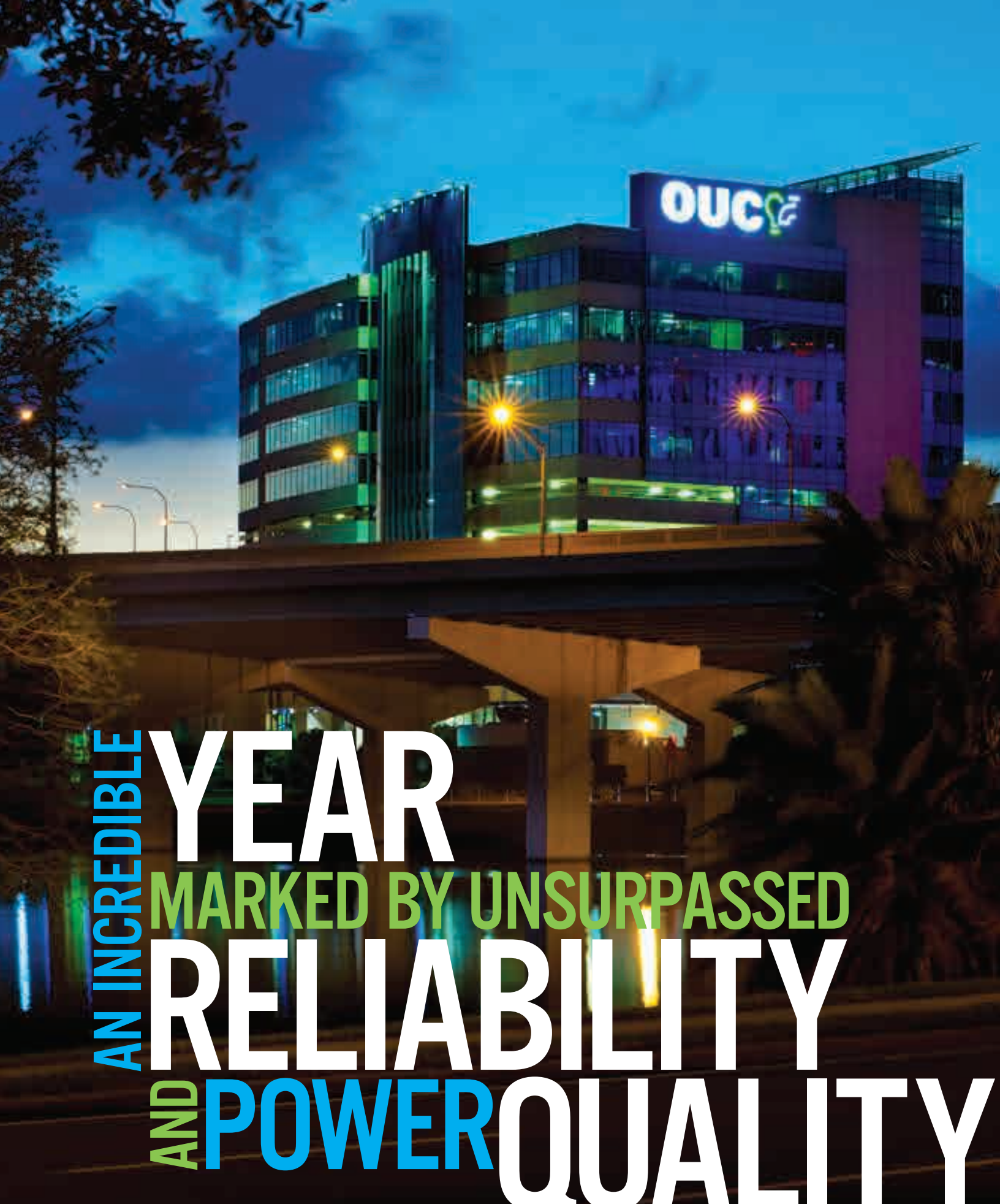


QUALITY  
CUSTOMER SERVICE  
MOMENTUM  
DIVERSIFIED PORTFOLIO  
COLLABORATION  
PARTNERSHIPS  
TRAINING  
EFFICIENCY  
OUC | 2015  
ANNUAL  
REPORT  
RECORD-BREAKING  
TECHNOLOGY  
SMART  
STRATEGIC  
FLEXIBLE  
INNOVATIVE  
SUSTAINABLE  
GROWTH






**AN INCREDIBLE** YEAR  
**MARKED BY UNSURPASSED**  
**RELIABILITY**  
**AND POWER QUALITY**

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SMART STRATEGIC SUSTAINABLE GROWTH





# LETTER FROM THE COMMISSION PRESIDENT & GENERAL MANAGER/ CEO



2015 was an incredible year for OUC on all fronts. We saw a return to customer growth that resulted in positive financial metrics across the board – including an increase in sales, revenues and net income. In addition to hot weather, customer growth helped drive two new record peak energy demand milestones this summer.

Financial performance was the strongest in the last 15 years with the addition of a number of large, commercial customers; revenue from purchase power agreements; new products and services; and \$32.0 million, or 30 percent, in net present value savings due to bond refinancing.

OUC is well known as The *Reliable One*, but we are *Sustainable*, too. In 2015 we took steps to weave sustainability

into all aspects of our operations – from power supply to helping customers incorporate green features into their homes and businesses.

Planning for the future is something OUC has always done well – and in 2015 we devised resource plans that incorporate the use of next-generation power production and alternative sources of water.

We set a Clean Energy Strategy goal of 20 percent of retail sales from renewables and conservation by 2020. Excluding nuclear, this target is more aggressive than any other utility in Florida. On the water front, a Water Resource Strategy was developed to identify water resource options to meet a range of groundwater allocation scenarios. Both of these plans will ensure

sustainable, reliable resources for generations to come.

