UES INFO UTL 001 – Rate Information

Utility services at the University of Central Florida are accounted for as an auxiliary operation. The Department of Utilities and Energy Services (UES) receives payment from all utility users to cover the cost of services consumed. Utility comsumption can be either metered or estimated. The rates for electricity, natural gas, chilled water, irrigation, water, wastewater, and sewer are based on projected purchased units plus projected UES overhead divided by projected sales. Projections are based on historical information and anticipated changes.

Utility Rates

The following cost elements are used to determine the annual projected costs for production and distribution of utility service to users :

- Purchased utilities
- Salaries of production and repair personnel
- Repair and maintenance expenses
- Overhead related to production, distribution, and administration
- Repairs to production and distribution systems that are not capitalized
- Heating degree days
- Cooling degree days
- Forward price curves from utility providers
- NYMEX natural gas spot market prices and futures contracts

Utility Master Planning and Base User Capacity Development Charges

Pursuant to University Controlled Utilities and Interconnection Policy 3-303, the end user or project creating the need shall fund any necessary additions to UCF's production and distribution systems.

The utility infrastructure costs resulting from the addition of a new building, whether capital funding comes from the State or from other sources, shall be a component of new building construction budgets, and the funding mechanism for renewal and replacement of existing infrastructure. Hence, applicable utility infrastructure costs shall be included in the budget of all new capital development or renewal and replacement projects.

Each new construction project, facility expansion, or change in classification that increases utility demand, will be subject to a one-time connection fee, which shall contribute toward reserve, or excess capacity and infrastructure modifications/upgrades of essential systems, equipment replacement, and smaller capital improvements.

The Base User Capacity Development Charges are applied to UCF's utility infrastructure to ensure campus utility production, distribution, and transportation systems all have reserve and adequate distribution capacity to reduce the burden of peak demands or flows that negatively impact reliability.

If the University is unavailable to provide utilities to a project due to geographical location, capacity, or other reason, as agreed to by UCF in writing, the project shall be classified as exempt from the Base User Capacity Development Charges.

The University has established the following Base User Capacity Development Charges for new construction and expansion to the main campus for:

- Chilled Water
- Hot Water
- Natural Gas
- Reclaimed Water
- Water
- Wastewater

The applicable Base User Capacity Development Charges will be assessed to each project upon the approved 100% construction documents. Payment is due in full, 30 days prior to interconnection to any of UCF's utility infrastructure. Metering devices and mechanical isolation to UCF's distribution and transportation systems are charged separately from the fees below.

First Right of Refusal to Provide University Services

To reduce UCF's impact on greenhouse gas emissions, building operations, and utility costs, the University owns and operates a diverse utility production and distribution network portfolio, including water, chilled water, thermal storage, wastewater transportation, reclaimed water, renewable energy, and distributed generation, which provide a majority of utility services to the main campus, or offset a fractional balance from each utility provider.

In return for this economic and environmental benefit, and in order to reduce UCF's impact on greenhouse gas emissions, building operations and utility costs, the University shall have the first right of refusal for utility services to any UCF property where production capacity is available, and to all categories of end-users, including all departments, and units in Education and General, Contracts and Grants, and Capital Improvement Trust Fund-funded buildings, Direct Service Organizations, as well as Auxiliary and Athletics buildings and facilities.

High Performance Building Requirements

As it is the University's mission to become carbon neutral by 2050, the University has identified key energy demand drivers through our growing campus population that are influenced by building size, complexity, occupancy, and classification. UCF's Green Building Construction and Renovation Requirements prescribe the minimum facility energy reduction and water conservation requirements, using ASHRAE standards. *ANSI/ASHRAE/USGBC/IES Standard 189.1* serves as the Basis of Design for UCF's high-performance and green buildings, in support of the President's Climate Action Plan.

1998 General Appropriations Act - Facility Classification for Energy Consumption

Each new construction project that increases utility demand, and for which Plant Operation and Maintenance *(PO&M)* funding is requested, shall have the *Florida Facility Classification for Energy Consumption* signed and sealed by the project's engineer of record. The classification structures *(A-F, F being the most energy-intensive)* incorporate building type, usage, complexity, and utility requirements using State-approved algorithms and multipliers to determine the level of required PO&M.

