

**Southern Water KY**

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**Water Audit Analysis**



# Audit Procedure

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Step 1

- RG3 Tested 25 meters for accuracy.

Step 2

- Expense & revenue data was gathered from Water Users LLC.

Step 3

- Calculations were performed to determine losses due to meter inaccuracies and meter reading duties.

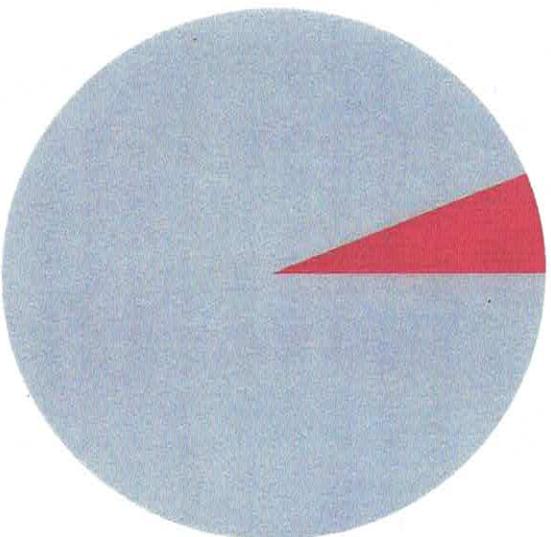
Step 4

- An ROI analysis was completed to show the impact of replacing existing meters & installing a new automatic meter reading system.



# Current Meter Accuracy

## Weighted Accuracy



■ Metered Consumption

■ 6.0% Loss

Evaluation of 25 meters of varying age  
6.0% Accuracy Loss \* = \$176,299 Loss / Year

Average of other customers with similar meters: 11.9% Loss

\*Weighted by AWWA accepted residential water usage of 15% High, 70% Medium, 15% Low flows.



# Residential Audit Results:

## Southern Water KY

### Residential

Cumulative Weighted Average Accuracy	94.0%
Cumulative Weighted Average Loss	6.0%
Calculated Monthly Average Household Usage	5,300 Gallons
Monthly Household Usage with Loss	5,000 Gallons
Number of Water Connections	5,500 Points
Number of Sewer Connections	- Points
12 Month System Loss due to Meter Inaccuracies	20,988,000 Gallons
Rate for 0 to 2000 Gallons	\$ 24.60
Rate Per 1000 above 2000	\$ 8.40
12 Month Metering System Revenue Loss	\$ 176,299.20
12 Month Sewer System Revenue Loss	\$ -
12 Month Total Revenue Loss	\$ 176,299.20
<b>Total Annual Residential Revenue Loss</b>	<b>\$ 176,299.20</b>



