##### FACILITIES MANAGEMENT

FINANCE & INFORMATION SYSTEMS

##### PURCHASED UTILITY BILLING

 AUDIT REPORT #17-2102

##### Audit & Advisory Services

April 2017

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### Background

In accordance with the UCLA Administration fiscal year 2016-17 audit plan, Audit & Advisory Services (A&AS) performed an audit of purchased utility billing activities relating to outside utilities vendors. Energy Services (ES) and the Finance & Information Systems (F&IS) units within the Facilities Management department are responsible for reviewing and approving utility bills prior to payment.

ES is responsible for providing the campus with reliable and cost efficient energy resources. Electricity and thermal energy (chilled water and steam) are produced at the cogeneration plant on campus, officially named the Energy Service Facility (ESF). Annually, the ESF produces over 250 gigawatt hours of electricity, 730 billion British Thermal Units of heating energy in the form of steam, and 72 million cooling ton-hours as recirculating “chilled water” to power the campus air conditioning systems.

The ESF produces 85 percent of the electrical power at UCLA. As a supplement and backup to the ESF, when necessary, electricity is also purchased from the Los Angeles Department of Water and Power (LADWP). Off campus locations and several buildings on the southernmost part of campus are powered directly by LADWP.

Water is supplied to the campus by LADWP. UCLA is the second largest user of water in the LADWP system. As water enters each building, it is split to feed all types of systems including bathrooms, labs, fire sprinklers, cooling and heating systems, and drinking fountains. Each system is protected so that there can be no cross-connection or contamination. Los Angeles Sanitation provides UCLA sewer services to treat the University’s wastewater, and the sewer charges are included on the LADWP water bill.

UCLA purchases natural gas from the California Department of General Services (DGS), and Southern California Gas Company (SoCalGas) helps transport the natural gas to UCLA. Its primary purpose is to fuel the ESF, and it is also used in all of the kitchens and most labs on campus. UCLA purchases methane gas from SCS Renewable Energy Mountaingate, LLC (SCS) to defray the cost of natural gas in helping to fuel the ESF.

Since the ESF’s completion in 1994, plant management and operational responsibilities of the ESF have been outsourced to WorleyParsons, a third-party independent contractor. The Facilities Management ES Director manages WorleyParsons and evaluates their performance.

The ES unit is managed by a Director, who reports to the Design, Project Management & Operations (DPMO) Division Director; and staffed by an additional eight employees who are mostly professional engineers.

Purpose and Scope

The primary purpose of the review was to ensure that F&IS’ organizational structure and controls related to purchased utility billing are conducive to accomplishing its business objectives. Where applicable, compliance with campus and University policies and procedures was also evaluated.

The scope of the audit focused on the following areas:

* Utility Bill Review Process
* Utility Tax Exemptions
* Sewer Charges
* Timeliness of Payments

The review was performed in accordance with the *International Standards for the Professional Practice of Internal Auditing* and included such tests of records, interviews, and other auditing procedures considered necessary to achieve the audit purpose.

Summary Opinion

Based on the results of the work performed within the scope of the audit, F&IS’ organizational structure and controls are generally conducive to accomplishing its business objectives related to purchased utility billing activities. However, controls and business practices could be further strengthened by implementing the following:

Utility Bill Review Process

* The majority of bills were reviewed and approved for reasonableness; however, two SoCalGas bills did not include billing estimates or review and approval signatures. Management should ensure that review and approval of all utility bills are documented. In addition, although energy consumption was generally the main focus of the department’s review of utility bills, management should also consider reviewing the utility rates assessed on SoCalGas and LADWP (water and sewer) bills to ensure that the University is billed accurately going forward.

Sewer Charges

* Request a review from the appropriate utility provider for a possible readjustment of the sewer percentage rate for the 1020 Veteran location (and any other locations that are being billed the default 93 percent rate). Initiating such a review could help to modify the current default rate to one that better reflects actual usage, potentially reducing costs.

The audit results and corresponding recommendations are detailed in the following sections of the report.