Resource planning is essential as growth returns to the Orlando area in record levels. We challenged ourselves to think smarter and look for ways to be flexible in order to meet the needs of our customers, while also finding efficiencies. A number of recent transmission and substation upgrades have employed innovative engineering to increase operational efficiency and provide access to additional renewable generation. OUC's new 18-mile direct connection power line from the John Drury Landfill in Holopaw, Osceola County, to the St. Cloud South substation near Harmony allows OUC to access an additional 25 megawatts of landfill gas-to-energy and increase our Clean Power Portfolio.

Investments in technology also allowed us to operate our power plants more efficiently. At the Stanton Energy Center, improvements to the design of the Unit 2 steam turbine provide additional megawatts of generation without increasing fuel consumption or emissions, and new natural gas ignitors in Units 1 and 2 enable the operation of generators at lower loads and improved efficiency. All of these measures allow OUC to lower costs while maintaining quality.

When it comes to reliability and power quality, OUC is unsurpassed. For the 17th straight year, we are #1 for electric distribution reliability compared to all Florida investor-owned utilities, according to data submitted to the Public Service Commission. In fact, despite a very busy storm season, OUC surpassed our own goals – achieving the best electric reliability numbers since expanding our service territory to include the City of St. Cloud 18 years ago. Achieving this level of performance is the result of hard work and dedication by our employees, as well as advancements in technology

## 2015 OUC COMMISSION



Front, left to right: Mayor Buddy Dyer | Linda Ferrone, President | Gregory D. Lee, First Vice President  
Back, left to right: Dan Kirby, AIA, AICP, LEED AP, Immediate Past President | Ken Ksionek, General Manager & CEO | Maylen Dominguez, Commissioner

that allow us to respond more rapidly to outages and diagnose problems sooner.

OUC is committed to continually looking for ways to innovate and improve processes in order to meet customer expectations. That dedication was one of the reasons we were presented with the prestigious **Expanding Excellence Award for Innovation in Customer Service from CS Week and Electric Light & Power Magazine**. That commitment to continuous improvement also prompted OUC to be the first utility in Florida to launch its own electric meter farm. Located at our Pershing Facility, the farm allows us to test the operational functionality of hardware and enterprise software systems as we implement updates to our customer service and outage management systems.

As we ramp up for the return to growth, we realize having a highly skilled workforce that can adapt to changing markets is more important now than ever ... and we are prepared. We have developed creative ways to recruit and retain top talent and provide them with the tools and resources they need to succeed. And we are implementing succession planning to identify, nurture and grow our employees in order to have the workforce necessary for OUC to achieve our goal of being the **Best Utility in the Nation**.

Linda Ferrone  
Commission President

Ken Ksionek  
General Manager & CEO





# 2015 YEAR IN REVIEW

OUC EXPERIENCED SIGNIFICANT CUSTOMER GROWTH & WAS ABLE TO HOLD RATES STEADY

RETAIL CUSTOMERS INCREASED  
**6.9%**

## Customer Growth and Load Diversification

OUC's growth reflects Central Florida's overall economic expansion, with community leaders working to recruit new industries to the area and expand existing businesses. Between 2011 and 2015, retail customers increased 6.9 percent and OUC's top 10 customers experienced a 24.7 percent increase in base load.

## Smart Financial Moves Lower Costs and Provide Long-Term Savings

Holding the line on expenses allowed OUC to remain competitive and keep electric and water rates below the average of peer Florida utilities.

A significant factor in keeping costs down is maintaining high credit ratings.

OUC's high AA bond rating by S&P and Fitch, and Aa2 by Moody's, provide greater financial flexibility that allows us to take advantage of changes in the market and realize additional savings. OUC finalized the refunding of \$100 million in 2009 bonds, some related to the construction of Stanton Energy Center Unit B, dropping the interest rate from 5.25 percent to just 2 percent. The move saved OUC \$2 million a year, or \$32 million in net present value savings.

When interest rates began dropping around 2010, the OUC financial team started looking at ways to bring bond rates down. In 2011, two refundings saved OUC ratepayers \$29 million; another in 2012 saved nearly \$9 million; and one in 2013 saved \$53 million – that's \$123 million in net present value savings.

**FITCH AND S&P ASSIGN OUC AA RATING; MOODY'S Aa2.**

## Mitigating Risk to Customers

### FEMA Audit Closes and OUC Owes Nothing

In 2013, a number of utilities and cities in the United States received word they might have to reimburse the Federal Emergency Management Agency (FEMA) for expenses incurred during a natural disaster recovery. As a result of due diligence by OUC and excellent record-keeping, a recent audit by FEMA found that more than \$34 million in reimbursements received from three devastating hurricanes impacting Orlando in 2004 were justified. The audit determined that OUC appropriately accounted for all funds and owed nothing. The case was closed after two years of review.

**\$0 OWED**

### Crystal River Decommissioning

After several years of negotiations, OUC reached a settlement that served the best interests of ratepayers and mitigated long-term risk after Duke Energy permanently closed its Crystal River 3 Nuclear Power Plant. OUC held a 1.6 percent stake (14 megawatts) in the plant and for 38 years had benefited by receiving about 155,000 megawatt hours of low-cost nuclear energy. In 2009, however, a problem with the plant's containment structure was detected, and Duke Energy decided to close the facility in 2013. OUC received a settlement of \$12.6 million and was released from any future decommissioning liabilities.