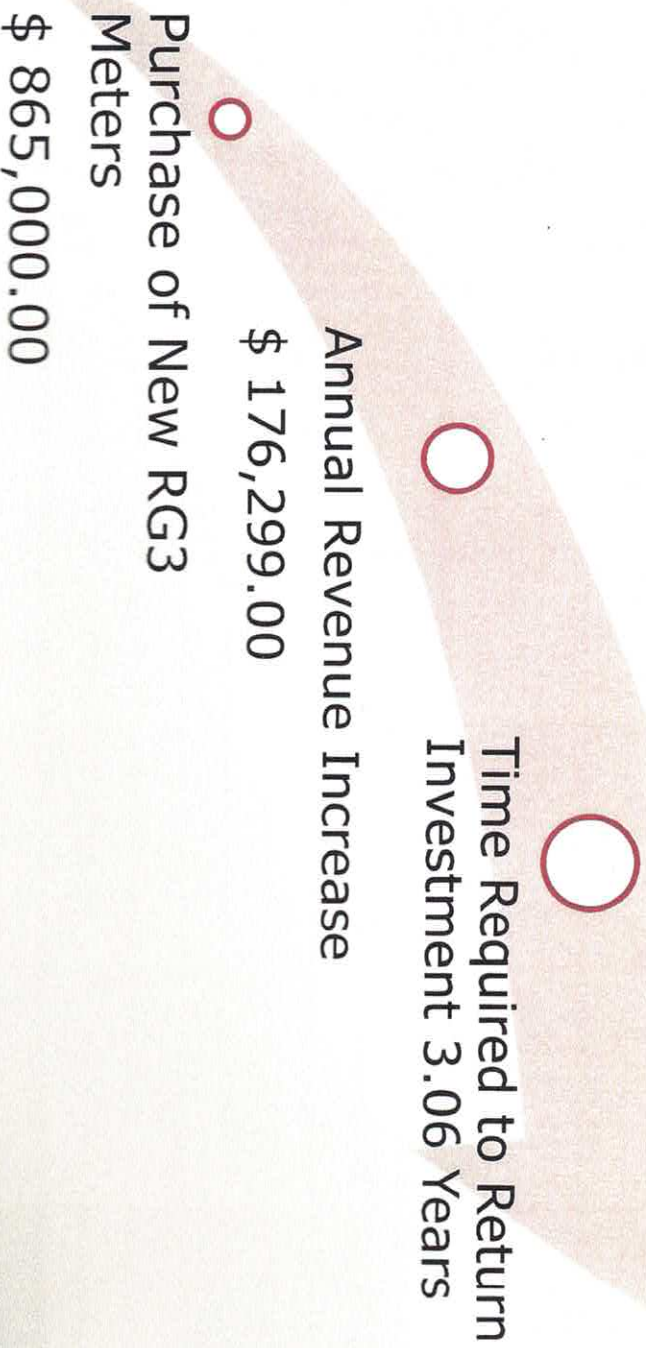
# Return on Investment

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Cumulative Weighted Average Accuracy	94.0%
Cumulative Weighted Average Loss	6.0%
Annual Metering System Loss	20,988,000 Gallons
Annual Metering System Revenue Loss	\$ 176,299.20
Annual Cost to Manually Read Meters	\$ 106,444.80
<b>Total Annual Loss</b>	<b>\$ 282,744.00</b>
Purchase of New Meters	\$ 865,000.00
Meter Inaccuracy Payback Period	4.91 Years
Total Return Payback Period	3.06 Years