Summary of Rates – effective June 1, 2018

Main Campus* utility rates

Rate Code	Commodity	Rate	Unit
E-01	Electric	$0.1055**	kWh
G-01	Natural Gas	$0.4775**	therm
CHW-01	Chilled Water	$0.1872	ton-hr
WW-01	Water/Wastewater (UCF + Sewer)	$0.00991**	gal
WW-02	Water/Wastewater (Orange County + Sewer)	$0.00889**	gal
WW-03	Water/Wastewater (Reclaim + Sewer)	$0.00691**	gal
W-01	Water (UCF)	$0.00397	gal
W-02	Water (Orange County)	$0.00295**	gal
RW-01	Water - Reclaim (Seminole County)	$0.00097**	gal
S-01	Sewer (Seminole County)	$0.00594**	gal
HHW-01	Hot Water	$0.01503	kBtu

Main Campus* utility Base User Capacity Development Charges

Rate Code	Commodity	Rate	Unit
BUC-CHW-01	Chilled Water capacity	$1500	tons***
BUC-WW-01	Water capacity	$4.20	gal/day***
BUC-WW-02	Wastewater capacity	$7.70	gal/day***
BUC-WW-03	Reclaimed Water capacity	$0.00	gal/day***
BUC-US-01	UES field assistance	$83.87	hr
BUC-US-02	Non-destructive digging (four-hour minimum)	$1,251.00	hr
BUC-US-03	Utility locating, outside of Sunshine 811	$125.00	hr
BUC-NG-01	Natural Gas capacity	**Varies	
BUC-ELE-01	Electric capacity	**Varies	
BUC-HHW-01	Hot Water capacity	Varies	kBtu

* All Branch Campus rates are passed directly from utility providers.

** Rates denoted have a component of cost passed directly from utility providers, as such, rates may change monthly with fluctuations in commodities markets or project scope.

*** Units based on peak design conditions provided from the project's Engineer of Record.

Utility Rates

Electric Utility Rates

Main Campus

The UCF Main Campus receives electric service from Duke Energy Florida and its electric rates are applied in accordance with General Service Time of Use Demand Rate Class (GSDT-1). Characteristic of time-of-use (TOU) rates, Duke Energy targets, or defines certain hours by season, month and period with the intention to incentive the university to reduce energy consumption and / or demand with tiered price signals.

On-Peak Periods for Time-of-Use Rates:

On-Peak periods for TOU rates are Monday through Friday as follows:

- November through March 6 to10a.m / 6 to10 p.m.
- April through October: noon to 9 p.m.

All other hours, including Saturday, Sunday and six major holidays *(New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving and Christmas)* and adjacent weekday if a holiday falls on Saturday or Sunday are considered Off-Peak.

$$\frac{\$}{kWh} = \left[\frac{A}{B}\right] \times C$$

Where:
A = Total Monthly Electricity Cost – Main Campus Utility Bill
B = Total Monthly Electricity Use – Main Campus Utility Bill
C = Line Loss (1 + %)

Applied: Monthly (Rounded to four decimal places)
Calculated: Monthly

Branch Campus

$$\frac{\$}{kWh} = \left[\frac{A}{B}\right]$$

Where:
A = Total Monthly Electricity Cost – Utility Bill
B = Total Monthly Electricity Use – Utility Bill

Applied: Monthly (Rounded to four decimal places)
Calculated: Monthly

Natural Gas Utility Rates

Main Campus

$$\frac{\$}{therm} = \left[\frac{A}{B} \right] \times C$$

Where:
A = Total Monthly Natural Gas Cost – Main Campus Billing (Deregulated)
B = Total Monthly Natural Gas Use – Main Campus Billing (Deregulated)
C = 1 ± % Projected Increase/Decrease in Natural Gas Cost/Therm

Applied: Monthly/Market Based Commodity (Rounded to four decimal places)
Calculated: Monthly

Chilled Water Utility Rates

Main Campus

Total FYTD utility cost for chilled water production

$$\frac{\$}{tonhr} = \left[\frac{(\$Electric \times A) + (\$Water \times B) + (\$Sewer \times C) + \$D}{E} \right]$$

Where:
A = 1 ± % Projected Increase/Decrease in Electricity Cost/kWh
B = 1 ± % Projected Increase/Decrease in Potable Water Cost/Gallon
C = 1 ± % Projected Increase/Decrease in Sewer Cost/Gallon
D = FY Chilled Water Distribution Costs*
E = Annual Total Chilled Water Production

* Distribution costs include but are not limited to labor, chemicals, service contracts, repairs, testing and maintenance, engineering services and consulting.

Applied: Monthly (Rounded to four decimal places)
Calculated: Annually

Potable Water Utility Rates

Main Campus – UCF Produced

Total FYTD utility cost for potable water production

$$\frac{\$}{gallon} = \left[\frac{(\$Electric\ x\ A) + \$B}{C}\right]$$

Where:
A = 1 ± % Projected Increase/Decrease in Electricity Cost/kWh
B = FY Potable Water Distribution Cost*
C = Annual Total Potable Water Production – UCF Metered

* Distribution costs include but are not limited to labor, chemicals, service contracts, repairs, testing and compliance, maintenance, engineering services and consulting.