# Audit Results and Recommendations

Energy Services Purchased Utility Bills

Discussions were conducted with ES management and staff to evaluate the current processes to review, correct, approve and pay for each major type of purchased utilities (water, sewer, electricity, natural gas, and methane gas). Utility bills were obtained and reviewed to verify whether there was evidence of review and approval, and that rates being billed were reconciled to available published or contracted rates. Utility bills were also reviewed to verify whether they included taxes the University is exempt from paying. Sewer percentage rates were reviewed to evaluate whether they were appropriate. Discussions were held with management to determine whether requests for adjustments and corrections to utility bills were performed timely. Utility bill invoices for fiscal year 2015-16 were also reviewed to assess the timeliness of payments.

1. Utility Bill Review Process

A judgmental sample of 30 utility bills (10 water and sewer, 10 electric, and 10 gas) from fiscal years 2014-2016 were reviewed to verify whether there was evidence of review for reasonableness and approval by knowledgeable personnel. Utility bill rates were also reconciled to available published or contracted rates. Discussions were conducted with ES management to discuss the current processes used to review and approve utility bills. In addition, Water Conservation Reports, billing estimates, approvals, and other documentation were reviewed. Utility rates were obtained from various utility websites and from the ES Director. A&AS re-calculated rate and billing information, as needed, to determine appropriateness of sample bills tested.

Water and Sewer

An Energy Analyst in ES, who is knowledgeable about utilities, reviews the water and sewer bills for reasonableness. Water and sewer service charges are included on the same utility bill. The amount of water consumption for the current period and the prior year are included on the bills, and significant increases are further reviewed for appropriateness. One important tool used by ES staff are the internal Water Conservation Reports. These monthly reports detail water consumption trends, and have also helped identify campus locations where water leaks were occurring and causing significant increases in water bills. The early detection of water leaks resulted in needed repairs that reduced waste and inflated water consumption reporting. For certain types of utilities and locations where there is significant consumption, for example, electricity usage for the three main substations, consumption is internally metered by the University and billing estimates are generated and compared to the actual utility bills. The feasibility of installing internal water meters to enable comparison between UCLA and LADWP usage data was discussed with ES management, who indicated it would be too costly.

There are different tiered water rates, which are based on current versus historical consumption. Historical water rates (pre-2015) were not available for review, but out of seven water bills with current rates available, two did not match the published/contracted rate. After discussion with ES management, it was explained that their focus is to review water consumption rather than matching billed versus contracted rates.

Sewer charges are based on a percentage estimate of how much water is returned to the sewer as opposed to the ground, and then multiplied by the sewer service charge rate. The sewer service charge rate changes annually and is charged per hundred cubic feet (HCF) of sewer volume. All 10 sewer service invoices tested by A&AS disclosed that sewer service charge rates were properly billed in accordance with published or contracted rates.

The Energy Analyst approves the bills electronically via email. Since approval emails may be in response to multiple utility bills and time consuming to locate, A&AS reviewed an example of a recent approval email to evaluate reasonableness of the process. Based on our review, it was determined that the current review and approval process appears adequate.

Electricity

The ES Director reviews and approves LADWP electricity bills for the three main substations for the campus. The University has its own internal meters that track consumption for the three substations. These meters are used to calculate an estimated amount for the electricity charges that are compared to the actual amounts LADWP bills. Variances greater than five percent are researched and followed up by the ES Director. All 10 electricity bills tested included evidence of review and approval, and rates for all 10 bills properly matched published rates.

Natural Gas

UCLA purchases natural gas from the California DGS, and SoCalGas helps transport the natural gas to UCLA through pipelines they own and operate. UCLA is then charged for the transport services. Natural gas is one of the most volatile commodities traded on the futures market. DGS offers a Natural Gas Service (NGS) Program that is available to state and local governments and educational institutions such as UCLA, wherein DGS monitors the natural gas market and helps recommend when and how much natural gas to procure, for a monthly flat service fee. UCLA enters into an agreement with NGS to purchase natural gas for agreed upon rates. UCLA currently has a one-year agreement with NGS. There are multiple components to the rates charged. At a simplified level, UCLA agrees to purchase a minimum volume of natural gas at a certain rate. If, during the year, the university needs more natural gas than its projected/agreed upon amount, then UCLA will pay the market rate (border price) at the time which may be higher or lower than the agreed upon amount. The ES Director is responsible for the review and approval of all natural gas bills. He estimates the market rates and compares them to the rates invoiced by DGS. The ESF also has meters that measure the amount of natural gas used. Reports are generated from these meters to estimate consumption and are then compared to the amounts billed by SoCalGas.

