



Audit of  
Water and Wastewater Services  
Customer Account Adjustments

Office of the County Auditor

Audit Report

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**County Auditor**

Audit Conducted by:  
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**Report No. 20-16**  
**September 22, 2020**



**OFFICE OF THE COUNTY AUDITOR**

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Honorable Mayor and Board of County Commissioners

We have conducted an audit of Water and Wastewater Services customer account adjustments. Our audit objectives were to determine whether customer account adjustments are appropriate; to determine adequacy and reasonableness of adjustment policies and procedures; and to determine whether any Opportunities for Improvement exist.

We conclude that customer account adjustments are appropriate. We conclude that improvement is needed to policies and procedures. Opportunities for Improvement are included in this report.

We conducted this audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient and 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.

We appreciate the cooperation and assistance provided by the Water and Wastewater Services Division throughout our review process.

Respectfully submitted,

A handwritten signature in blue ink that reads "Bob Melton".

Bob Melton  
County Auditor

cc: Bertha Henry, County Administrator  
Andrew Meyers, County Attorney  
Monica Cepero, Deputy County Administrator  
Steve Hammond, Acting Public Works Director  
Alan Garcia, Director, Water and Wastewater Services Division

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# INTRODUCTION

## Scope and Methodology

The Office of the County Auditor conducts audits of Broward County's entities, programs, activities, and contractors to provide the Board of County Commissioners, Broward County's residents, County management, and other stakeholders unbiased, timely, and relevant information for use in promoting government accountability and stewardship and improving government operations.

We conducted an audit of Water and Wastewater Services customer account adjustments. Our audit objectives were to determine:

1. Whether customer account adjustments are appropriate.
2. Adequacy and reasonableness of adjustment policies and procedures.
3. Whether any Opportunities for Improvement exist.

To determine whether customer account adjustments are appropriate, we analyzed total customer account credits and tested sampled transactions.

To determine adequacy and reasonableness of adjustment policies and procedures, we reviewed the WWS Customer Service Handbook and available desk guides and interviewed staff.

We conducted this audit in accordance with Generally Accepted Government Auditing Standards. 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.

Our audit included such tests of records and other auditing procedures, as we considered necessary in the circumstances. The audit period was fiscal year 2019. However, transactions, processes, and situations reviewed were not limited by the audit period.

## Overall Conclusion

We conclude that customer account adjustments are appropriate. We conclude that improvement is needed to policies and procedures. Opportunities for Improvement are included in this report.

## Background

Water and Wastewater Services (WWS) is an enterprise fund that provides safe drinking water for 59,000 customers, regional wastewater services for over 600,000 residents, and storm water and canal services that support aquifer recharge and flood management throughout Broward County. WWS operates within the Public Works Department, and is responsible for planning, construction, operation, maintenance, customer service, water management, and financial management.

Within WWS, the Business Operations Division (Division) performs customer billing and collection, customer service, meter repair and replacement, and meter reading activities for approximately 59,000 customers, as well as third party billing services for the Cities of Deerfield Beach, Fort Lauderdale, Hollywood, Lauderdale Lakes, Lauderhill, Miramar, North Lauderdale, Oakland Park, Pembroke Pines, Pompano Beach, and West Park. The Division’s budget is \$9.5 million which funds 75 full time equivalent (FTE) positions and contract services to read and shut-off meters. The Division processed \$142 million in operating revenue as shown in Table 1.

**Table 1 – Fiscal Year 2019 Operating Revenues**  
(in thousands)

Description	Amount
Retail Services:	
Water	\$ 53,569
Wastewater	44,736
Septic Charges	2,935
Other Services	4,137
	<b>105,377</b>
Wholesale Services:	
Water	908
Wastewater	36,027
<b>Total</b>	<b>\$ 142,312</b>

Source: Office of the County Auditor  
analysis of WWS reported revenues.

WWS bills their customers on a monthly basis. Division staff periodically perform credit adjustments to customer accounts to correct incorrect customer bills. The most typical credit adjustments are invoice reversals and re-billings. A common reason for an invoice reversal is to correct for billings that were based upon estimated usage due to an inaccessible meter. Once the meter is accessed and read, the estimated billing is reversed, and a re-bill is issued based on the actual usage.