## OUC Customers



ELECTRIC & WATER	76,092
ELECTRIC ONLY	127,549
WATER ONLY	36,625
<b>TOTAL</b>	<b>240,266</b>

## Operating Revenues (Excluding Fuel Revenue) in Millions



2015	\$575.2
2014	\$563.7
2013	\$542.9
2012	\$562.4
2011	\$577.2

## Electric Total Sales in Millions of Megawatt Hours



2015	7.7
2014	7.6
2013	7.0
2012	7.0
2011	7.7

## Water Total Sales in Billions of Gallons



2015	26.4
2014	25.4
2013	25.0
2012	25.3
2011	25.6



# DEVELOPING STRATEGIES TO BE THE BEST UTILITY IN THE NATION

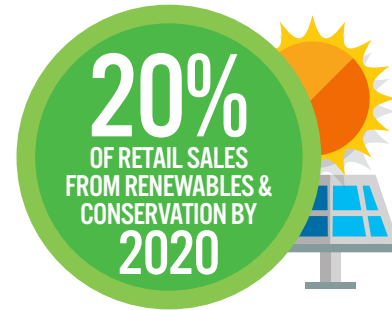


THIS YEAR, OUC UNDERTOOK EFFORTS TO SHORE UP ITS STRATEGIC PLAN BY DEVELOPING ROADMAPS TO DEAL WITH THREE CRITICAL AREAS MOVING FORWARD: WATER RESOURCES, CLEAN ENERGY AND ORGANIZATIONAL EFFECTIVENESS.

## Developing a Clean Energy Strategy for 2020

OUC is well known as *The Reliable One*, but we are *Sustainable*, too. Last year, the utility took steps to weave sustainability into all aspects of its operations – from its power supply to helping customers incorporate green features into their homes and businesses. OUC also developed a Clean Energy Strategy that encourages smart load growth and increases the use of renewables while also maintaining flexibility due to the uncertainty of the Environmental Protection Agency (EPA) Clean Power Plan.

This resulted in OUC setting a Clean Energy Strategy goal of 20 percent of retail sales from renewables and conservation by 2020. Excluding nuclear, this target is more aggressive than any other utility in Florida.



The utility also explored efficiencies in electric generation and distribution, which will save more than 19,000 megawatt hours annually. These programs are in addition to OUC's existing efforts to undertake a system-wide LED streetlight implementation program and expand its electric vehicle-charging infrastructure.

In addition, OUC will focus on installing high-visibility customer educational displays, such as solar sculptures and bus shelters equipped with solar-powered mobile chargers, along with OUC-branded public water fountains. To stay at the forefront of innovation and emerging technology, the utility is also collaborating with universities on research and development that will include biofuels, wind technology, micro grids and battery storage in addition to solar.



OUC General Manager & CEO Ken Ksionek greets employees at the company's annual team meeting to define strategies for success of the OUC Strategic Plan.

## Improving Internal Organizational Effectiveness to Remain Competitive

The utility industry is experiencing major change with the reduction of per capita consumption, which is challenging companies to be more efficient and develop new sources of revenue from products and services. As a result, OUC is investing in employees and taking steps to identify, train and grow its workforce to adapt to this changing marketplace.

In 2015, OUC embarked on an effort to develop a consistent, coherent

internal organizational effectiveness strategy to foster a culture of continuous improvement focused on delivering quality service to customers and encouraging innovative, collaborative thinking. As part of that endeavor, OUC launched a process improvement program geared toward instilling a total-quality management culture throughout the organization, as well as leveraging data and technology to connect all internal and external aspects of its business. This total-quality mindset and connection allows OUC to better identify and solve problems, while also developing critical thinking skills at all levels.

**PROCESS IMPROVEMENT**  
**TOTAL QUALITY MANAGEMENT**  
**DATA & TECHNOLOGY**



H<sub>2</sub>OUC water fountain/bottle refill stations are now located in several local parks and community centers.



One of the impacts of a return to customer growth is an increase in workload throughout the entire Commission. To meet this demand, OUC has developed a hiring plan that includes greater use of seasonal and part-time employees, which provides flexibility and the ability to fill staffing gaps. The utility is also adapting policies in an effort to be more creative and recruit top talent. For example, OUC now provides part-time employees with full healthcare benefits. All of these measures ensure a highly skilled workforce capable of helping OUC achieve its goal of being *The Best Utility in the Nation*.



# FUEL DIVERSITY AND OPERATIONAL FLEXIBILITY



A DIVERSIFIED FUEL PORTFOLIO HAS ALWAYS BEEN A PRIORITY FOR OUC. HAVING FUEL FLEXIBILITY AT OUR DISPOSAL ENABLES US TO MOVE WITH THE MARKET...TAKE ADVANTAGE OF LOWER FUEL COSTS... AND MAINTAIN COMPETITIVE RATES FOR OUR CUSTOMERS.



OUC opened the first solar farm in Orange County in 2011 at the 3,280-acre Stanton Energy Center. This 5.9-megawatt solar array can generate enough renewable energy to power more than 600 homes.

## Doubling Investment in Landfill Gas and Solar

In 2015, OUC set a Clean Energy Strategy Goal of 20 percent of retail sales from renewables and conservation by 2020. Excluding nuclear, this aggressive target requires significant investment in both landfill gas and solar generation.

Toward that end, OUC signed a renewable energy Power Purchase Agreement (PPA) with the operators of the John Drury Landfill, located in Holopaw in Osceola County, for a minimum 9 megawatts (MW) of landfill gas energy with an option for up to 25 MW. This brings combined capacity from landfill gas from Orange County and Holopaw to 49 MW of power.

OUC also signed a PPA to build nearly 13 MW of solar energy at the Stanton Energy Center (SEC). After looking at various options to site, OUC decided the byproduct landfill at Stanton would be ideal. To OUC's knowledge, this unique installation will be the nation's only solar array with panels placed over a landfill at a power plant.