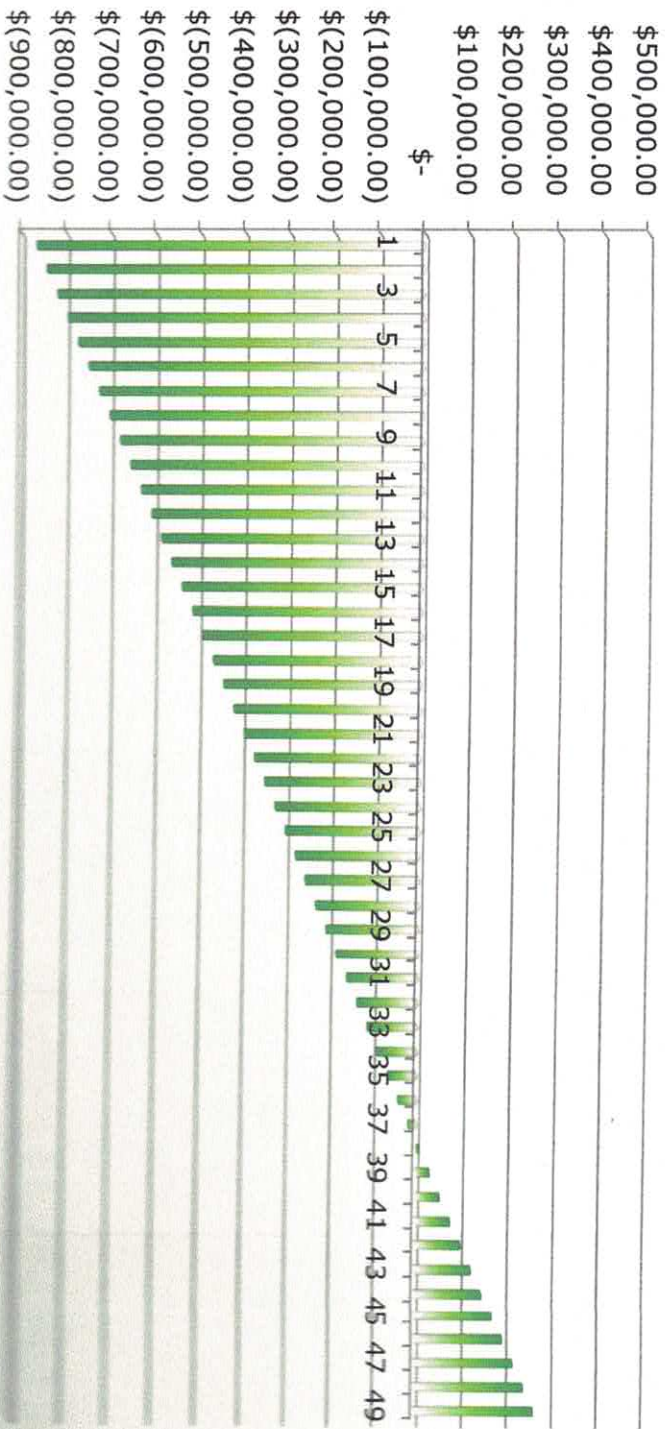


# Suggested Plan of Action

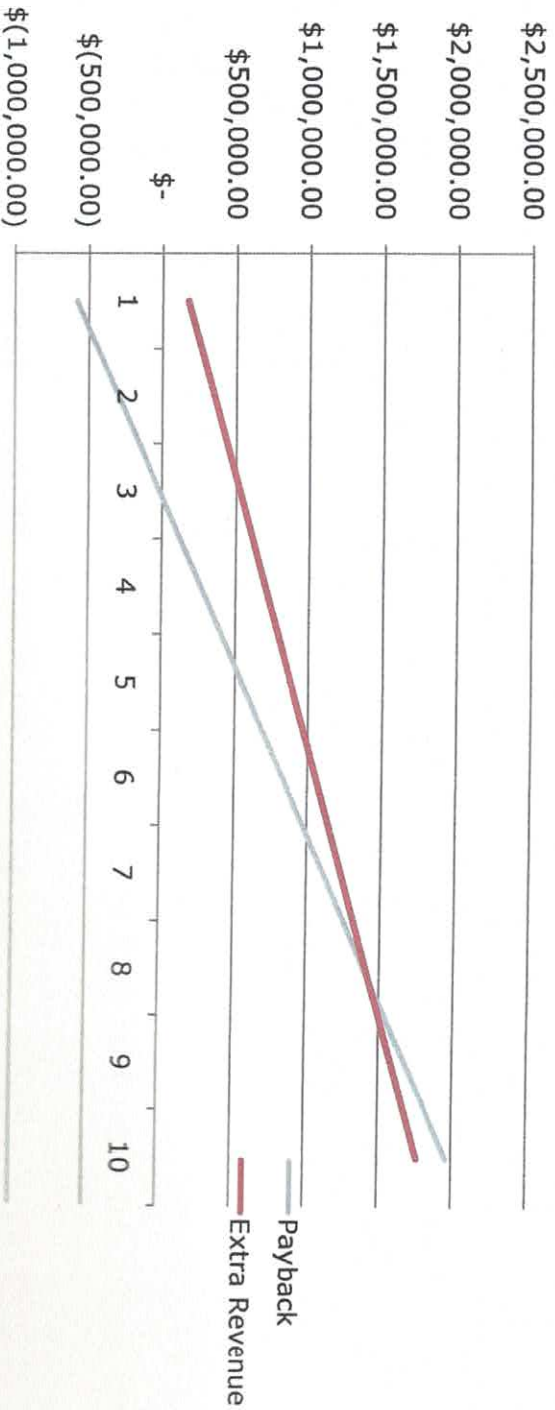


# Monthly Return on Investment

**\$14,691 Additional Revenue per Month**



# Return On Investment Over 10 Years



After 10-Years Southern Water will have received an extra \$1,762,992 in revenue.





# Save Time and Money

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- **Fast and Accurate readings**
  - Reduce the time between billing cycles
  - Read and print bills in days, not weeks
  - Improve cash flow
  - Re-reads all but eliminated
- **Improved Customer Service**
  - Billing issues will be caught sooner
  - Reduce customer bill confusion as there will not be a gap between billing cycles
  - Catch leaks before they get out of hand