Applied: Monthly (Rounded to five decimal places)
Calculated: Annually

Main Campus – Orange County Purchased

$$\frac{\$}{gallon} = \left[\frac{A}{B}\right]$$

Where:
A = Total Monthly Potable Water Cost – Main Campus Utility Bill
B = Total Monthly Potable Water Use – Main Campus Utility Bill

Applied: Monthly (Rounded to five decimal places)
Calculated: Monthly

Reclaimed Water Utility Rates

Monthly rates are based on the rate from main campus utility bills for reclaimed water provided by Seminole County. Rates are passed through to users and adjusted with utility provider rate changes.

Sewer Utility Rates

Main Campus

Monthly rates are based on the rate from main campus utility bills for sewer provided by Seminole County. Rates are passed through to users and adjusted with utility provider rate changes. Rates are also adjusted for Inflow/Infiltration of University owned and maintained sewer infrastructure.

$$\frac{\$}{gallon} = A \times B$$

Where:
A = Utility Provider Current Sewer Rate
B = 1 + % Inflow/Infiltration (I/I Adjustment)

Applied: Monthly (Rounded to five decimal places)
Calculated: Annually/Based on Rate Changes by Utility Provider

Wastewater Utility Rates

Main Campus

Monthly wastewater rates are based on a combined Potable Water and Sewer Rate.

Wastewater rates for the main campus depend on whether the user's facility/site is serviced by Orange County water or UCF Potable Water Production facilities. For questions or concerns on which provider services potable water to your facility/site, please contact UES.

Areas Services by UCF Potable Water Production:

$$\frac{\$}{gallon} = A + B$$

Where:
A = UCF Produced Potable Water Rate (Main Campus)
B = Sewer Rate (Main Campus)

Areas Serviced by Orange County Potable Water:

$$\frac{\$}{gallon} = A + B$$

Where:
A = Orange County Purchased Potable Water Rate (Main Campus)
B = Sewer Rate (Main Campus)

Branch Campus

$$\frac{\$}{gallon} = \left[\frac{A}{B}\right]$$

Where:
A = Total Monthly Metered Cost for Water/Sewer – Utility Bill
B = Total Monthly Metered Use – Utility Bill

Applied: Monthly (Rounded to four decimal places)
Reviewed: Monthly

Hot Water Utility Rate

Main Campus

Total FYTD utility cost for hot water production

$$\frac{\$}{tonhr} = \left[\frac{(\$Electric \times A) + \$B}{C}\right]$$

Where:
A = 1 ± % Projected Increase/Decrease in Electricity Cost/kWh
B = FY Hot Water Distribution Costs*
C = Annual Total Hot Water Production

* Distribution costs include but are not limited to labor, chemicals, service contracts, repairs, testing and maintenance, engineering services and consulting.

Applied: Monthly (Rounded to four decimal places)
Calculated: Annually

Monthly Service Fee

All utility services are charged a service fee. The fee is applied at the meter level and includes a combination of recoverable utility costs necessary to collect, read, bill and support utilities for the main campus and branch facilities. The fee is calculated using components of Overhead and Meter Repair/Replacement.

Overhead: Consists of labor and transportation utilized for utility meter reading collection and billing.

$$Overhead = \left[\frac{\left[\frac{A}{B}\right] + [\,D \times E\,]}{C}\right]$$

Where:
A = Salary with benefits
B = # Months per Year
C = Number of Active Meters
D = Estimated Miles Traveled per Month
E = University Mileage Rate

Meter Repair/Replacement: Consists of projected lifecycle costs of meters and metering technology utilized to accurately measure and efficiently read, collect, bill and maintain equipment as well as cost of installation, permitting, drawings, inspections, and processing. Some costs are proportionally calculated to the order of magnitude difference between service lines and physical equipment and cost.

$$Meter\ Fee = \left[\frac{A + B + C}{D \times 12}\right] + \left[\frac{E}{F \times 12}\right] + \left[\frac{G}{H \times 12}\right]$$

Where:
A = Equipment Cost per Meter
B = Labor Costs/Installation per Meter
C = Administrative Costs per Meter
D = Projected Metering Equipment Lifecycle (years)
E = Meter Testing Cost
F = Period for Testing (years)
G = Meter Calibration Cost
H = Period for Calibration (years)

Base User Capacity Development Charges

Chilled Water Base User Capacity Development Charges

Main Campus

UCF provides a basic level of service for general comfort cooling at the point of delivery between 40-44 degrees F, with the goal of maintaining a high differential between the chilled water supply and chilled water return temperatures. This differential is critical to the efficient and economical operation of UCF's system. Therefore, any elevated levels of service must be agreed upon in writing prior to interconnection between the end-user and UES.

$$\frac{\$}{\boldsymbol{Tons}} = (\boldsymbol{A} + \boldsymbol{B})$$

Where:

A = UCF chilled water system development charge
B = UCF water system development charge

UCF chilled water system development charge includes:

- Capital cost of a 2000 RT chiller (at market value)
- Design, engineering, and installation of a 2000 RT chiller
- District chilled water optimization and controls integration to a new chiller installation
- Chiller life expectancy and capital replacement assumed at 20 years, with a zero-dollar salvage value

Branch Campus

Services are provided to UCF through master utility service-level agreements, overseen by UES. Services are dependent on capacity and availability of the local utility provider, and may include fees, such as capacity and excess capacity, differential temperature adjustment multiplier for seasonal variation, and the charge per ton-hour.