Methane Gas

UCLA purchases methane gas from SCS to defray the cost of natural gas in helping to fuel the ESF. The amount of methane gas used in the ESF is measured and logged. The logs are then used to compare to the monthly SCS bill for reasonableness. The ES Director is responsible for reviewing and approving SCS bills, and researching variances greater than five percent.

Out of 30 utility bills reviewed, the following were noted:

* The majority of bills were reviewed for reasonableness prior to approval;
* LADWP water and sewer bill rates are generally not reviewed;
* SoCalGas bill rates are generally not reviewed;
* Two SoCalGas bills did not include documentation showing evidence of review or approval. Billing estimate documentation was not available and the invoice did not include a reviewer/approver signature.

Recommendation: Management should ensure that review and approval of all utility bills are documented. Although it was noted that energy consumption was generally the main focus of the department’s review of utility bills, management should also consider reviewing the utility rates assessed on SoCalGas and LADWP (water and sewer) bills to ensure that the University is billed accurately going forward.  In addition, management should determine whether it would also be beneficial to include historical utility rates as a part of their analysis.

Response: FM will review for accuracy the rates and consumption of all utility bills. This will be implemented immediately.

1. Utility Tax Exemptions

A&AS contacted UCLA Tax Services to ascertain the types of utility taxes the University is exempt from paying as a public institution. A sample of 30 utility invoices were reviewed to verify whether the University was erroneously billed for any of the following taxes in which UCLA holds an exemption:

* Federal Communications Excise Tax,
* Los Angeles City Utility Tax, and
* Utility tax for cities other than Los Angeles.

Based on our review, we determined that none of the 30 invoices reviewed included taxes the University is exempt from paying.

There were no significant control weaknesses noted in this area.

1. Sewer Charges

Sewer service charges are based on metered water use and generate funds for constructing and maintaining wastewater facilities, such as sewers and sewage treatment plants, and for treating the sewage discharged by the sewer system. According to the Los Angeles Bureau of Sanitation website, the commercial default percentage discharge rate is 93 percent. The discharge rate is based on how much water is returned to the sewer as opposed to the ground (i.e., irrigation). Sewer percentage rates for a sample of 10 invoices were reviewed along with management to verify whether the rates were appropriate.

Of the 10 sample invoices reviewed, A&AS noted that eight listed a sewer discharge rate of 45 percent, while the remaining two invoices for one account (2D SW Loop – 1020 Veteran) listed the default sewer rate as 93 percent of water consumption. ES personnel could not confirm whether the default rate being assessed was appropriate for the account or that the related service charges were accurate.

Recommendation: Management should request a review from the appropriate utility provider for a possible readjustment of the sewer percentage rate for the 1020 Veteran location (and any other locations billed at the default 93 percentage rate). Initiating such a review could help to modify the current default rate to one that better reflects actual usage, potentially reducing costs.

Response: FM will initiate a sewer rate review with the City of Los Angeles for the 1020 Veteran location. This review will be initiated in March 2017, but the resolution will depend on the City of Los Angeles Department of Water and Power and the City of Los Angeles Sanitation Department.

1. Timeliness of Payments

To verify the timeliness of utility payments for department code 3450 (Purchased Utilities), A&AS generated and reviewed the “Invoice Statistic Analysis" report from the BruinBuy system. This report summarizes the volume of ES invoices processed and the timeliness of payments for fiscal year 2015-16. Based on our review of this report, it was noted that 804 invoices totaling $16.4 million were processed for Purchased Utilities. Of the 804 invoices, 110 (13.7%) were processed within 1-7 days; 609 (75.8%) were processed within 8-30 days; and 79 (9.8%) were processed within 31-60 days. Overall, 798 (99.2%) of the 804 invoices were processed and paid within 60 days.

There were no significant control weaknesses noted in this area.

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