

Anthony Manning | Mechanic II



#### In your opinion, what does a successful day look like?

A successful day for me looks like accomplishing the tasks at hand in a safe and timely manner with no setbacks, so that at the end of the day, I return home safely to my family.

Tony Schreckengost | Mechanic I



#### What does it mean to you to provide energy to the institutions throughout the Texas Medical Center?

The importance of the services we provide to TMC means everything to me. It is our main purpose and goal. I would like others to know how committed and passionate we all are about this mission. We view the hospitals and their patients as if they were our own family, and that factors into every decision that we make. We take our work very seriously.

Ross Goedeke | Maintenance Planner



#### Based on prior experiences, how is TECO different than other energy plants or providers?

TECO feels like a large family-type operation. People seem very happy to work here. Above all, working here is an honor because we facilitate and enhance the hope and lives of those coming to TMC for treatment.

Shoaib Hasan | Electrician III

#### What is a skill you have developed during your time at TECO that you are proud of?

Since I've been at TECO, I have become a better communicator and strengthened my problem-solving skills, which is important in my role as supervisor. These skills have helped build better working relationships and a more productive shop.

Milton Cowan | Instrumentation Field Supervisor



#### What is your favorite part about working at TECO?

My favorite parts are the flexibility of work hours, the great benefits, and the diversity of TECO employees. The culture at TECO offers mutual support, promotes trust, rewards employees' efforts, and ensures that employees know their work is meaningful.

Walter Pascua | Instrumentation Technician III

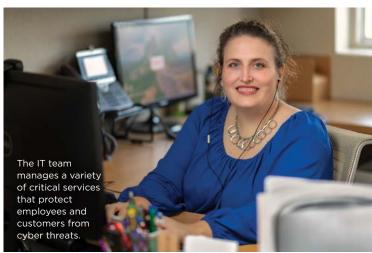
# FINANCE











# VALUABLE ADDITIONS TO THE FINANCE DEPARTMENT

exciting changes this year. In May 2023, TECO welcomed Kimberla Lawson as vice president of finance and treasurer. Lawson brings more than 20 years of accounting, finance, and management experience to her new role as TECO's business partner and department lead. She provides the management team with financial information, resource management, and financial planning recommendations, and oversees TECO's accounting, cash management, budgeting, debt strategy and management, procurement, and risk management programs.

"Ensuring that the business side of TECO is run as reliably as the plant side is a critical task, with impacts for both our customers and employees," Mike Manoucheri, president and CEO, said. "Kimberla has stepped in and proven to be a strategic and engaged leader for her department, and brings a personal skill set that fits very well into TECO's culture."

Lawson strives to improve upon existing internal controls and devise strategies to ensure the finance department's processes are as efficient as possible.

"I am excited to work with a team of finance and procurement professionals that are dedicated to ensuring the TECO mission is upheld," Lawson said.

In January 2023, the finance department welcomed another exciting addition: TECO's new enterprise resource planning (ERP) solution, Acumatica. Its extensive range of functionality offers TECO all its financial management capabilities in one platform, leading to cost and time savings and simplified administration. Jared Schneider, controller, says the new software frees him up to "focus on strategy instead of transactions. It's hard to put a price on that."

Under Lawson's leadership and with the new ERP solution, the finance team looks forward to exploring additional ways to optimize and improve efficiency in its processes and platforms.

# EFFICIENT AND RELIABLE SERVICES THROUGH IT

he information technology (IT) department's team of four is responsible for implementing, troubleshooting, and even developing, as needed, streamlined software solutions for HR, finance, and maintenance operations. The team also maintains and improves the organization's 40-plus servers and more than 100 networking devices for both the IT and OT (operational technology) networks. Through the help desk, IT provides software, network, and hardware support to TECO employees while prioritizing software, user, and cybersecurity efficiencies.

"Our job is to prevent issues from happening before they occur, and to resolve issues as quickly as possible with the least amount of downtime for the end user," Shelly Pesak, IT supervisor, said. "By keeping IT operations running smoothly, we help all fellow TECO employees be as efficient in their jobs as possible."

