



FOCUSED ON THE  
**FUTURE**

Orlando Utilities Commission



2016 ANNUAL REPORT



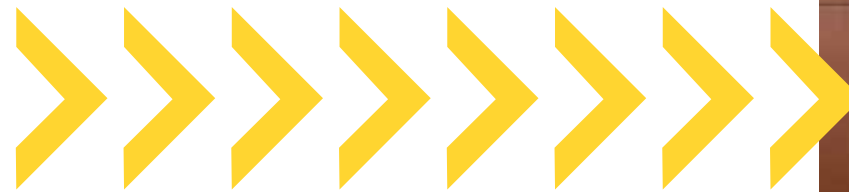
**OUC**   
The *Reliable One*®



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# LETTER FROM THE GENERAL MANAGER AND COMMISSION PRESIDENT



This has been an extraordinary year for OUC and for making strides toward our goal of becoming the Best Utility in the Nation. We remain one of the most reliable electric utilities in the nation and #1 in Florida for the 18th year in a row and were able to lower electric rates for our customers. Thanks to OUC's long-term fuel diversification strategy, we were able to reduce our fuel rate by 9 percent in 2016, effectively lowering the overall residential bill in Orlando by about 3.1 percent. This represents approximately \$23 million in annual customer savings.

We also exceeded our targets for new revenues by growing or adding business opportunities. OUC renewed Power Purchase Agreements with the City of Lake Worth and renegotiated our agreement with the City of Vero Beach, protecting OUC revenues while lowering rates for customers. We also expanded our centralized transmission operations, partnering with Kissimmee Utility Authority and Beaches Energy to consolidate transmission operations under one control center at our Pershing facility. In addition, OUC took advantage of favorable markets to refinance bonds, resulting in \$20.2 million in savings.

If there has been one constant in OUC's service territory, it is steady,

sustainable growth. Metro Orlando was #1 in the nation for job growth, with more than 52,000 jobs created – nearly 150 per day. We were also one of America's fastest-growing communities, with more than 60,000 new residents. Many of our major growth centers like Downtown Orlando, Lake Nona, Orlando International Airport and our biggest customer, Universal Orlando Resort, continue to add new projects and jobs that will ensure steady demand for reliable electric and water service.

When it comes to our water operations, OUC is committed to ensuring the highest-quality water from well to tap. Our in-house laboratory conducts 20,000 tests per year, and technicians test for more than 135 regulated and unregulated substances, including lead and copper.

As the Lake Nona area rapidly grows, OUC is working hard to keep pace by adding water infrastructure. Work has begun on the Southeast Pipeline Water Main Project, a 2-mile extension of a 20-inch water main.

To stay ahead of the curve and integrate innovative products and services into our operations, we have undertaken a Smart Grid Strategic Roadmap that will ensure we not only optimize the use of our existing technology like digital meters, but also enhance our grid to maximize efficiency and provide for widespread use of distributed

energy resources like renewables and electric vehicles.

Our Conservation Voltage Reduction pilot program – which is part of our Smart Grid Strategic Roadmap – uses data from smart meters to optimize the voltage through circuits serving nearly 82,000 customers with annual energy savings estimated to reach 5.2 million kWh, enough to power about 450 homes.

On the sustainability front, we increased our use of renewable landfill gas, securing up to 8 MW of methane gas from a landfill in Broward County. Work is underway to add 12 MW of solar on the landfill at the Stanton Energy Center, and we are evaluating the uses of bi-facial solar panels at our Pershing facility. These projects and others bring us closer to our strategic plan goal of generating 20 percent of retail sales from clean energy by 2020.

OUC's efforts are getting noticed, and we are living up to our name not only as *The Reliable One*, but *Sustainable, too*. In 2016, a report from the Florida Solar Energy Industries Association (FlaSEIA) put OUC in a category all its own. Drawing on feedback from solar energy contractors, FlaSEIA named OUC the only utility to earn all A's and B's, well ahead of other large utilities in Florida.

Finding ways to weave sustainability through everything

we do is driving our efforts to continue to look for opportunities to harness the sun and develop new programs that make it easier for customers to be green. We are in the process of a major upgrade of roadway lights to LED fixtures that will improve visibility and save money. We launched a solar aggregation program that provides an opportunity for OUC to pool customers in order to achieve economies of scale, reduce the cost of solar and make it more economical and accessible. OUC enhanced its electric vehicle programs in 2016, offering two new commercial options: *Charge It*, where OUC owns and maintains the equipment with electric usage billed separately, and *Own It*, where OUC provides a turnkey solution.

As OUC focuses on a future that includes strong and steady economic growth, it's more important than ever to have a highly skilled, compassionate workforce that can not only adapt to changing markets, but also support the community the utility serves. OUC's commitment to the community is second to none. Each year, OUC employees volunteer more than 10,000 hours, participate in more than 150 events, and work with some 400 community groups. The mass shooting at Orlando's Pulse nightclub in June shocked the world. As news spread, OUC



## OUC Commission 2016

*front row, left to right:*  
Mayor Buddy Dyer  
Gregory D. Lee | Commission President  
Cesar Calvet | First Vice President  
*back row, left to right:*  
Ken Ksionek | General Manager & CEO  
Dan Kirby, FAIA, AICP, LEED AP |  
Second Vice President

employees mobilized: delivering bottled water and snacks to blood donation centers, comforting and assisting victims' families wracked with grief and securing hotel rooms for those visiting from out of town. Lighting crews hung banners around town in support of Orlando United. The Florida Municipal Electric Association (FMEA) honored OUC's community service efforts with the *2016 Building Strong Communities Award*, which recognizes utilities for their efforts to not only take an interest in seeing their communities succeed, but also actively work toward making them better places to live.

So as you can see, OUC made great progress in 2016, and we expect even greater things in 2017 as we strive to become *The Best Utility in the Nation* serving the *Greenest City in the Southeast!*

Gregory D. Lee  
Commission President

Ken Ksionek  
General Manager & CEO

# 2016 YEAR IN REVIEW

OUC is committed to building upon the company's core tenets of affordability, reliability and sustainability to develop innovative products and services that create value for the customer.

As customer expectations rise and more energy options become available, competitive rates are not only a strategic goal, but they are also essential to the utility's ability to recruit, retain and expand business in its service territory.

The strategy is working. In 2016, rates were lowered, growth continued, and revenue and savings increased for OUC and its customers – all while the utility stayed focused on being The Reliable One ... and Sustainable, too.

