

INTERNAL AUDIT REPORT

2019-02(A)

Eklutna Water Diversion Payments

Municipal Light and Power

March 27, 2019

Amended

MUNICIPALITY OF ANCHORAGE
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Municipality of Anchorage

Ethan Berkowitz, Mayor

Internal Audit Department

March 27, 2019

Honorable Mayor and Members of the Assembly:

I present for your review **Amended Internal Audit Report 2019-02(A), Eklutna Water Diversion Payments, Municipal Light and Power**. The original report distributed March 21, 2019, has been amended to remove Finding 3 – Incorrect Rate Used for Bill Calculation. After the original report was published and distributed, Municipal Light and Power management provided documentation showing the correct tariff rate was used when calculating the March 2017 Anchorage Water and Wastewater billing for February water usage. The correct tariff rate used for billing is the rate effective at the time the billing is rendered according to Tariff Advice Letter No. 357-121. A brief summary of the report is presented below.

In accordance with the 2018 Audit Plan, we have completed an audit of Eklutna Water Diversion Payments. The objective of this audit was to determine if monthly net energy depletion billings from Municipal Light and Power to Anchorage Water and Wastewater Utility were correctly calculated, applied, and administered. To accomplish our objective, our audit included reviewing meter calibration records, calculating equivalent electrical energy value and dollar amount, and applying appropriate regulatory tariff and cost of power adjustment rates. Our audit did not include evaluating the underlying contracts between Municipal Light and Power and Anchorage Water and Wastewater Utility, as this was beyond the authorized scope of the audit.

Our audit revealed that monthly net energy depletion billings from Municipal Light and Power to Anchorage Water and Wastewater Utility were not always correct. Specifically, Municipal Light and Power staff incorrectly accounted for power generated at the Eklutna Water Treatment Facility. Moreover, there was no record that the main water flow meter at the Eklutna Water Treatment Facility was calibrated in 2016, as required by the Agreement for Public Water Supply and Energy Generation from Eklutna Lake, Alaska, which requires annual calibration of water flow meters at Anchorage Water and Wastewater Utility's expense. Finally, Municipal Light and Power did not always submit bills to Anchorage Water and Wastewater Utility in a timely manner.

There were three findings in connection with this audit. Management was responsive to the findings and recommendations.

Michael Chadwick, CIA, CICA
Director, Internal Audit



Municipality of Anchorage

Ethan Berkowitz, Mayor

Internal Audit Department

March 27, 2019

Internal Audit Report 2019-02(A) Eklutna Water Diversion Payments Municipal Light and Power

Introduction.

The 40-megawatt Eklutna Hydroelectric Project (Project), located approximately 30 miles northeast of Anchorage, is jointly owned by Municipal Light and Power (ML&P), Chugach Electric Association and Matanuska Electric Association. The Project, of which ML&P owns a 53.33% share, has two hydroelectric generating units rated at approximately 20 megawatts each. Water used to spin the turbines and generate electricity is delivered to the Project on the Old Glenn Highway from the 7-mile long Eklutna Lake via a 4.5-mile-long, 9-foot diameter, fully concrete-lined tunnel through Goat Mountain. The Project was originally built in 1955 by the United States Bureau of Reclamation, and was sold to the current owners in 1997. ML&P is the Project operator, supplying an average of 70,080 Megawatt-hours (MWh) of electricity per year to ML&P customers. In 2017, the Project used 172,402 acre-feet of water (56.18 billion gallons) to generate this electricity.

The Eklutna Water Treatment Facility (Facility) is owned by the Anchorage Water and Wastewater Utility (AWWU) for the purpose of supplying the Municipality of Anchorage (Municipality) with 88 percent of its public water supply from snowmelt and glacier runoff. The Eklutna Water Treatment Facility processed 7.25 billion gallons in 2017.

Because all water taken from Eklutna Lake by the Facility to supply its customers could have been used to generate electricity, AWWU compensates ML&P for the equivalent value of this water in electricity per the Agreement for Public Water Supply and Energy Generation from Eklutna Lake, Alaska (Agreement) originally between the Municipality and the Alaska Power Administration dated

February 17, 1984. This Agreement was later amended in 1988 and again in 1993 to reflect Project ownership changes.

Finally, the Facility has a hydroelectric generating unit rated at 750 kilowatt-hours (kWh) used to power in-house loads at the facility from energy contained in the force of the incoming water supply. Because this generator has the capacity to supply more electricity than needed to run the entire facility, the excess power is placed back on the electrical distribution grid. ML&P gives credit to AWWU for excess power at the current market tariff rates in effect and authorized by the Regulatory Commission of Alaska (RCA). ML&P applies this credit to the final bill presented to AWWU every month for net energy depletion of Eklutna Lake.

Objective and Scope.

The objective of this audit was to determine if monthly net energy depletion billings from ML&P to AWWU were correctly calculated, applied, and administered. Specifically, our audit included reviewing meter calibration records, calculating equivalent electrical energy value and dollar amount, and applying appropriate regulatory tariff and cost of power adjustment rates. Our audit did not include evaluating the underlying contracts between ML&P and AWWU, as this was beyond the authorized scope of the audit.