The team regularly looks for ways to automate and streamline processes for employees. This year, the department led a successful transition to the company's

new financial software Acumatica, and in the coming year, will improve user efficiency by transitioning TECO's timekeeping software to a new platform.

Educating TECO employees on phishing and cyber scams and implementing cybersecurity measures is another function of the IT department. Phishing attempts have become more common and sophisticated, and the team regularly coaches end users on how to detect and avoid external threats.

Ongoing global supply chain issues provide an opportunity for the department to embody TECO's culture of reliability. By planning and ordering months or years in advance for the inevitable replacement of computers, networking devices, and servers, the team ensures critical hardware remains stocked should a replacement need to occur sooner than anticipated.

No matter the challenge, the IT team is committed to ensuring all technological needs run smoothly so TECO can maintain efficient and reliable operations.

# MAKING THEIR MARK

TECO career employees share their journeys of opportunity and achievement

s of January 2022, the median number of years that workers tallied with their current employer was 4.1, according to the U.S. Bureau of Labor Statistics. TECO is proud to have a significant number of employees who reach tenures totaling into the decades. Even more, several have built entire careers with the organization, evolving through new positions and promotions, and instilling themselves as legacy members of the TECO team.

This year, both Antonio Lopez (operations) and Mike Handorf (maintenance) reached their 40-year anniversaries at TECO, while Clarissa Brewster (HR) hit 32. All three stand out not only for the length of their service, but also for the professional growth achieved.

#### Antonio Lopez

Lopez arrived in the U.S. from El Salvador in 1981. Two years later, a friend alerted him to a job opening at TECO, which he interviewed and was ultimately hired for. Following a few years in his role in building services, Lopez progressed through several departments, from distribution to plant maintenance mechanic, and then into operations. It was in operations where he was promoted to shift supervisor in 1991 and then to his current title of operations supervisor, which he has held since 2009, leading a team of 21.

"With my time at TECO, I have learned a lot and it's been very interesting," Lopez said. "I used to see my friends change jobs every two or three years and I told them I'm not going to change jobs; I never had that desire. This is my second home."

#### Mike Handorf

Handorf, maintenance supervisor, can also claim an impressive progression of roles. Starting out as an operator trainee, he then moved into maintenance after nine months. He tracks not only his career, but other significant life events throughout his time with the organization, noting that his marriage, birth of his daughter, and births of his grandchildren all fall within his TECO days. His length of service has allowed him to learn from the expertise of others as well as impart that knowledge to his team.

"I have had the honor of working with some really great and talented craftsmen through the years," Handorf said. "I would like to think that by doing so that I received some of the lessons and intuitiveness about the equipment and how it was to be maintained that they shared. I have been learning my whole career, and it has been an honor to have worked with my colleagues both past and present."

#### Clarissa Brewster

Like Lopez, Brewster reached Texas, and TECO, via a multi-step journey. She and her husband Julian were living in Georgia when he was offered a job in Houston. The couple moved and before long, he was brought on as a contractor with TECO. When car issues meant that Brewster was often needed to drive her husband to and from work, and a receptionist position opened at TECO, he encouraged her to interview for the sake of easier commuting, even though she had a different job she loved.

"I walked into TECO with the intent of failing the interview," Brewster said. "The next Monday, I get a call from TECO asking where I was. I went ahead and left my other job and came to TECO."

While working as a receptionist, Brewster often took opportunities to help with special projects and tasks from other departments. When the finance department had an opening, she stepped in, taking on accounts payable, and eventually payroll and accounts receivable as well.

In June 2014, she transitioned departments to human resources as an HR administrator, and as of 2019, obtained the title of vice president, human resources.

Brewster credits her "people person" personality for her ability to grow into her various roles. Her advice for those building their careers or striving to determine the next step: "Be proactive. Have a good perception of the big picture and where you fit. If it relates to you, learn about it, and talk to people. Be curious. When you find out where you fit, you are so much more successful."