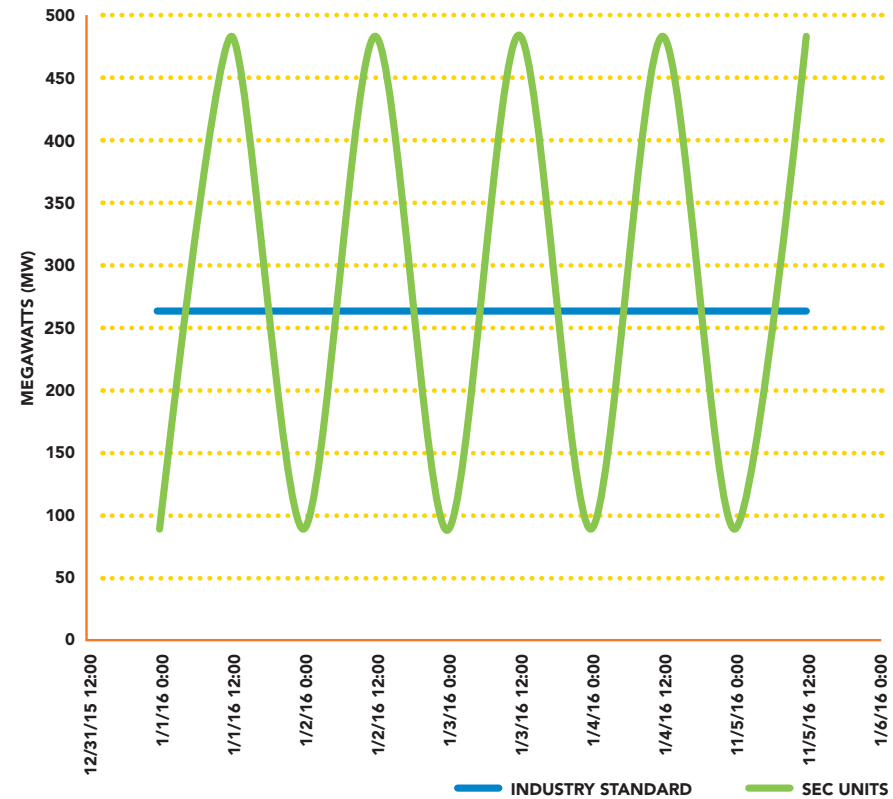
## Lowering Mercury Through Activated Carbon Injection

Stanton Energy Center Unit 1 (SEC 1) was built with state-of-the-art pollution controls back in 1987. But now, nearly three decades later, the regulatory environment has changed and even minute amounts of mercury – parts per trillion – will need to be captured from the flue gas stream.

The Flue Gas Desulfurization (FGD), scrubbers and electrostatic precipitators already work together to capture nearly all of the mercury, but retrofitting an SCR on Unit 1 would have cost more than \$100 million. With regulatory uncertainty, that was not advisable. Instead, OUC implemented a cost-effective solution in 2015 to ensure compliance with the EPA's ruling on Mercury Air Toxics Standards (MATS).

To ensure compliance, OUC personnel developed a testing program to evaluate several methods for mercury removal without installing an SCR. The most successful test to date involves injecting halogenated-activated carbon into the path of the flue gas, allowing the mercury to change its chemical state and be captured by the electrostatic precipitator and scrubbers.

## Stanton Energy Center Units 1 and 2 Efficiency



## Gaining Efficiency from Investments in Technology

In addition to adding renewable capacity, OUC continues to look for innovative ways to operate generating units more efficiently. Improvements in the design of the Stanton Energy Center Unit 2 (SEC 2) steam turbine provided an additional 12 net MW of output without increasing fuel consumption or emissions, while adding natural gas ignitors to Units 1 and 2 enabled the operation of the units at lower loads and increase operation flexibility.

Innovative plant engineering has allowed the ignitors to continue to stay lit even after starting the units – creating a unique fuel and operational flexibility. The move allows SEC 1 and SEC 2 to be dialed down to as little as 90 MW each. Most coal units stop around 50 to

60 percent of their Maximum Capability Rating (MCR), but Stanton's team has been able to safely take it down to 20 percent. And during those periods of low demand, generally early in the morning or late at night, the previously coal-only units can operate efficiently by co-firing a variable blend of coal and natural gas. This allows OUC to take advantage of lower natural gas prices and saves the expense of completely shutting down either a coal or combined-cycle gas unit for a short period of time.

CELEBRATING  
5 YEARS  
OF RELIABLE,  
CLEAN POWER



# SETTING AN ALL-TIME POWER PEAK

The combination of extremely warm weather, lack of rain and the overall economic rebound thrust OUC into the record books late last spring. At 4:27 p.m. on Thursday, June 18, after OUC customers had been cooling their homes and businesses during an extraordinarily hot series of days, the Commission set an all-time power use peak, as 1,202 megawatts (MW) of energy were provided without



interruption. Inside OUC's Energy Control Center, system operators ensured that not just Orlando, but also the entire Florida Municipal Power Pool (FMPP), had enough generation to get through the intense heat wave. St. Cloud also set a new all-time peak of 163 MW. The following day, Friday, June 19, Orlando reached an air temperature of 100 degrees – the first time that's happened since July of 1998 and reset the peak.

*The staff of SEC Unit B, OUC's super-efficient combined cycle plant, gather in the control room to celebrate its 5th anniversary of excellent service.*



# PAVING THE WAY FOR GROWTH

**18 MILES =**  
LONGEST DISTRIBUTION FEEDER IN THE GRID

## Constructing a Direct-Connect Line to Holopaw Landfill

In a team effort among several Commission departments – Electric & Water Production (EWP), Electric & Water Delivery and Environmental – OUC built the longest distribution feeder in the grid. Running some 18 miles, this new feeder will send clean, renewable energy from the John Drury Landfill in Holopaw to OUC’s Electric Substation 29 in St. Cloud.

In 2015, OUC signed a renewable energy Power Purchase Agreement (PPA) with landfill operators for a minimum of 9 MW of landfill gas energy. After evaluating the cost of wheeling the power through third parties’ transmission lines, OUC determined that it could save a considerable amount of money by building its own 25kV line. OUC calculated that at 9 MW, it would save at least \$1 million by building the new line, but that number would go even higher if more energy were taken from the landfill. Within the PPA, there’s an option to expand up to 25 MW – and the new 25kV line is capable of handling that expansion. At 25 MW, OUC’s savings are expected to be \$3 million as a result of building its own line.