Water / Wastewater Base User Capacity Development Charges

Main Campus

Water Base User Capacity Development Charges

$$\frac{\$}{\textbf{\textit{Peak Gallons Per Day}}} = \boldsymbol{A + B}$$

Where:

A = UCF water system development charge ($/GPD) that is designed to recover a portion of the investment for campus water system growth
B = Consumptive Use permit modifications and engineering

Waste-Water Base User Capacity Development Charges

$$\frac{\$}{\textbf{\textit{Peak Gallons Per Day}}} = \boldsymbol{A + B}$$

Where:

A = UCF waste water system development charge ($/GPD) that is designed to recover a portion of the investment for campus waste water system growth
B = Purchased firm capacity based on the *Seminole County / University of Central Florida Exclusive Bulk Wholesale Wastewater and Reclaimed Water Service Agreement*

Branch Campus

Services are provided to UCF through master utility service-level agreements, overseen by UES. Local utility providers will have their own applicable fees that the user will be responsible for.

Natural Gas Base User Capacity Development Charges

Natural gas service is typically provided by TECO People's Gas or a UCF-approved natural gas pipeline installer; cost is based on independent project requirements. The project shall bear the first cost and any associated cost of engineering, labor, material, and equipment required to install the service.

Main Campus

UCF Natural Gas Base User Capacity Development Charges

$$\frac{\$}{\boldsymbol{Connection}} = \mathbf{A} + \mathbf{B}$$

Where:

A = TECO People's Gas or Contractor's material and labor cost passed through the project to install service from the UCF houseline distribution up to the first isolation valve / regulator to a building, or group of buildings
B = Capacity development charge of $3000 / 1" of pipe diameter size installed; services less than 1" shall be charged a $1000 flat fee.

For TECO-owned and TECO-interconnected systems, on or off of the Main Campus, the UCF Base User Capacity Development Charges shall be waived.

Primary Electric Power Base User Capacity Development Charges

The main campus 15kV electric distribution service is provided by Duke Energy Florida, regulated under the Florida Public Service Commission; to provide primary service under the General Service Time of Use Tariff. Cost of campus distribution electrical expansion is recovered through a project-specific Contribution in Aid of Construction (CIAC) fee from Duke Energy that is non-negotiable and paid by the entity creating the need. Primary power is distributed to UCF at 15KV and stepped down locally to 4160, 480, or 120 / 208 VAC.

Similarly, electric distribution at each UCF branch campus is provided by commercial service through a third-party utility provider, regulated under the Florida Public Service Commission, or city's municipality, that include the Orlando Utilities Commission (OUC), Florida Power and Light (FPL), and Kissimmee Utility Authority (KUA). These services are much smaller and are based on each utility's approved tariff or rider.

Effective July 1, 2018

Projects requiring new electrical services, which have not been through Duke Energy design prior to July 1, 2018, will account for all fees associated with the equipment leases of the service upfront and in full. Duke Energy's lease fee for all the equipment to meet the project's system configuration include distribution transformers, cable, and switches borne as a result of the project's needs. UCF's current lease agreement for equipment is 15 years compounded at 4% interest annually.

Duke Energy uses straight line deprecation of all their transmission and distribution assets, leaving no salvage value at the end of life.

UES Utility Services

In addition to providing commodity services, UES can provide field assistance, non-destructive digging, and locating services (outside of Sunshine 811)

ADDITIONAL DOCUMENTATION:

- Energy Sustainability [UCF Policy 3-111.1]
  http://policies.ucf.edu/documents/3-111.1EnergySustainability.pdf
- Green Building Construction and Renovation Requirements [UES INFO 001]
  http://energy.ucf.edu/sites/default/files/docs/building_construction_requirements.pdf
- University Controlled Utilities and Interconnection [UCF Policy 3-303]
  http://policies.ucf.edu/documents/3-303UniversityControlledUtilitiesAndInterconnection.pdf
- Utility Billing Procedure [FS 2015 UES0001]
  http://fs.ucf.edu/sites/default/files/policies/Utility%20Billing%20Procedure-%20FS%202015%20UES%200001.pdf
- Utility Rate Methodology and Billing [FSP 2016 UES0001]
  http://fs.ucf.edu/sites/default/files/policies/Utility%20Rate%20Methodology%20and%20Billing-%20final%201-19-%20corrected%20date%201-29.pdf