# **ACCOMPLISHMENTS**

#### **FY**2023

#### FINANCE AND ADMINISTRATION

- Exceeded budget expectations for FY2023\* and presented FY2024\* budget that was approved by Board of Directors.
- Completed fiscal year with operating revenues \$19,538,684 over expenses. \$4,000,000 was rebated to customers with the remainder used to support expansion projects.
- Implemented a new accounting software, ahead of schedule and on budget, which provides significant efficiencies for the accounting and finance team. The new software also helps streamline the reporting function, ensuring more timely information is available for management review.
- Named a new vice president of finance and treasurer and successfully transitioned all responsibilities and ongoing projects.
- Completed FY2023 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 2023.
- Produced and distributed TECO's 2022 Annual Report, "Leading the Way."

#### **OPERATIONS**

- Provided 100% chilled water and steam reliability to customers.
- Managed peak power requirements during the periods Electricity Reliability Council of Texas (ERCOT) measures peak power consumption (June-September), saving TECO more than \$3 million.

- 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 First Grade Stationary Engineer license.
- Conducted 4,688 manhours of training.
- Experienced one recordable incident and no lost time incidents in FY2023. 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 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.
- Received 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 UTHealth significant economic savings and improved operational benefits.

#### **CUSTOMERS**

- Conducted 2023 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 the years 2018 through 2022.
- Continued providing invoices and reports for customer access via TECO's customer portal.

\*Fiscal year September 1 - August 31

#### RELIABILITY REWIND





HOUSTON, IT WAS HOT. Summer 2023 was the hottest in the city's history — surpassing summer 2022, which was also record-setting. In 2023, the city sweltered from extreme heat and 45 days of triple-digit temperatures. When it's that warm, energy demand inevitably skyrockets. TECO set an all-time record for chilled water production in July, and in August, the Electric Reliability Council of Texas (ERCOT reported an all-time peak demand record.

Despite temperatures topping the charts, TECO was ready. Thanks to ongoing maintenance protocols, advanced planning, and dedicated employees, TECO reliably met the demand of our customers in the Texas Medical Center — marking 31 consecutive years of uninterrupted service. The result? Those working in TMC think less about their utilities and more about their groundbreaking, life-changing work.

As TECO anticipates increased temperatures and record-breaking heat in the years to come, our team is busy planning and "Building for What's Next" to ensure we are always equipped to fulfill our mission.



# **FY**2023



When asked to share an example from the past year of how TECO has met or exceeded expectations, customers responded with:

**M** Reliability and their 24 x 7 response to any emergent need."

> "Customer service from TECO leadership."

"Very reliable service."

"The chilled water service has been consistently reliable through the past year.

	Chilled Water	Steam
CUSTOMERS		
Number of customers	16	14
Number of buildings served	51	37
Square feet served	26 million	20.8 million
Energy sales	368,820,130 ton-hr	1,071,145 M-lb.
ENERGY SOURCES		
Paul G. Bell, Jr. Energy Plant -	- Central Plant	
Number of boilers, chillers/fuels	14 chillers	7 boilers
	electricity & natural gas	natural gas & diesel
Thermal storage tankch		n/a
South Main Plant		
Number of boilers, chillers/fuels	13 chillers	2 boilers
	electricity	natural gas & diesel
OPERATIONS / DIST	RIBUTION	
Capacity	120,170 tons	980,000 lb/hr
(inc	luding thermal storage)	(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	n7.7 miles	7.7 miles
	(portior	ns of the line have three pipes)
		Powe
Paul G. Bell, Jr. Energy Plant -	- Central Plant	
Combined heat and power syste	em	48 MW
Standby generation		14 MW
South Main Plant		
Standby generation		2 MW