The line construction required going through areas where the ground was very wet, requiring directional bore method of underground conduit installation. There were other obstacles as well, like not harming the tree canopy. The final design consists of about 13½ miles of line overhead and nearly 5 miles underground. The feeder will play a pivotal part in OUC’s clean energy strategy.



## More Major Transmission, Substation Construction Projects

Seven major electric transmission and substation projects, totaling more than \$30 million, were recently completed by Electric & Water Delivery (EWD) to maintain the *reliable* integrity of OUC’s bulk electric system.

Consistent with generating plant outages, transmission and substation projects are typically performed during the mild non-peak periods between October and May to take advantage of lower electric demand. During the past outage season, the Transmission Division reached a major milestone with more scheduled outages than any other time in OUC’s recent history. The projects included replacement of a transformer at the Turkey Lake Substation, addition of a transformer at the Airport Industrial Park Substation, reconfiguration of the Taft 230kV Substation, three major 115kV line upgrades, one 69kV line upgrade in St. Cloud and relocation of a section of 115kV line for the extension of President Barack Obama Parkway – all totaling 15 miles of transmission work. OUC personnel worked tirelessly for more than 35,000 hours to successfully complete these projects in a safe, timely and cost-efficient manner.



## Record-Breaking Electric Reliability

When it comes to reliability and power quality, OUC is unsurpassed. But 2015 was a year for the record books, with the utility achieving its best record of reliability since acquiring the 150-square mile St. Cloud service territory. This was the 17th straight year that OUC was No. 1 for electric distribution reliability compared to all Florida investor-owned utilities (IOUs). This was no easy task, considering record-setting demand for energy this summer that resulted in the utility reporting two new all-time peak loads.

# TRANSPORTATION EXPANSION PROJECTS IMPACT OUC

In addition to meeting the demands of maintaining the highest rate of reliability and installing infrastructure to facilitate growth, the OUC team is contending with two high-profile transportation expansion projects underway in Central Florida. Both the I-4 Ultimate Project and All Aboard Florida fast-rail construction will impact OUC electric and water infrastructure and will require the relocation of equipment and lines. In order to ensure all work is done properly and inspected by OUC, the Energy and Water Department has added a Project Director position that will oversee both the I-4 and All Aboard Florida work.



## I-4 Ultimate

I-4 Ultimate is a complete makeover of the interstate highway from Kirkman Road in Orange County to State Road 434 in Seminole County. Construction is expected to last through 2021. To date, OUC has identified at least 400 conflicts on the electric side and another 400 on the water side – ranging from minor issues to major ones, such as construction over a substation. About 17,000 feet of underground lines and an additional 20,000 feet of pipe could be impacted. The project will operate 24/7, and OUC is working hand in hand with the design/build contractor to protect its infrastructure and prepare for the rigors of doing inspections on work performed around the clock. Any costs incurred are fully reimbursable.



## All Aboard Florida

All Aboard Florida – the privately funded passenger rail project that will link Orlando with Miami – will impact some of OUC’s existing infrastructure. As a result, the utility will need to relocate two sensitive transmission structures. Depending on the final routing of the rail line, other OUC infrastructure could be affected as well, including existing transmission, electric and water distribution lines. Many of these conflicts are located near Orlando International Airport. All Aboard Florida will reimburse OUC for all expenses incurred.



# MAINTAINING CRITICAL INFRASTRUCTURE



## Repairing and Servicing Fire Hydrants Saves Lives and Money

Maintaining OUC's extensive water system is a priority. The utility works diligently to ensure water main breaks are kept to a minimum and repaired promptly, and that new water lines are installed quickly to facilitate growth.

What is lesser known is the hard work and dedication required to maintain OUC's 10,201 hydrants, which are crucial

public safety infrastructure and need to be inspected yearly to perform checks and repairs as needed. OUC keeps a log of all repairs that dates back at least a decade. Inspecting hydrants and documenting their maintenance allows the Orlando Fire Department (OFD) to retain the highest rating possible. The Insurance Services Office, Inc. rates the country's more than 48,000 fire departments on a scale from Class 1 to Class 10 – with Class 1 being the best. Only a handful of municipalities in Florida

have achieved this recognition. While 60 percent of the scoring is based on OFD's response, approximately 40 percent depends on OUC. The utility's well-maintained, high-pressure hydrants (about 5,000 are in the city) played a pivotal role in earning a score of 39.4 out of a possible 40 points – a highly prized rating that OFD has sustained since its previous evaluation in 2007.

OUC  
MAINTAINS  
**10,201**  
HYDRANTS

A Water Delivery employee inspects and tests one of the thousands of high-pressure hydrants OUC maintains.



## Critical Infrastructure Protection (CIP)

Regulations governing our nation's power grids continue to get more rigorous. But despite more stringent guidelines, OUC continues to meet the challenges associated with conforming to more than 1,600 standards impacting generation, transmission and physical or electronic access to OUC's Energy Management System. Every three years, a two-part audit is performed by the Florida Reliability Coordinating Council (FRCC). The review by the FRCC is to ensure the state's bulk electric system is safe and *reliable*. Because of the preparedness of OUC's Compliance Department and the Transmission Operations and Planning experts, the first audit ended one week early with no findings of violations.

A second audit put OUC up against the latest version of CIP standards. This audit also resulted in no findings of violations. OUC became the first entity in the FRCC region – and one of the first in the entire country – to be compliant with the latest CIP requirements.

FRCC AND CIP AUDITS =  
**1,600** ✓  
STANDARDS  
NO VIOLATIONS



OUC employees wear special "Category 3" protective suits when working with high-voltage electrical equipment.