## SAVING CUSTOMERS MONEY BY LOWERING RATES

BILLS FOR ORLANDO RESIDENTIAL  
CUSTOMERS IN 2016:



**DOWN 3.1%**  
SINCE 2014

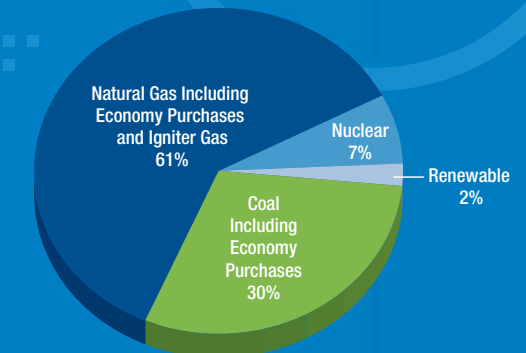
**DOWN 11.5%**  
SINCE 2012



**\$23.3M**  
TOTAL ANNUAL  
CUSTOMER SAVINGS

## FUEL DIVERSITY PAYS OFF

OUC'S COMMITMENT TO FUEL DIVERSITY HELPS KEEP COSTS LOW AND IS WHY THE UTILITY WAS ABLE TO REDUCE ITS FUEL RATE BY 9 PERCENT IN 2016.



## LIVING UP TO OUR NAME ACCOLADES FOR RELIABILITY, SUSTAINABILITY AND COMMUNITY

### #1 RELIABILITY IN FLORIDA

18 YEARS IN A ROW WHEN COMPARED TO 2015 DATA SUBMITTED TO THE FLORIDA PUBLIC SERVICE COMMISSION (PSC)

### "A" FOR SOLAR FRIENDLINESS

BY THE FLORIDA SOLAR ENERGY INDUSTRIES ASSOCIATION (FLASETA) FOR INNOVATIVE PROGRAMS THAT INCREASE SOLAR ADOPTION

### 2016 BUILDING STRONG COMMUNITIES

BY THE FLORIDA MUNICIPAL ELECTRIC ASSOCIATION (FMEA) FOR ACTIVELY MAKING BETTER PLACES TO LIVE

## SUPPORTING STRONG, STEADY GROWTH IN THE ORLANDO REGION

### #1 IN JOB GROWTH

52,200 NEW JOBS (NEARLY 150 PER DAY)  
4.6% ANNUAL EMPLOYMENT GROWTH

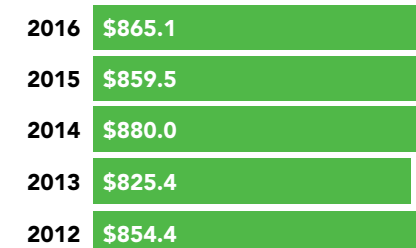
### #1 IN POPULATION GROWTH

60,000-PLUS NEW RESIDENTS (164 PER DAY)  
2.6% POPULATION GROWTH (2,387,138)

Sources: U.S. Department of Labor and U.S. Census Bureau



## Operating Revenues in Millions



## OUC Customers

Metered Services

**ELECTRIC** 234,723

**WATER** 139,525

**TOTAL** 374,248



# FUEL DIVERSITY AT THE CENTER OF OUR GENERATION STRATEGY

As the traditional electric utility model changes and new distributed energy resources are added to the grid, achieving a diverse energy mix is becoming increasingly important in order to ensure competitive rates and leverage new technology. In addition to maximizing the use of its existing generation assets, OUC will continue to invest in renewable energy such as solar and landfill gas, and demonstrate new, emerging technologies in order to increase its portfolio of sustainable energy sources.

## The Changing Landscape of Energy Models

The industry's century-old business and operating model that revolves around a centralized generation facility producing one-directional power is evolving toward a structure that includes self-generating customers who sell back to the grid. Residential and commercial customers are increasingly becoming users and producers of energy, as various forms of Distributed Energy Resources (DER) are penetrating the market through the use of photovoltaics (PV), Combined Heat and Power (CHP), small energy systems called micro-grids and battery storage of all sizes. These "prosumers" could have the potential to disrupt the marketplace and put pressure on profits unless utilities adapt to the new environment and find ways to partner with customers.

## Ensuring Competitive Rates and a Variety of Options

The market competition of the future will not just be from

other utilities. It will include products offered by new entrants to the market like technology companies who are positioned to offer innovative services on the customer side of the meter. To thrive in this new environment, electric rates must remain competitive not only with other utility providers, but also with self-generation options. In addition, a one-size-fits-all rate structure will no longer provide the options necessary to meet unique customer needs.

Preparing for the future, OUC is evaluating a hybrid business model that integrates distributed energy resources (DER) with its traditional and reliable fixed-grid system. From enhancing its rate structure to investing in emerging technology, OUC is taking steps that will allow it to operate on a digital platform that enables a two-way flow of energy and services across the distribution grid.

## OUC'S STANTON ENERGY CENTER IS THE MOST DIVERSE POWER GENERATION SITE IN THE STATE.



UNITS A & B  
NATURAL GAS  
940 MW



ORANGE COUNTY  
& HOLOPAW  
LANDFILL GAS  
47 MW



SOLAR FARM I  
6 MW



COMING SOON:  
SOLAR FARM II  
13 MW



UNITS 1 & 2  
COAL  
940 MW

## Leveraging Existing Generation Assets – Revitalizing the Indian River Power Plant

As an electric provider with a diverse generation fleet, OUC creates value for customers by maximizing efficiency and protecting against market price volatility. Looking ahead, a key part of OUC's future generation needs may be met by revitalizing existing assets like the former Indian River Plant. The site's three oil- and gas-fired steam units, constructed during the 1960s and 1970s, were placed in an extended cold-shutdown status in 2011. Located in Titusville directly across from the launch pad at Kennedy Space Center, the 600-megawatt (MW) plant was once hailed as a marvel of efficiency and modern technology and fueled the race to the moon.

OUC intends to build upon that legacy and revitalize the site by potentially constructing a state-of-the-art combined-cycle natural gas plant and/or demonstrating new, emerging technology.