# **FINANCIAL AND OPERATING STATISTICS**

Rates and Units		
Fiscal year September 1 - August 31	FY2023	FY2022
CHILLED WATER		
Rate (\$/ton-hr)	\$ 0.1701	\$ 0.1780
Rate (\$/MMBtu)	\$ 14.18	\$ 14.80
Peak Demand (tons)	81,455	76,003
Average Demand (tons)	42,103	40,836
Load Factor	52%	54%
Peak (sq ft/ton)		311
Production (sq ft/ton-hr)		0.070
Production (ton-hr)		357,727,372
Cooling Degree-Days (3,510 normal)		3,716
Fuel Consumption MWh	279,939	285,805
(natural gas and electricity)		
STEAM		
Rate (\$/Mlb)	\$ 15.06	\$ 15.28
Rate (\$/MMBtu)	\$ 13.19	\$ 13.84
Peak Demand (lb/hr)		334,469
Average Demand (lb/hr)	122,277	116,220
Load Factor	35%	35%
Peak (sq ft/lb)	59	66
Production (sq ft/Mlb)	19.4	19.4
Production (Mlb)	1,071,145	1,018,091
Heating Degree-Days (1,081 normal)	1,120	1,129
Fuel Consumption MMBtu (natural gas).	1,587,394	1,362,999
Revenue and Expenses		
Fiscal year September 1 - August 31	FY2023	FY2022
OPERATING REVENUE		
Chilled Water	\$ 65,903,786	\$ 63,794,434
Steam		\$ 16,903,993
Customer Rate Reduction		\$ O
CHP Revenue	\$ 1,511,757	\$ 2,122,631
Other	\$ 5,157,132	\$ 5,120,801
Total Operating Revenue	\$ 86,418,802	\$ 87,941,859
OPERATING EXPENSES		
Fuel	¢ 0 5 4 7 7 7 1	¢ 17 207 E97
Water and Water Treatment		
Other Operating Expenses		\$ 5,020,348
	\$ 67,797,862	\$ 76,401,771
Total Operating Expenses	<b>Ф 07,797,862</b>	\$ 70,401,771
Net from Operations	\$ 18,620,940	\$ 11,540,088
Non-Operating Revenue/(Expenses)	\$ 917,744	\$ (5,289,034)