## PUTTING EMPLOYEE SAFETY FIRST

The health and well-being of employees is a priority for OUC, and the utility has developed best-practices training to help individuals learn how to work safely in the field. In 2015, OUC rolled out a new safety initiative to approximately 200 EWD employees. T.A.L.K. Safety (Think, Acknowledge, Live and Know Safety) expands the current theme of "THINK Safety" by promoting dialogue among OUC work groups in a continued effort to reduce injuries and accidents. Employees are encouraged to always: THINK about safety; ACKNOWLEDGE that safety is everywhere and in everything you do; LIVE safety 24/7 at home and work; and KNOW safety by learning and understanding safe work practices.





# SUSTAINING THE ENVIRONMENT THROUGH PARTNERSHIPS



## Protecting Avian Wildlife

While it would be cost-prohibitive to put avian protection devices on every one of the Commission's more than 66,000 distribution poles, protection devices have been deployed in the service area's most sensitive areas. OUC's Environmental teams have utilized sophisticated computer modeling to develop intricate maps that track the known nesting locations of bald eagles and apply the foraging behavior of these very large predators. Eagles can be electrocuted when they capture their prey and bring it to the top of distribution poles. Large prey can hang over the top, coming into contact with energized conductors, which is lethal. Environmental teams are now working hand in hand with Engineering and Electric Distribution crews to install specially designed coverings on conductors, transformers and pole insulators to protect these beautiful birds, without altering their natural foraging behavior. OUC was one of the first utilities in Florida to create an Avian Protection Plan and is constantly working to update it.



OUC's Avian Protection Plan Committee, left to right: Melvin Liwag, Dustin Catrett, Michael Moore, Mark Hoover, Mike Galloway



## Revegetation of Stanton Energy Center (SEC)

OUC is working to replant sections of approximately 3,200 acres at SEC. Less than 1,000 acres at the site are used for actual operations. The replanting effort replaces trees that, over time, have become thinner due to storms and age. The new trees have been meticulously selected to improve the habitat that supports a very successful colony of the endangered red cockaded woodpecker. In addition to improving the natural attributes of the site, the trees will recycle carbon dioxide from the air. OUC will measure and track how this process offsets CO<sub>2</sub> emissions from the electric generating units and helps to reduce its carbon footprint.



## One Person, One Tree Initiative

OUC is working with the City of Orlando's Green Works campaign to encourage the planting of more trees throughout the City. Designed to further beautify neighborhoods and make a lasting environmental impact, this effort will also replenish the City Beautiful's tree canopy, which was decimated in 2004 by three back-to-back hurricanes. OUC is partnering with the City on the One Person, One Tree program to add 40,000 trees over the next 4 years.

# STANTON ALGAE RESEARCH DEVELOPMENT CONSORTIUM

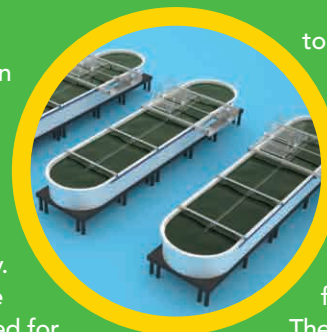
In alignment with its Strategic Plan, OUC has expanded its commitment to sustainability to include research and development. As part of this effort, the utility is looking into the possibility of growing and harvesting algae using coal flue gas. While OUC's generating units use state-of-the-art technologies, capturing carbon dioxide has been a challenge facing all utilities that operate coal plants. Proposed federal rules may require carbon capture – and while doing so is theoretically possible, it is extremely expensive, and designing this type of control is very difficult. That's why OUC is testing a program that will examine the success and scalability of using algae as a possible "outside the box" technology. Working with a team of scientists from across the country and the University of Florida, OUC applied for and received a grant from the United States Department of Energy's National Energy Technology Laboratory to study how effectively algae can be grown from coal flue gas.

OUC is the host site for a consortium of experts trying to create a commodity from carbon. It's a small-scale test – but if it works, it could generate other possibilities for OUC. Stanton

Unit 2 will send flue gas down a small stainless steel tube and outside into a series of small tubs that will combine the gas with sunlight, water, nitrogen and phosphorous to cultivate several strains of algae. Using scalable technology allows plenty of room for the project to expand.

For now, two very small ponds will be utilized to produce algae for four larger ponds. A series of ongoing experiments conducted over the next two years at SEC and the University of Florida will demonstrate "carbon utilization" economics by scaling up larger volumes of algal biomass grown on coal flue gas. The algae itself contains nearly 50 percent carbon and can be used to produce biofuels, chemicals, or food supplements for humans and animals, among many other uses.

The research will be performed by California-based MicroBio Engineering, as well as experts from the University of Florida, Arizona State University and Scripps Institution of Oceanography in San Diego. Although the experiment captures just a tiny amount of carbon from the chimney, it's a step in the right direction – with groundbreaking research for the entire industry taking place right here in Orlando.





# TAKING THE GREEN MESSAGE ON THE ROAD



OUC solar sculptures like this one at the Citrus Bowl are popping up around metro Orlando.

## Installing High-Visibility, Sustainability Features

OUC's commitment to sustainability can be seen all around town, with a unique solar sculpture at the Citrus Bowl and solar cell phone charging stations at LYNX bus shelters. A few years ago, OUC set out to make Orlando one of the most electric vehicle (EV)-friendly cities in the nation. Fast forward to 2015 – and the City has more than 140 EV charging stations, where drivers stop for a quick juice-up. In addition, OUC is proud to sponsor Orlando Bike Share, pedal-powering the downtown area with ready-to-ride bicycles. The program aims to eventually support more than 200 bicycles at 20 locations.

Solar-equipped bus shelters keep electronic devices powered-up while riders are on the go.



OUC EV charging stations are conveniently located all over town, including this one in front of the Dr. Phillips Center for the Performing Arts.