Other credit adjustments include leak adjustments, pool filling credits, toilet rebates, and other courtesy adjustments. Leak adjustments are provided on a limited basis to customers who

experience an unusually high usage due to a leak on their property. Pool credits are provided to customers that fill a swimming pool and are credited the sewer portion for the usage. Toilet rebates are provided to customers that purchase water saving toilets.

As shown in Table 2, Division staff processed 12,529 account adjustments totaling \$11,876,454 in fiscal year 2019.

**Table 2 – Fiscal Year 2019 Customer Account Adjustments**

	Transactions	Amount
Reversals	7,324	\$ 8,984,071
Other	5,205	\$ 2,892,383
<b>Total</b>	<b>12,529</b>	<b>\$ 11,876,454</b>

Source: Office of the County Auditor analysis  
of WWS transaction details.

Fifty-six of the transactions shown in Table 2 accounted for \$7,986,219 of the adjustments. The remaining 12,473 transactions averaged \$312 per transaction. WWS revenues totaled \$142 million in fiscal year 2019 as shown in Table 1.

WWS also processed 384 late fee waivers totaling \$2,430.

# OPPORTUNITIES FOR IMPROVEMENT

Our audit disclosed certain policies, procedures and practices that could be improved. Our audit was neither designed nor intended to be a detailed study of every relevant system, procedure, or transaction. Accordingly, the Opportunities for Improvement presented in this report may not be all-inclusive of areas where improvement may be needed.

## **1. Review of Invoice Adjustments Should Be Enhanced to Ensure Policies and Procedures are Being Followed**

Invoice adjustments are typically performed by customer service representatives (CSRs) but lack evidence of approval or review. We sampled 65 invoice credits and found that 57, or 88%, had no secondary approval. These 57 exceptions consisted of 39 invoice reversals, 14 leak adjustments, and four other courtesy adjustments. The eight instances of adjustments that showed evidence of secondary approvals were limited to specific transaction types such as settlements that are typically accompanied by additional documentation containing approvals.

Invoice credits and reversals should be reviewed and approved by someone above the CSR level. Significant transactions should require additional supporting documentation and secondary review prior to processing the adjustment. For certain types of routine, low-dollar transactions that do not require secondary approval at the time of processing (such as a monthly late fee waiver performed at the time a customer calls in) management should subsequently review and sign-off on daily transaction reports. Periodic exception reports should also be utilized to identify specific transactions meeting criteria (high dollar threshold, repeated adjustment, etc.) that would necessitate further review.

Management lacks adequate practices, and underlying policies and procedures, to ensure that invoice credits and reversals are appropriately reviewed and approved. Although supervisors review and sign-off on monthly reports of waived late fees, these transactions are insignificant in comparison to the total invoice credits and reversals that are not reviewed. There were only 384 reported waived late fees totaling \$2,430 as compared to 12,529 invoice credits and reversals totaling \$11,876,454.

**We recommend** management update policies and procedures for review of invoice credits and reversals including consideration of the following:

- A. Secondary approval of significant transactions at the time of or prior to processing,

- B. Review and approval of periodic reports of routine, low-dollar transactions that do not require secondary approval at the time of processing (such as a monthly late fee waiver performed at the time a customer calls in).
- C. Review and approval of periodic exception reports that identify specific transactions, meeting certain criteria such as high dollar thresholds, repeated adjustments, invoice reversals that are significantly less than a corresponding rebill, etc.

**Management's Response:** While WWS had policies and procedures in place prior to this audit, WWS agrees with the Auditor's recommendations on ways to improve and enhance the existing policies and procedures. Specifically, WWS has responded to each of the recommended policies below:

- A. Agree and completed. WWS has enhanced its policies and procedures to clearly define that the reversal is a companion of a reversal/rebill process whereas a reversal is performed in conjunction with an invoice rebill. WWS supervisory staff periodically reviews and verifies the accuracy of all reversals/rebills for significant transactions.
- B. Agree and completed. WWS has developed and implemented periodic reviews of late fee waivers from reports generated by the Customer Information System (CIS). WWS processes a high volume of low-dollar transactions and WWS supervisory staff periodically reviews the reports for any discrepancies in these transactions.
- C. Agree. Due to limitations with the current CIS, these specialized reports are not readily available. WWS will work with Water and Wastewater Services Information Technology Division to create and generate useful reports to identify and monitor specific transactions for supervisors to review including threshold dollar amounts and repeated adjustments, etc. WWS anticipates completion of these reports by February 2021.