## Expanding Use of Landfill Gas

OUC continues to seek ways to expand partnerships to increase its portfolio of renewable generation. In 2016, the utility entered into a 10-year Power Purchase Agreement (PPA) to secure up to 8 MW of methane gas energy from the Monarch Hill Landfill in Broward County. The contract brings OUC

When that happens, the utility will be prepared to provide the logistics, security and billing services for electric sellers and buyers to gain access to its transmission and distribution system.

closer to reaching its strategic goal of generating 20 percent of retail sales from clean energy by 2020. The Broward opportunity – along with existing agreements in Orange County, Port Charlotte and Osceola County – boosted landfill gas capacity to 47 MW.

### THE PPA WITH BROWARD COUNTY ...

- REQUIRES NO CAPITAL INVESTMENT FROM OUC
- PROVIDES EXCLUSIVE RIGHTS FOR ENVIRONMENTAL ATTRIBUTES
- GIVES THE COMMISSION FIRST-CALL RIGHTS FOR ANY LANDFILL-TO-ENERGY EXPANSION PLANS

## Ingenuity Leads to Patented Idea

Encouraging employees to find more efficient, innovative ways to improve operations has paid off for OUC over the years – and, in some cases, has led to securing a patent for a new process or product. Thanks to the efforts of a Stanton Energy Center employee, OUC was able to patent a device that better monitors the coal pulverizing process. The solution created a sensor system that allows plant operators to control the use of the utility's coal units in order to run them at lesser capacity. This flexibility increases efficiency and provides for greater use of the coal units.

## Lake Worth Agreement Extended

After three years of providing reliable power to Lake Worth, city officials signed an extension that allows OUC to continue sending 35 MW of energy to the community until 2018.

# HELPING CUSTOMERS MAKE A POWER MOVE

If there's been one constant in OUC's service territory, it is steady, sustainable growth. In 2016, Metro Orlando was #1 in the nation for job growth with more than 52,000 jobs created – nearly 150 per day. We were also one of America's fastest-growing communities, with more than 60,000 new residents. For several of our major growth centers – Downtown Orlando, Lake Nona, and the Orlando International Airport – the future is bright.

## Downtown Orlando: Creativity at Work

East of I-4, construction at Creative Village (the University of Central Florida and Valencia College's proposed downtown campus) is expected to begin in 2017. Nearby, a sports and entertainment district will soon feature a 25,500-seat stadium for Orlando City Soccer and a large retail/hotel/convention center for the Orlando Magic. West of the interstate, an urban revitalization project known as LIFT Orlando plans to build six mixed-use housing developments and a 120-unit senior living project. Add to this the second phase of the Dr. Phillips Center for the Performing Arts – a \$200 million, 1,700-seat acoustical theater – and The City Beautiful just keeps getting more attractive.

## Transportation Sector: Planes, Trains and Automobiles

Orlando International Airport, which handled a record 41.5 million passengers in FY 2015-16, is undergoing a \$1.8 billion expansion. Highlights include a new

South Terminal and an Intermodal Transportation Hub that will connect SunRail with Brightline, All Aboard Florida's planned inter-city express train. The OIA expansion is expected to result in 6 MW of load growth worth \$14 million in revenue over the next 5 years. The I-4 Ultimate project continues to make significant enhancements to Central Florida's highway network. When it's complete in 2021, a 21-mile stretch of the interstate will feature 15 reconstructed major interchanges and more than 100 bridges that have been expanded, replaced or built from the ground up.

## BRIDG St. Cloud: Advanced Manufacturing

Just across the Orange/Osceola County line near the City of St. Cloud, another key OUC customer, BRIDG (Bridging the Innovation Development Gap), is testing mega-growth technologies that will lead to more than 50 billion devices being connected by sensors by 2020. BRIDG invites leading global companies with "Internet of Everything" manufacturing endeavors to participate in an industry-friendly consortium for advanced sensors, photonics and optics, and other advanced devices.



**\$15 BILLION**  
IN TRANSPORTATION  
INFRASTRUCTURE

## Repurposing Infrastructure to Sustain Growth

Since the commercial operation of Stanton Unit 1 in 1987, OUC has owned and operated 18 miles of railway from the CSX mainline east to the Stanton Energy Center. Now, the rail line is helping to improve transportation. For nearly 30 years, OUC was the sole user of the track, but that is changing with the expansion of the SunRail commuter line. SunRail is extending south to Osceola County and east to Orlando International Airport, where it will connect fast-rail service to Miami. Growth along the rail corridor has led to an increased need for new roadway crossings, as well as additional repair and maintenance.

Left: Virgil Christian, Sr. Director, Market/Facility Development & Collegiate Tennis, USTA

Right: Daniel Malasky, General Counsel & Managing Director Business Affairs, USTA



"We are thrilled to have OUC as the Official Sustainability & Utility Sponsor of the USTA National Campus. Their involvement at the USTA National Campus from day one was pivotal in developing a new Home of American Tennis that utilized technology and sustainability to enhance the Campus' eco-friendly footprint."



## LAKE NONA & USTA: GAME ON!

The United States Tennis Association's (USTA) new national campus, which opens to the public in 2017, will include 100 tennis courts and dozens of programs for players of all ages and abilities – from the junior circuit to the pros. USTA represents an additional 2 MW of electrical load. Lake Nona, already one of America's fastest-growing communities, is upping its game as well. With more than \$3 billion in construction already completed, Tavistock Development Company's latest project is the Lake Nona Town Center, a 3.8 million-square-foot central commercial district. More than 10,000 residents call Lake Nona home – and 7,000 students and 5,000 employees learn and work in the project's Medical City life sciences hub.



OIA is undergoing a \$1.8 billion expansion that includes a new terminal and intermodal transportation hub.



## EXPANSION AT OIA TAKES OFF

**35 MW** CURRENT LOAD  
+ **6 MW\*** SOUTH TERMINAL  
= **41 MW** TOTAL LOAD

\*Greater Orlando Aviation Authority projection  
Illustration is an artist's rendering of the new South Terminal and is subject to change.

# MAKING SOLAR AFFORDABLE AND ACCESSIBLE

OUC is acknowledged as an industry leader in solar energy in Florida, connecting customers with a wide array of forward-thinking solutions. On the horizon for the utility is a second solar farm and new ways to drive down the costs of photovoltaic systems for residential customers.