## Driving Commercial EV Charging Station Installations

Electric vehicle (EV) sales are on the rise, and market research indicates that approximately 20,000 plug-in EVs will be added in Central Florida during the next five years. OUC has gained valuable knowledge and experience by installing 140 public EV charging stations – directly supporting sustainability goals. Commercial customers are expressing willingness to invest in EVs and charging stations because it presents an opportunity to reduce operating expenses. In order to tap this market, OUC will expand involvement in charging services and offer an EV charging station solution to commercial customers, for both fleet and workplace. This will help the utility gain a firm competitive advantage, while also providing a new source of revenue. Core services offered by OUC will include the engineering, procurement, installation, operations and maintenance of the charging equipment.

Hundreds turned out to learn how to "live green" during a series of *Spring Into Sustainability* community meetings led by OUC.

## OUC & Orlando Spring Into Sustainability

Teaming up with the cities of Orlando and St. Cloud, OUC took part in a series of neighborhood meetings to connect residents with programs and services designed to help them bring sustainable practices into their homes. Judging from the crowds that showed up at the *Spring into Sustainability* workshops, many customers are eager to "go green." Some of the exhibits included OUC's



Consumption Dashboard and Orlando's One Person, One Tree program – along with OUC's Power Pass and Home Warranty Protection programs.



# ACCOLADES

## OUC Recognized for Solar Innovation

The American Public Power Association (APPA) awarded the prestigious **2015 Energy Innovator Award** to OUC June 9 at its national conference in Minneapolis.

The award recognizes OUC for its groundbreaking solar program, which features the area's first-ever community solar farm. The 400-kilowatt photovoltaic array also serves as a covered parking structure at OUC's Gardenia offices. Customers were offered the opportunity to subscribe to solar power in 1-kilowatt increments at a guaranteed rate for 25 years. Within days of the announcement, the solar farm was fully subscribed. Half of OUC's residential customers live in multi family housing, and the project provided them the benefits of solar power without having to own their homes.

## OUC Wins Award for Project AWESOME

Educating the next generation on ways to conserve energy and water, and teaching them about renewables, is essential in order to grow future leaders committed to sustainability. For efforts in these areas, OUC received the **Best in Class – Large Utility Award** from the Florida Section of the American Water Works Association. Project AWESOME (Alternative Water & Energy Supply, Observation, Methods and Education) is a partnership between OUC and the Orlando Science Center to teach 5th-graders the importance of science and math. The curriculum, which meets Common Core standards, has been taught in nearly 2,000 classes since 2009 – reaching more than 40,000 students. Teachers surveyed have routinely given the program very high marks.



# CONNECTING OUR CUSTOMERS



## OUC Wins North American Award for Customer Service Innovation

In 2012, OUC set out to leverage technology to improve the customer experience and lower costs. Since then, the utility has launched a series of technology enhancements to support mobile devices, upgrade its website to include a consumption dashboard, synchronize the automated phone system with the website, and add innovative, customer-facing products such as Power Pass. And OUC is not stopping there.

As a result of this commitment to innovation and process improvement, OUC won the prestigious **2015 Expanding Excellence Award for Innovation in Customer Service from CS Week and Electric Light & Power Magazine**. The award is especially significant because it places OUC at the top of a category that includes all large utilities in North America. OUC was recognized for taking customer/utility connectivity into the future by vastly increasing the size and speed of information flow and providing a seamless user experience.



## Testing New Technology Through First-of-Kind "Meter Farm"

Maintaining a full network for both digital electric and water meters – plus managing the numerous software and occasional hardware updates that will take place over time – can be a challenge. That's why OUC experts have created Florida's first "meter farm," located at our Pershing facility.

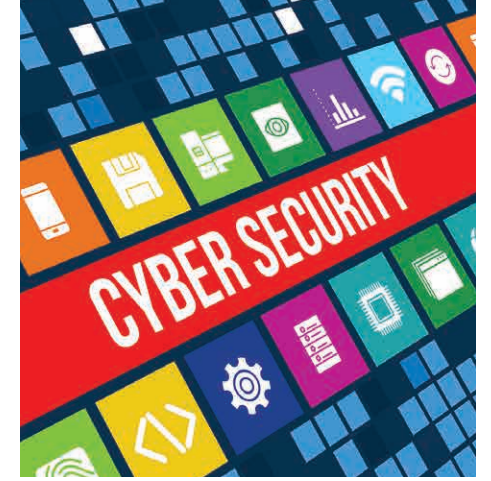
Consisting of 120 electric meters and 4 water meters (with room for more) in a controlled environment, the farm provides robust information that tells OUC exactly how updates are installed and ensures the meters work properly. OUC began deploying digital meters in early 2013, but wanted a post-deployment tool to try out new firmware before upgrading the entire system. The Meter Farm Project is an opportunity to perform long-term testing before taking next-generation meters into the field, avoiding possible issues down the road.

Instead of outsourcing the work, the Meter Shop handled the installation itself – completing the project in August for just under \$70,000. According to meter farm manufacturer TESCO, other utilities in Florida are placing orders for similar systems – but OUC was the first to install and operate its own meter farm.

**120**  
ELECTRIC METERS  
**4**  
WATER METERS



The meter farm at OUC's Pershing facility, the first in Florida, is a testing ground for new "smart grid" technology.



## Cyber Security

As a public utility, OUC must always be on guard to protect its comprehensive systems against cyber attacks. The Commission has made sound investments in security hardware and software to filter out malware, hinder cyber-attacks and significantly reduce the risk of malicious hackers. While there's no perfect system in the marketplace, OUC uses layers of defense mechanisms to protect customer information and to ensure the reliable and safe operations of its power, delivery, customer, information and financial systems. One of the key technologies that OUC uses to protect its ability to do business through the Internet is a Distributed Denial of Service mitigation process, which automatically reroutes malicious traffic away from OUC's Internet connection.

Governance and process improvements have also focused on: increasing security situational awareness; third-party assessments and self-tests; risk management approach and process; access control management; and new technology to secure the purchasing process.