\$ 19,538,684



### **FY**2023

The favorable variances were below budget due to operation

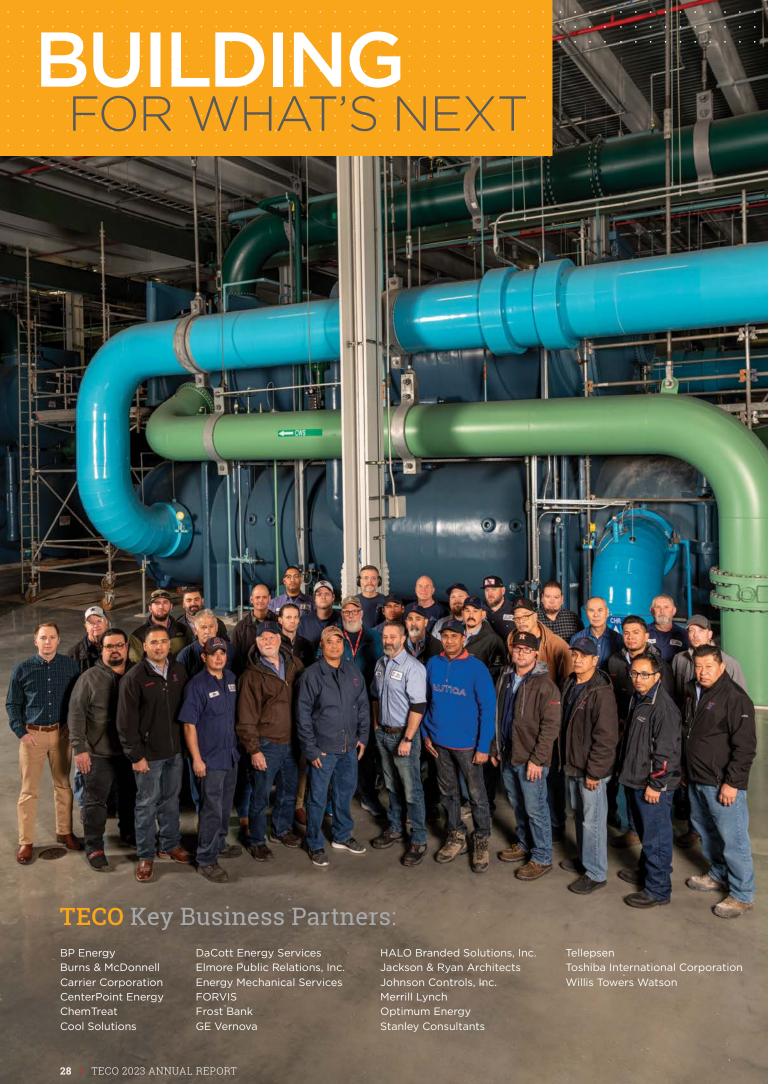
expenses in fiscal year 2023

from its energy policy, which

The company met all of its planned cash, internally set requirements for fiscal year 2023.

**Excess Revenues Over Expenses** 

\$ 6,251,054







#### THE TECO TEAM and their years of dedicated service:

Haley Ackman, 6 Marsha Ackman, 21 Craig Acree, 9 Rosalie Arellano, 6 James Arnett. 5 Priscilla Avila, 6 Henry Barrios, 31 Rohnald Benfield, 29 Christopher Beroo, 9 Jason Berrio, 6 Clarissa Brewster. 32 Julian Brewster, 32 Adolfo Caballero, 2 Callen Clark, 5 Lori Cook, 4 Milton Cowan, 9 Charles Darden, 23 Ian Dunn, <1 Ian Dunson, <1 Jackson Fay, 6 Matthew Ferrell, <1 Alejandro Fuentes, <1 Manuel Gamez, 19

Jose Garcia, 16 Kevin Giblin, 31 Ross Goedeke, 6 Vincent Gonzales, 7 Elias Guerrero. 1 Travis Hampton, 9 Mike Handorf, 40 Jess Harper, 13 Tyler Harris, 2 Shoaib Hasan, 2 Javier Hernandez. <1 Troy Hollin, 19 Mycah Jewell, 7 Juan Jimenez, 19 Brandon Johnson, 25 Brady Jones, 19 Austin Kelly, 13 Nolan Lambert, 29 Kimberla Lawson, <1 Alberto Lopez, <1 Antonio Lopez, 40 Silvano Lopez, 1 Anthony Manning, 5

Mike Manoucheri. 5 Jared Marish. 20 Eddie Martinez, 7 Joel McCormick, 11 Lamont McInnis, 15 John McNeil, 7 Dennis "DJ" Morosin, 3 Fred Musil. 29 Philip Muzar, Jr., 34 Stephen Nagy, 32 Christopher Olson, 4 Fidel Orizaba, 9 Marco Palacios, <1 Walter Pascua, 13 Thomas Penzi, III, 19 Shelly Pesak, 23 Kelly Powell, 22 Sean Price, 19 Faustino Quiroz, 15 Brandon Rapp, 3 Tim Reardon, IV, 7 Jenice Ricks, 8 Melissa Ripple, 5

Joe Robles, 2 Jose "Joey" Rodriguez, 5 Juan Rodriguez, 9 Carlos Romero, 4 Jake Ruttle, 10 Tong Sahnon, 28 Mike Salgy, 3 Marty Sarch. 4 Jared Schneider, 9 Anthony Schreckengost, 1 Phyllis Sousley, 32 Ramon Tapia, 8 Karen Thomas, 21 Jeffery Thorn, <1 Justin Underwood, 8 William Van Noy, 3 Salomon Vega, 9 Scotty Walker, 15 Nicholas Walsh, 2 Linsey Whalen, 5 Christopher Wieland, 1 Shane Williams, 9