## Top of the Class

In 2016, a report from the Florida Solar Energy Industries Association (FlaSEIA) – a nonprofit that grades utilities on the quality and quantity of their solar infrastructure and programs – put OUC in a category all its own. Drawing on feedback from solar energy contractors, FlaSEIA named OUC the state’s only utility to earn all A’s and B’s, well ahead of other utilities in Florida.



provide OUC a competitive rate through a 20-year Power Purchase Agreement (PPA). The cost is in line with traditional fuels that OUC uses for its much larger power plants, which remain critical to providing energy needed for the area’s economic growth.

Opening in early 2017, the array will provide enough electricity to power about 1,500 homes. It will allow customers to purchase solar capacity in a manner similar to the model used at OUC’s highly successful Gardenia Community Solar Farm, which debuted in 2013.

## Second Solar Farm Scheduled to Open in 2017

OUC continued with plans to build nearly 12 MW of clean, renewable energy at its Stanton Energy Center. Consisting of more than 41,000 panels – and partially located atop a coal combustion byproduct landfill – the solar farm will blanket 31 acres that have sat cleared of tree cover for many years. This turnkey project will



**41,000**  
PANELS AT THE  
NEW STANTON  
SOLAR FARM

**1,500**  
HOMES THAT  
CAN BE  
POWERED

**12**  
MEGAWATTS  
OF ENERGY

Photo courtesy of the Orlando Sentinel 2016.



SOLAR AGGREGATION

## New Solar Aggregation Program Offers Affordable, Turnkey Solution

Using an innovative business model, OUC leverages economies of scale to drive down the market-place cost for photovoltaic (PV) solar systems, making solar affordable and accessible to more people in Orlando. Although average annual residential customer demand is growing by 26 percent, solar ownership remains cost prohibitive for many customers, and identifying a trusted solar provider to purchase and install the equipment can be a barrier. Under OUC Solar Aggregation, customers will be able to reduce costs below the average of \$3.75 per watt. OUC will offer turnkey PV systems using vetted contractors to furnish, design and install PV-optimized systems for each home.



COMMUNITY SOLAR



RESIDENTIAL ROOFTOP SOLAR



SOLAR SCULPTURES



UTILITY SCALE



COMMERCIAL ROOFTOP SOLAR

A SOLAR PROGRAM FOR EVERY TYPE OF CUSTOMER

The program is targeting 500 kW of production, with customer interest already expressed for 330 kW. The average customer would use about 5 kW, so Phase 1 would be enough for 100 homes. The short-term goal, however, is to reach at least 1 MW of aggregation and also look at providing an opportunity for small businesses to participate.

## Solar Sculptures: Beacons of Sustainability

Solar sculptures (or solar “trees” as they are known in the industry) are high-visibility, functional, decorative art pieces spread throughout OUC’s service territory. Four of these sculptures are now located around the Orange County Convention Center, each with an energy output capability ranging from 1 to 3 kW. Some of the installations incorporate seating and either offset energy consumption for nearby electric vehicle charging stations or provide power to recharge electronic devices.

Functional and artistic, these sculptures provide striking visual proof of OUC’s commitment to solar power, including its 1-MW solar array on the roof of the Orange County Convention Center. The 1.3 million people who attend events there every year may not be able to see the roof-top array, but there’s a good chance they will experience one of OUC’s working solar sculptures.

**1.3 MILLION:**  
NUMBER OF ANNUAL VISITORS TO THE ORANGE COUNTY CONVENTION CENTER

Renewable Energy Manager Sam Choi does an on-camera interview with Renewable Energy Magazine in front of one of four solar sculptures at the Orange County Convention Center.



# PROVIDING CUSTOMERS WITH INNOVATIVE PRODUCTS AND SERVICES

*From chilled water, to indoor and outdoor lighting, to home warranty services, OUC continues to develop new revenue-generating ideas that benefit customers, the greater community, and the environment.*

## OUCooling Marks Two Decades

Twenty years ago, OUC launched OUCooling as a centralized, sustainable and efficient way for large commercial customers to cool their buildings. The first chilled water plant was built at the Lockheed Martin facility in southwest Orlando. Today, the utility has 5 plants

providing 44,730 tons of chilled water to more than 2,300 retail customers. OUC continues to leverage its OUCooling commercial chilled water business, having expanded to serve some of the area's most prominent facilities, including the Dr. Phillips Center for the Performing Arts and the Orange County Convention Center. Not only does OUCooling reduce capital and operational costs, it is also a sustainable product that is good for the environment. In fact, the more

advanced A/C technology helped the Amway Center achieve its Leadership in Energy and Environmental Design (LEED) certification. OUCooling will also provide air conditioning for the new Orlando Magic Entertainment Complex.

## Additional Revenue from Home Warranty Partnership

OUC has engaged American Water Resources (AWR), an A+ rated company with the Better Business Bureau, to be the exclusive provider of home warranty services that include water and sewer line coverage, in-home plumbing, interior electric and surge protection. This partnership resulted in \$800,000

## WHAT CUSTOMERS ARE SAYING ABOUT AWR:

*"The local repair service contractor went above and beyond expectations."*

*"I was very satisfied from start to finish."*

Fans attending events at Amway Center stay comfortable thanks to OUCooling.

Photo courtesy of the Orlando Magic.



in new revenue in its first year, and OUC expects to top \$1 million in Year 2. These convenient, optional services were requested by OUC customers – and since the inception of the partnership with AWR, more than 11,000 customers have purchased about 30,000 policies.

## Commercial Indoor Lighting Program Saves Energy and Money

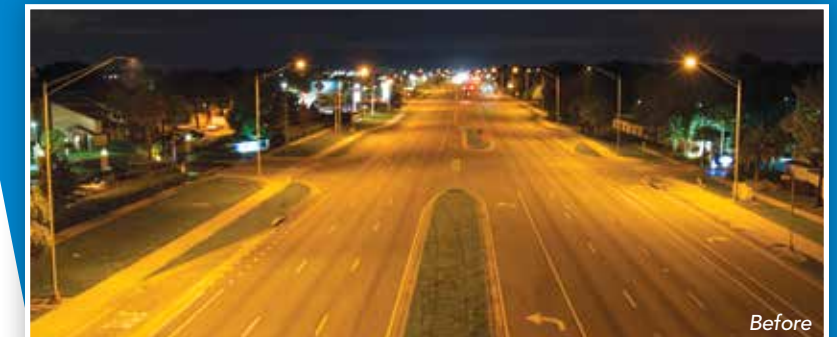
Lighting can easily make up about a third of large commercial customers' energy use. By modernizing, they can cut that consumption in half. OUC's Commercial Indoor Lighting Program helps customers convert old, inefficient lighting to high-efficiency technology.