## Project Momentum

"Momentum" is a complicated project that entails upgrading OUC's customer information system from PeopleSoft Enterprise Risk Management to Customer Care & Billing. OUC is undertaking this major initiative to lay the foundation for future enhancements and new technologies. This complex endeavor must take into account other affected systems such as Outage Management, Meter Data Management, Enterprise 1, Geographic Information System, the Web and Interactive Voice Response. Kicked off in January 2015 and slated for completion in 2016, Project Momentum requires 100-plus employees from 17 OUC departments and partner contractors to understand and work through hundreds of business processes and thousands of data points. Delivering an improved quality experience for customers is a primary goal of OUC's Strategic Plan.







# EXECUTIVE TEAM



**Ken Ksionek**  
General Manager  
& Chief Executive Officer

WITH MORE THAN 300 YEARS OF COMBINED EXPERIENCE, THE OUC EXECUTIVE TEAM HAS ALL THE RIGHT STUFF – EXPERT KNOWLEDGE, LEADERSHIP ABILITY AND A PASSION FOR INNOVATION – TO LEAD OUC — THE RELIABLE ONE INTO A PROMISING, SUSTAINABLE FUTURE.



**Jan Aspuru**  
Vice President, Electric & Water Production



**Chris Browder**  
Vice President & General Counsel



**Clint Bullock**  
Vice President, Electric & Water Delivery



**Maggie Duque**  
Vice President, Customer Service



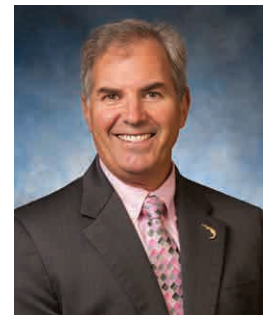
**Roseann Harrington**  
Vice President, Marketing, Communications & Community Relations



**John Hearn**  
Chief Financial Officer & Vice President, Financial & Support Services



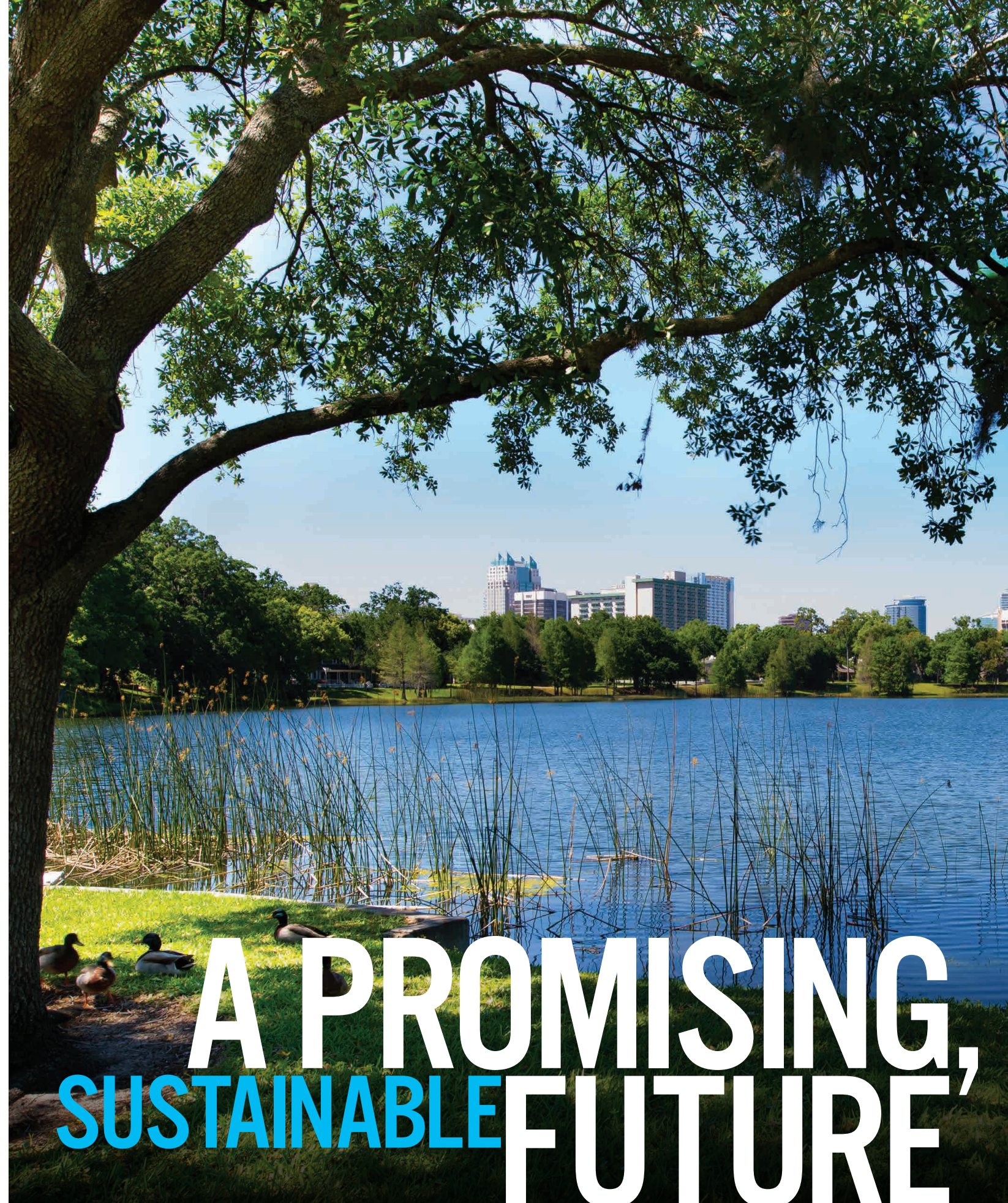
**Byron Knibbs**  
Vice President, Sustainable Services



**Chip Merriam**  
Vice President, Legislative, Regulatory & Compliance



**Jerry Sullivan**  
Chief Information Officer & Vice President, Information Technology



# A PROMISING, SUSTAINABLE FUTURE







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