## **2. Management Should Consider Automating Billing Adjustments Which Would Reduce Errors and County Resources**

Corrections to estimated billings are manually performed and represent a large number of transactions. Estimating usage for billing purposes is a common practice, typically occurring when a customer's meter is inaccessible to the meter reader. The meter may be inaccessible for multiple billing cycles requiring the application of estimated usage each billing. Once the meter is accessed, staff will reverse the prior billing or billings that were based on the estimated usage and re-bill for the correct usage. For example, as shown in Table 3, a customer is billed for an estimated 5,000 gallons per month for three months (total billing of 15,000 gallons) but then, once an actual meter reading occurs, and is found to have only used 12,000 gallons, WWS staff



will manually reverse the prior three invoices that totaled 15,000 gallons and manually re-bill a single invoice for 12,000 gallons.

**Table 3 – Estimated and Re-Billing Example**

Billing Cycle	Billing Type	Meter Reading (cumulative)	Usage Billed (since last cycle)
		(in thousands)	
	Last Actual Reading	400	
Month 1	Estimated	405	5
Month 2	Estimated	410	5
Month 3	Estimated	415	5
Month 4	Reversed 1 <sup>st</sup> Estimated Bill		(5)
	Reversed 2 <sup>nd</sup> Estimated Bill		(5)
	Reversed 3 <sup>rd</sup> Estimated Bill		(5)
	Actual Reading and Rebilled	412	12

*Prepared by the Office of the County Auditor*

In the example above, three invoices were manually reversed (crediting 15,000 gallons) and one invoice was manually billed (billing 12,000 gallons) resulting in a net credit of 3,000 gallons.

A more automated process would apply the appropriate billings based upon the actual updated meter reading. Routine monthly bills are already automatically generated by the billing system based on the meter reading but credit billings for corrected meter readings are not. Credit billings should also be automatically generated. In the example above, the system should generate a credit based on the meter reading of 3,000 fewer gallons. Automation may result in improved process efficiency and cost savings. Reducing the number of manual transactions not only saves staffing time in processing, but also saves staffing time in reviewing and approving transactions. In addition, reducing the total number of invoice reversals may allow management to better focus and detect issues with other transactions.

Performing manual invoice reversals, rather than an automated process, results in additional resource requirements. Staff estimated that these types of reversals (invoice reversals pertaining to corrections to estimated billings) account for approximately half of all invoice reversals. Therefore, we estimate that approximately 3,662 invoice reversals totaling \$4,492,035 were manually performed in fiscal year 2019 to correct estimated billings.

According to staff, many nuances would have to be built into process automation. One such issue is tiered billing rates. Under the current practice, when staff creates a re-bill, they enter the period of time for which the rebill was applicable. In the example shown, the 12,000-gallon re-

bill would be applicable to three billing cycles, and the system adjusts the tiered billing rates appropriately. Otherwise, the 12,000-gallon billing would occur at the highest tier. Staff also noted that the meter readings are cumulative (like a car odometer). If the system reads a lower meter reading than the prior estimate, rather than calculating a credit (of 3,000 gallons in the example shown) it will calculate that the meter went through one full cycle (for example, a meter with three digits would go through 999 and start again at 0) and calculate a very large bill. An automated process would have to be programmed to properly reflect these scenarios.

**We recommend** management pursue automated processes for billing corrected meter readings.

**Management's Response:** Agree in Part. Management agrees that automating manual processes can be more an effective and efficient. However, Management further acknowledges that the recommended functionality could not be handled by the existing billing software and would require the acquisition of new billing software. Specifically, the current billing software is limited and multiple billing adjustments must be performed manually. It is common for water utility billing staff to calculate and process manual billing adjustments based on tiered rate structures. Like WWS, the City of Fort Lauderdale and the City of Sunrise Utilities Departments perform manual billing adjustments.