Orlando Health has entered into agreements to upgrade the indoor lighting at both Arnold & Winnie Palmer hospitals. More than 15,000 fixtures will be replaced, reducing demand by approximately 650 kilowatts with annual energy savings of more than 6.8 million kilowatt hours, totaling \$545,000 in cost savings each year.

Since launching the program 14 years ago, more than 140,000 energy-efficient lighting fixtures have been installed in public schools and hospitals like Orlando Health, resulting in annual energy cost savings of about \$4 million.

## LED LIGHTING PROGRAM EXPANDS – SAVING ENERGY, INCREASING BRIGHTNESS

Four years ago, OUC launched a program to replace 100-watt streetlights with LED fixtures. The initiative was expanded in 2016 and will now replace 12,000 (250- and 400-watt) fixtures used on larger roads and highways, such as Semoran Boulevard and Colonial Drive. That's about 41 percent of OUC's large roadway streetlights. As LED technology continues to improve and prices keep dropping, incredible energy savings follow. The City of Orlando, OUC's largest lighting customer, will save about \$600,000 a year, as well as 17 gigawatt-hours of annual energy once the program is complete. Equally important, LED lighting improves safety by emitting whiter, cleaner light that provides better visibility for motorists, pedestrians and law enforcement.



## LIGHTING BY THE NUMBERS

**12,000** ORLANDO STREETLIGHTS BEING REPLACED WITH 100-WATT-EQUIVALENT LED FIXTURES

**\$600,000** ANNUAL SAVINGS FOR THE CITY

**17** GIGAWATT-HOURS OF ANNUAL ENERGY SAVINGS (ENOUGH TO POWER ABOUT 1,500 HOMES)





# KEEPING CUSTOMERS CONNECTED TO THE GRID

With reliability, speed, safety and low operational costs at its core, OUC is planning for the future by enhancing physical and digital infrastructure through smart grid technologies, system upgrades and voltage-reduction efforts.

## Pershing Facility Now Handling Centralized Transmission Operations

OUC partnered with Kissimmee Utility Authority (KUA) and Beaches Energy to form a consolidated Centralized Transmission Operations Alliance under one control center at OUC's Pershing facility – further leveraging investments made to meet North American Electric Reliability Corporation (NERC) Critical Infrastructure Protection (CIP) requirements.

By utilizing the OUC control center and operators to perform transmission operations, KUA and Beaches Energy can leverage OUC's resources and build on its municipal partnerships. In return, the other entities share control center operations costs. OUC and its partners worked together to ensure compliance with standards by the April 1, 2016, deadline.

## Strategic Roadmap for Smart Grid

To optimize its smart grid infrastructure, OUC established a cross-functional Smart Grid Committee tasked with developing a strategic roadmap that will help guide efforts to incorporate new and growing technologies – including distributed energy resources like solar, electric vehicles and battery storage. Because of its outstanding reliability and low operational

costs, OUC is uniquely positioned to capitalize on such advanced endeavors.

To further ensure that OUC is ready for the grid of the future, the strategic roadmap will also incorporate a "self-healing" system that can diagnose operational issues without human intervention and course-correct accordingly.

## Integrating Advanced Metering into Delivery Systems

Now that customers have realized the initial benefits of advanced metering infrastructure (AMI) – such as real-time connection/disconnection, automatic turn-ons/turn-offs and pre-paid functionality – the focus has shifted to integrating AMI capabilities and other advanced smart-grid technologies into OUC's delivery systems. This will enable the utility to gain efficiencies and lower costs, enhance reliability and improve customer service.

## CUSTOMERS ARE AT THE CENTER OF THE GRID

For example, by integrating AMI with OUC's Outage Management System, OUC will be able to incorporate features like proactive alerts and a new storm center outage map – in addition to notifying customers when their power goes out and providing an estimated restoration time without having to wait for the outage to be reported.

## Conservation Voltage Reduction Program Increases Energy Savings

As part of the strategic roadmap process, OUC launched a Conservation Voltage Reduction pilot program in 2015 and advanced to a Phase 1 project during FY 2016. This required using data from smart meters to optimize the distribution system voltage through 72 circuits serving 81,808 customers. After implementation, annual energy savings are estimated to reach 5.2 million kWh, enough to power about 450 homes. OUC is working on Phase 2 of the project, which will further increase energy savings. This low-cost conservation program will help OUC achieve its goal of producing 20 percent of energy from renewables and conservation by 2020.

## New Residential Rebate and Commercial EV Charging Programs

OUC revved up its electric vehicle programs in 2016, offering a residential EV rebate to offset the cost of buying a charger. In addition, there are now two commercial options: *Charge It* (where OUC owns, operates, installs and maintains the equipment with electric usage billed separately) and *Own It* (where OUC designs and installs equipment for customers in a turnkey solution). Customers can also opt to contract with OUC to operate and maintain their existing equipment.



Energy Control Center at OUC's Pershing facility where employees monitor the electric load on the grid.

# ENSURING WATER QUALITY FROM THE WELL TO THE TAP

OUC makes it a priority to ensure its great-tasting water drawn from the pristine Lower Floridan Aquifer surpasses all state and federal standards – and that it's reliably delivered across a 200-square-mile territory.

## Water Safety Top of Mind

OUC does not use lead service pipes like those employed in older cities. In addition, OUC's in-house laboratory conducts 20,000 tests per year on more than 135 regulated and unregulated substances, including lead and copper. OUC is committed to protecting its nearly 1,800 miles of water mains – all the way to the customer's tap. Water quality technicians are on standby to immediately address any concerns customers may have about their water.



Water Technician 3 Dalton Segrest prepares to lay a water pipe in Lake Nona.

## Water Main Extension Adding to Lake Nona's Infrastructure

The Lake Nona area is rapidly developing, and OUC is working hard to keep pace with the growth by adding water infrastructure. Work has begun on the Southeast Pipeline Water Main Installation Project, a 2-mile extension of a 20-inch water main. Once complete in early 2017, the pipe will deliver a secondary water supply to the Southeast Re-pump Facility. Currently, OUC's Southeast Re-pump Facility provides potable water to the area via a single supply line from the Conway Water Treatment Plant. The new water main will eventually connect to an OUC pipe served by the Sky Lake Water Treatment Plant via the future Boggy Creek Water Main Extension Project.