We conducted this performance audit in accordance with generally accepted government auditing standards, except for the requirement of an external quality control review. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. The audit was performed during the period of October through December 2018 for billing records covering the period of January 2016 through November 2018.

Overall Evaluation. Monthly net energy depletion billings from ML&P to AWWU were not always correct. Specifically, ML&P staff incorrectly accounted for power generated at the Facility. Moreover,

there was no record that the main water flow meter at the Facility was calibrated in 2016, as required by the Agreement, which requires annual calibration of water flow meters at AWWU's expense. Finally, ML&P did not always submit bills to AWWU in a timely manner.

FINDINGS AND RECOMMENDATIONS

1. Incorrect Accounting for Power Generated at the Eklutna Water Treatment Facility.

a. **Finding.** ML&P staff incorrectly accounted for power generated at the Facility. Specifically, in 22 of 35 bills we reviewed (63%), the actual amount of electricity generated at the Facility was not correctly reflected in the billings. For example:

- From October 2016 through December 2017 (15 billing cycles), and February through March 2018 (2 billing cycles), ML&P incorrectly credited AWWU with an average of about 120,000 kWh per month, even though the Facility generator was offline for maintenance the entire time and no electricity was produced.
- In April 2018 (1 billing cycle), ML&P gave too much credit to AWWU for electricity generated at the Facility and sent back to the grid.
- From May through June, and October through November 2018 (4 billing cycles), ML&P gave insufficient credit to AWWU for electricity generated at the Facility and sent back to the grid.

We calculated that had ML&P correctly accounted for all electricity generated at the Facility, this would have resulted in an additional \$144,966.97 in payments from AWWU to ML&P.

b. **Recommendation.** The ML&P General Manager should direct that bills sent to AWWU from January 2016 to the present be reviewed for correctness, and rebilled as necessary to ensure accurate accounting for all electrical generation at the Facility. In addition, the ML&P General Manager may want to consider reviewing bills sent to AWWU prior to 2016 for correctness.

c. **Management Comments.** Management stated, "ML&P management concurs with this finding. ML&P Finance has reviewed and recalculated all bills to AWWU for Eklutna water diversion for the period January 1, 2016 through December 31, 2018. Any necessary adjustments have been made and AWWU has received corrected bills.

"ML&P has instituted internal controls over this process to ensure that this error will either not occur or will be detected and corrected before billings are submitted in the future. Those controls were in place with the January 2019 billing."

d. **Evaluation of Management Comments.** Management comments were responsive to the audit finding and recommendation.

2. **Inadequate Record of Water Meter Calibration Maintenance.**

a. **Finding.** There was no record that the main water flow meter at the Facility was calibrated in 2016 as required by the Agreement, which requires annual calibration of water flow meters at AWWU's expense. AWWU staff were unable to provide an explanation for this exception. It should also be noted that while not specifically called for in the Agreement, ML&P staff were also unable to produce calibration records for the main water flow meters at the Project as well. Data produced from these meters is essential to the accurate calculation of net energy depletion from Eklutna Lake, since uncalibrated meters may not reliably provide accurate data necessary for revenue/billing purposes.

- b. **Recommendation.** The AWWU General Manager should ensure that the Facility main water flow meter is calibrated annually as required by the Agreement.

- c. **Management Comments.** Management (AWWU) concurred and stated, "In summary, the 2016 meter calibration record was found and the GM has confirmed the meter is calibrated annually. The reason for not being able to provide the record at the time of the audit follows herein. In order to find the calibration records, AWWU queried our enterprise work maintenance management system, Maximo. The Maximo system was originally queried against the "ldownertable" field that the specific maintenance record from 2016 did not have filled out properly as opposed to the other records. After querying the records with this field removed, the record was found and the entire calibration history was provided to the auditors."

Management (ML&P) stated, "Although ML&P is not responsible for AWWU's water meters, ML&P management is very interested in ensuring that water flow meters are accurate. To that end, ML&P will put procedures in place to serve as reminders to staff at the Eklutna plant and AWWU staff to perform annual water meter calibration. Those procedures will be in place by March 31, 2019."

- d. **Evaluation of Management Comments.** Management comments were responsive to the audit finding and recommendation.

3. **Bills Submitted Late.**

- a. **Finding.** ML&P did not always submit bills to AWWU in a timely manner. Specifically, 13 of 35 (37%) bills from ML&P to AWWU we reviewed were dated after the tenth of the month. The Agreement for Public Water Supply states that AWWU shall receive information reporting the total amount of energy diverted and the amount of energy returned to the system on or before the tenth day of the month.

- b. **Recommendation.** The ML&P General Manager should ensure that the bills for replacement electrical energy reimbursement are prepared and submitted to AWWU in a timely manner as required by the Agreement.

- c. **Management Comments.** Management stated, “ML&P management concurs with this finding. ML&P will change its procedures to ensure that the water diversion billings are submitted to AWWU by the 10th of the month following the billable activity. These changes were implemented with the February 2019 billing.”

- d. **Evaluation of Management Comments.** Management comments were responsive to the audit finding and recommendation.

Discussion with Responsible Officials. The results of this audit were discussed with appropriate Municipal officials on January 23 and January 31, 2019.

Audit Staff:
Derek Reynolds