Notwithstanding, WWS management will investigate customer billing software that could automate this function and evaluate the cost and benefits of acquiring such software. If determined to be a desired approach, WWS will need to budget to purchase and implement the new software with enhanced billing functionality, automation, and technology to accommodate WWS's tiered utility rate structures used to calculate customer bills. As the billing software is nearing its end of useful life, staff anticipates procuring new billing software during FY22 and will look to include this as well as other available functionality with the new software.

### **3. Policies and Procedures Should be Updated to Provide Improved Guidance for Performing, Reviewing, and Approving Invoice Credits and Reversals.**

There is minimal written formal guidance on the types of adjustments that can be made to customer accounts as well as the level of supervisory review and approval required for each dollar threshold.

Although the WWS Customer Service Handbook provides some guidance relative to leak adjustments, pool credits, and payment arrangements, it does not provide adequate specificity over these or other types of adjustments and the level of secondary approval required.

A desk guide provides some instructions, including:

- “Adjustments may be applied to customer accounts based on unusual and extenuating circumstances such as: service was not disconnected, payment was received prior to the disconnection of services etc., credit of minimal late fees up to 4 months, turn on/turn off fees, etc.”
- “Customer Service Representatives have the authority to provide a courtesy adjustment of up to \$50 when a customer is charged \$50 for turn on/off”
- “Customer Service Supervisors, with the Customer Service Manager’s approval, have the authority to provide certain adjustments. These adjustments include \$50 when a customer is charged for turn off/turn on fees, \$100 when an account owner is charged with tampering, delinquent fees and returned check fees.”
- “Tenant accounts are not eligible for tampering or returned check fees adjustments without the approval of a supervisor.”
- “Adjustments of disputed fees and charges, which have already been billed to the customer, are processed by Managers and Supervisors by completing an Interest Journal (IJ) or a General Journal (GJ).”
- “The Customer Service Manager has the authority to adjust late charges on delinquent accounts for the preceding 48 months for a payment of the balance for aged delinquent accounts. An Excel file is used to calculate and document the adjustments.”

However, these items listed appear disjointed, non-comprehensive, contradictory, and lack adequate specificity relative to the authority for making adjustments and level of adequate review.

Policies and procedures should be in place to provide guidance on performing, reviewing, and approving invoice credits and reversals. The policies and procedures should provide adequate specificity over types of invoice credits and reversals, authority to process, how to process, level of secondary review and approval. According to staff, policies and procedures are currently in process of being updated.

Inadequate policies and procedures results in unclear guidance to staff and inefficiencies in determining appropriate practices. The lack of clarity may also result in inconsistent customer service treatments and inappropriate transactions which would otherwise be specified within the policies and procedures.

**We recommend** management clarify policies and procedures for performing, reviewing, and approving invoice credits and reversals to include:

- A. Types of invoice credits and reversals.

- B. Authority for performing each type of invoice credit and reversal, including authority by position type and applicable dollar thresholds.
- C. Secondary review and approval requirements by invoice credit and reversal type.

**Management's Response:** Again, while WWS had policies and procedures in place prior to this audit, WWS agrees with the Auditor's recommendations on ways to improve and enhance the existing policies and procedures. Specifically, WWS has responded to each of the recommended policies below:

- A. Agree. WWS will clarify, update and implement enhanced policies, procedures, and practices for the types of invoice credits and rebills processed on a regular basis.
- B. Agree. WWS will clarify, update and implement enhanced policies and procedures to clearly define the authority and responsibility for performing each type of invoice credit and invoice reversal/rebill, including authority by position type and applicable dollar thresholds for the WWS Billing Section.
- C. Agree. WWS will clarify, update and implement enhanced policies and procedures for periodic secondary review and approval performance standards by invoice credit and invoice reversal/rebilling types. Presently, WWS management prepares periodic detailed reports to monitor and manage invoice credits and the invoice reversal/rebill process.

WWS anticipates completion of the enhanced policies and procedures discussed herein by the end of December 2020.