EACH YEAR, OUC WATER TECHNICIANS ...

CONDUCT **20,000** CHEMICAL AND BACTERIAL WATER QUALITY TESTS

TEST FOR MORE THAN **135** REGULATED AND UNREGULATED SUBSTANCES

MAINTAIN OUC WATER AT **100%** ALLOWABLE LEVELS

Sr. Chemist Jennifer Koschewa conducts one of 20,000 tests performed in OUC's Water Quality Lab each year.

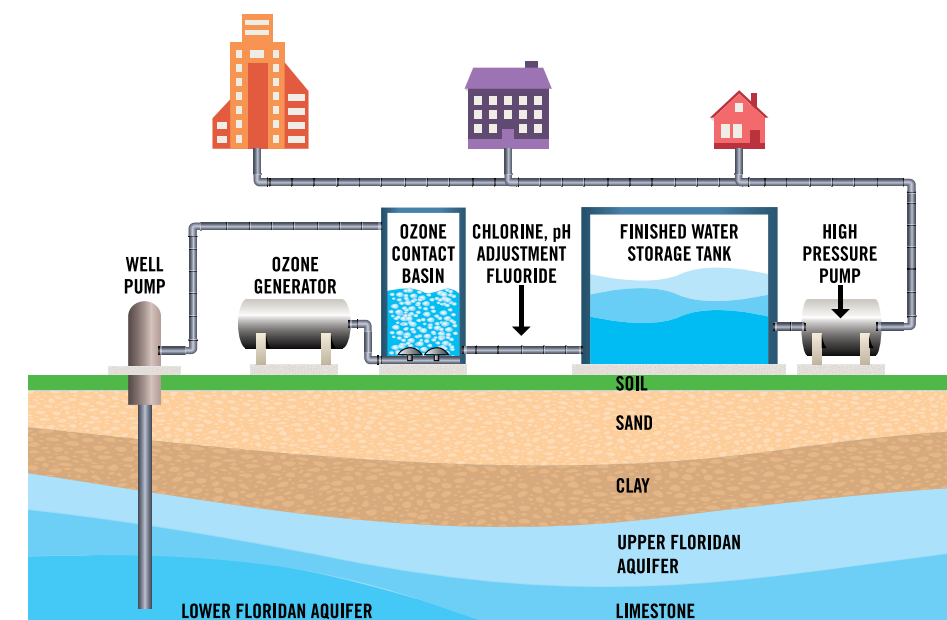
## Rapid Response to Downtown Water Main Break

On the morning of April 12, OUC crews responded to one of the system's largest water main breaks in recent history. A 30-inch main – one of OUC's largest pipes – ruptured near I-4 and Colonial Drive. Fortunately, no one was hurt, though the incident flooded a stretch of North Garland Avenue already closed to traffic. The break

occurred when a contractor accidentally dropped a steel trench box onto the pipe. Water spewed about 15 feet into the air at a rate of 25,000 gallons per minute. OUC crews got to the scene quickly and stopped the leak. Because OUC has redundancy built into the water system, water was diverted from production plants on both sides of the break, helping to maintain pressure and minimize the impact to most customers.



OUC crews spent the better part of a day and night controlling a massive water main break.



OUC pulls water from the Lower Floridan Aquifer and treats it with ozone, the strongest disinfectant available, ensuring safe, clean, great-tasting water from well to tap.

# ADVANCING TECHNOLOGY AND SECURING INFORMATION

From creating apps to guarding against cyber attacks, OUC is on the leading edge of leveraging technology to boost performance and deliver customer-focused results. With so much rapid change to the digital landscape, “the future” of energy is now.



## A Collaborative Effort to Gain Momentum

The Momentum Project accelerated into high gear in 2016 as hundreds of employees stayed focused on the transition of the customer information system from PeopleSoft Enterprise Revenue Management (PSERM) to Customer Care & Billing (CC&B). As part of the project, Customer Service, in partnership with Information Technology and other business units, mapped business processes for OUC’s most critical procedures to ensure that people, processes and technology are in alignment when the new system goes live in 2017. Keeping everything in sync is vital

to delivering an improved quality experience – a primary goal of OUC’s strategic plan. Momentum is a collaborative effort among OUC business stakeholders, Information Technology, Oracle and other third-party service providers. OUC and its customers will benefit from a streamlined customer information, metering and billing process that integrates with OUC’s suite of systems and lays the foundation for future enhancement and new technologies.



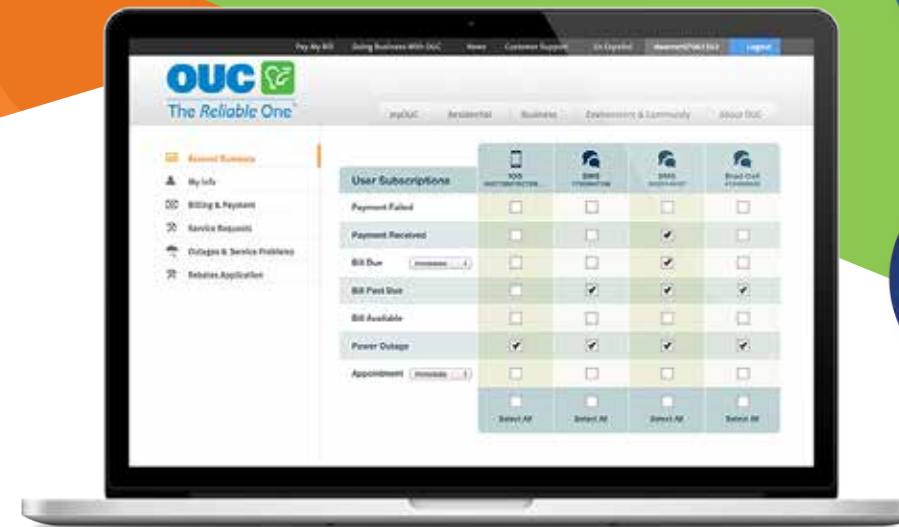
Margaret James, Senior IT Project Manager, and David Rice, Senior Systems Administrator, collaborate on the tasks needed to ensure CC&B system readiness.

## New iPad App Saves Time at Stanton

Operators at Stanton Energy Center now have an iPad app that saves them time and allows more efficient monitoring of the A and B combined cycle units. Until now, employees had to walk miles each shift in all types of weather – windy, stormy nights and blazing-hot afternoons – to retrieve 600 pieces of information. The app was a collaboration between Information Technology and the Stanton Energy Center teams.



Fraser Ewen, Combined Cycle Operator at the Stanton Energy Center, is using the new iPad app.



## Proactive Alerts: The Future of Communication

In addition to wanting more control over their energy, customers also want robust two-way communication about power outages. To optimize the customer experience, OUC will provide real-time, proactive alerts regarding outages and estimated restoration times so they can plan accordingly. Customers will have the ability to manage notification preferences, choosing from text message, email and phone options. OUC plans to debut outage notifications and a new storm center outage map in mid-2017, with billing and payment notifications coming in 2018.

## Staying Vigilant in Face of Security Challenges

In October, OUC engaged C3 Pathways and Texas A&M Engineering Extension Service, a leader in emergency training for the Department of Homeland Security, to conduct a full-day tabletop drill featuring a mock cyber attack. The drill, the first in a series of cyber-attack trainings for OUC employees, was designed to improve the

decision-making process, evaluate the existing Incident Command Structure, improve communication, identify additional planning and training needs, and determine next steps. Unlike a storm, which typically offers plenty of time to prepare, a cyber attack can happen at any moment and presents a completely different set of circumstances. OUC is committed to ensuring it is well-prepared for inevitable security challenges and will use feedback from the exercise to develop lessons learned, additional training opportunities and a robust response plan. Follow-up efforts began when OUC hosted FEMA training designed to establish the primary command-and-control structure for cyber attacks.

## New Systems Operations Center Manages OUC’s Information Highway

With the advent of the “Internet of Things,” managing OUC’s information highway has become a 24/7 task. A system operations center, much like that utilized to manage electric and water

systems, was created to monitor all the utility’s networks, applications and overall cyber security. Operators can determine the status of disk space, databases or CPU processing time, and deal with malware or a virus during off hours.

## Smart Switches Improve Reliability of IT System

OUC takes its name, The Reliable One, seriously – and that commitment includes the reliability of its information technology system. In 2016, the utility dramatically improved its network by replacing old design switches with “smart switches.” The old system was a large loop (meaning failures in one area affected others), but the redesign improves reliability, speed and agility. Multiple pathways enhance redundancy so, if there is a problem, the network is not compromised ... and any outages will be momentary, not longer-term.

# BRINGING FIRST-RESPONDER MENTALITY TO THE COMMUNITY

OUC has long been committed to supporting the community through volunteerism and outreach, especially during times of crisis or natural disasters. But this year more than ever – as the mass shooting at Pulse nightclub shocked the world – OUC’s first-responder instinct kicked in, as a fleet of employees mobilized quickly to help.

## Uniting After the Pulse Tragedy

As news spread on Sunday, June 12, employees rallied to nearby Reliable Plaza, loading water and snacks into their cars to drop off at blood donation centers throughout Orange and Seminole counties.

By Monday morning, a dedicated group of employees took on one of the toughest assignments they will ever have – comforting grieving families of victims arriving in town and helping them find hotel rooms. Later in the week, as the Victims Assistance Center moved to Camping World Stadium, employees continued to make lodging arrangements for affected families and provided utility assistance for victims and their families through OUC’s Project CARE program. On June 21, OUC’s Lighting Department donated its time to put up more than 50 banners emblazoned with #OrlandoUnited on light poles in the SODO District, where the shooting occurred. OUC also contributed \$25,000 to the OneOrlando Fund for victims assistance and matched employee and retiree donations to the fund.

Tommy Zeh, a member of OUC’s lighting crew, hangs banners in the SODO District following the Pulse tragedy.



OUC employees spend a weekend volunteering in their community to spruce up Devereux Florida, a special-needs school in Pine Hills.

## Building a Strong Community

In 2016, the Florida Municipal Electric Association honored OUC’s community service efforts with its *Building Strong Communities Award*. Recipients not only take an interest in seeing their communities succeed, they also actively work toward making them better places to live.



## OUC Employee Volunteering Adds Up

In partnership with Siemens, more than 50 OUC volunteers spent Saturday, April 30, beautifying Devereux, a facility in Pine Hills that serves special-needs children. Volunteers trimmed trees and hedges, added mulch, pressure-washed sidewalks and the playground, and painted. With the help of Orlando Magic mascot Stuff, they also installed a new basketball court on the property. The weekend was a powerful testimony of community service and just one example of how OUC is truly a local utility with employees

EACH YEAR, OUC EMPLOYEES ...

VOLUNTEER MORE THAN  
**10,000 HOURS**

PARTICIPATE IN **150 EVENTS**

who care about their neighbors. The effort added up to more than 180 hours of community outreach, which contributed to OUC’s overall volunteer-hour count of more than 10,000 hours.

## Golf Tournament Helps Local Charities

Since 1995, the OUC Charity Golf Tournament has raised more than \$621,000 for 45 local nonprofit agencies. This year, OUC gave \$15,000 checks to the Foundation for Foster Children and the McCormick Research Institute, home to programs that provide horse-riding therapy for people with special needs and veterans with PTSD.

**\$621,000:**  
MONEY RAISED BY THE OUC CHARITY GOLF TOURNAMENT SINCE 1995

## Connecting Customers to Savings Through Conservation Education

Even though OUC set an all-time summer peak of 1,230 MW on August 21, the peak could have been higher if not for OUC’s robust conservation program and public awareness efforts. The “Summer of 78” campaign informed customers that 78 degrees is the thermostat’s sweet spot for energy efficiency and personal comfort. Featured in radio, print, digital and social media, as well as at events including the Hispanic Expo, the campaign was brought to life through interactive and educational exhibits. OUC also worked with local media to produce stories about how customers can stay cool while keeping energy costs down.



Sustainable Data & Systems Specialist Vivian Arasme explains to Hispanic Business Expo attendees the importance of keeping their thermostats at 78 degrees during the summer.



# IMPROVING PROCESSES AND ENHANCING TRAINING

*As OUC focuses on a future that includes strong and steady economic growth, it's important to have a highly skilled workforce that can adapt to changing markets. OUC has planted the seeds for growth by developing creative ways to recruit and retain top talent ... and provide them with the tools and resources they need to succeed.*



## Learning to Maximize Digital Meters

Having invested \$60 million in cutting-edge digital-metering equipment, OUC is training employees to maximize efficiency and ensure optimal data utilization. The utility is looking closely at industry best practices, and also at other industries, to provide the services customers want and need most. Using technology to better predict customer habits will lead to less water and power consumption, while also giving OUC more control over its own systems.

## Lineman Rodeo: Safety and Speed

The 2016 annual FMEA Lineman Competition – sponsored by OUC and held March 11-12 at the Orlando Airport Marriott Lakeside – gathered public powerline workers from across Florida to demonstrate their knowledge and skills, and to place a spotlight on safety. Apprentices and journeymen vied for professional recognition, attended training courses and demonstrated their safe work practices.

## Customers, Agents Benefit from Upgrades to Call Center

To maintain the highest level of customer service, OUC continues to improve its Interactive Voice Response (IVR) system and Call Center technologies. In 2016, more than 30,000 unique IVR interactions were reviewed to maximize accuracy and voice-recognition responsiveness – helping to increase customer satisfaction and self-service utilization. The call recording and quality assurance program was also enhanced by leveraging voice analytics, which enables calls to be traced and helps to identify when and why customers ask to speak with an agent. In addition, the quality monitoring solution now has the capability to transcribe a portion of the calls to a database where words can be filtered, searched and analyzed to minimize potential escalation and determine opportunities for future improvements.

Other workplace enhancements include ergonomic furniture such as flexible desks that can accommodate sitting or standing, as well as a serenity room where agents can recharge between calls.



Several members of Stanton Energy Center's Emergency Response Team stand by a rapid response vehicle. Left to right: Randy Hanna, Rodney Dowdy, Steven Tauscher, Luis Muniz, Alex Maldonado and Joe Lewis.

## Emergency Training Shows Commitment to Safety

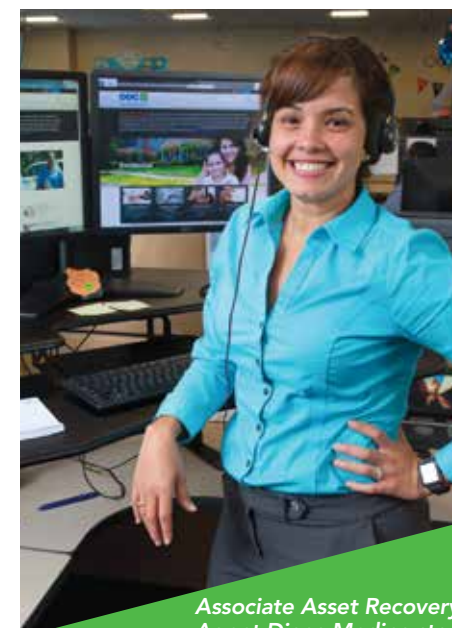
The Stanton Energy Center is one of America's most reliable power stations. But standing behind Stanton's record for dependability are more than 300 OUC employees and hundreds more contractors whose safety is of utmost importance. That's why OUC's Safety and Technical Training Division focuses on ensuring that the utility's 72-member, in-house Emergency Response Team receives the training and state-of-the-art equipment it needs. In FY 2016, shift workers spent days in the classroom and participated in several real-world scenarios, training to respond to chemical leaks, medical emergencies and fires. They also practiced rescuing co-workers from confined spaces, recertified their CPR and automated external defibrillators (AED) training, and donned hazardous materials suits to stop a staged ammonia leak.

## LIFE SAVED AT STANTON

Located at least 15 minutes from the nearest fire station, the Stanton Energy Center has a response team trained to handle emergencies before outside help arrives. In October, that paid off for a 47-year-old contract worker who suffered a heart attack. After he collapsed on the job, an alert went out over the speaker system and the closest employees ran to his aid to perform CPR and administer an AED, stabilizing the victim before paramedics arrived. The team's actions undoubtedly saved the man's life.



OUC linemen ceremoniously raise flags to start the 2016 FMEA Lineman Competition. Left to right: Richard Boley, Chris Hosier and Luis Burgos.



Associate Asset Recovery Agent Diana Medina stands in front of an upgraded call center workstation.



Plant Operator Brian Boothe puts on a hazmat suit for a chemical leak drill at Stanton Energy Center.

# STRIVING TO BE THE BEST UTILITY IN THE NATION

The future could be perceived as challenging, but OUC sees change as opportunity. How might the business model be different in 2025? Together, employees set out to find answers.

## Focused on Becoming the Best

Guided by a vision to become The Best Utility in the Nation, OUC began 2016 by strategizing how the traditional utility business model might need to change by the mid-2020s. A thorough evaluation identified industry, customer, regulatory and market drivers that will likely impact OUC's operations. Leaders focused on ways in which OUC could ensure alignment between the strategic plan and operational goals – and at six "Focus on the Future" meetings, all employees took exploratory trips "Back to the Future" to immerse themselves in a world that's virtually just around the corner.



## Traditional Utility Model + Future Model = The Best Utility in the Nation

The year 2025 will have a different look:

- Continued commitment to operational excellence in reliability quality and customer service
- Increased customer expectations with a desire for greater control over all aspects of energy and water usage
- Competitive rates for all types of energy solutions
- A two-way system that accommodates the energy grid of the future
- Increased interest in utility-provided, turnkey, sustainable solutions
- Partnering with customers to provide and maintain distributed energy resource (DER) systems



## Adapting to Meet Future Challenges

Analyzing the utility's strengths, weaknesses, opportunities and threats, it's clear that OUC is uniquely positioned to meet future challenges. Pursuing a vision to become The Best Utility in the Nation will require:

- Leveraging OUC's reputation as The *Reliable One* to launch new products and services
- Giving customers the control they want through technology while maintaining personal service when needed
- Investing in infrastructure to provide a two-way distribution system
- Optimizing and adapting current assets to provide increased functionality
- Streamlining processes to be more friction-free
- Adapting to the new sharing economy
- Partnering with customers on DERs
- Expanding offerings of utility-managed services (like OUConvenient *Lighting* and OUCooling) and new products offered through third parties
- Maintaining fuel diversity

# EXECUTIVE TEAM



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



**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



**Linda Ferrone**  
Vice President,  
Strategy, Sustainability and  
Emerging Technologies



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



**Byron Knibbs**  
Vice President,  
Emerging Technology



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



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



**Mindy Willis**  
Chief Financial Officer &  
Vice President, Financial  
& Support Services

*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.*



RELIABLE PLAZA | 100 WEST ANDERSON STREET | ORLANDO, FL 32801