Expense Depreciation: An Option for Funding Water Main Replacements

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Challenge: The Infrastructure Replacement Era is Upon Us

Key Facts about Wisconsin's Infrastructure

Wisconsin 2020 Report

https://infrastructurereportcard.org/state-item/wisconsin/
Challenge: Infrastructure Replacement Era is Upon Us
How to fund more main replacements?

• Other states have authorized “Adders”
  • Provides rate recovery for main replacement projects between rate cases
  • Costs allowed in the Adder based on traditional rate making
  • Benefit is a small increase without the time and cost of a full rate case

• Discussions in Wisconsin in past years
  • An adder might be beneficial but limited interest in this
  • More interest in increased cash flow to fund main replacements
  • Request that more cash flow added into customer rates, not more debt financing
Alternative Mechanisms for Funding Main Replacement

<table>
<thead>
<tr>
<th>Mechanism</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Funding Annual Water Infrastructure Replacement Programs (FIRM)</td>
<td>• Available since 1997; not used</td>
</tr>
<tr>
<td>• Two Step rate increase</td>
<td>• Available on a limited basis since 2013; very few utilities used</td>
</tr>
<tr>
<td>• Expense Depreciation</td>
<td>• Approved in Docket 3420-WR-106 May 26, 2017</td>
</tr>
</tbody>
</table>
2015: Marshfield Feet of Main by Vintage
Before Filing
- Municipal Council approved 10% rate increase to cash fund main replacement
- Utility gathered data on vintages of main and capital structure

Requested
- Requested 7.5% Return on Rate Base to fund $580,000 of main replacement
- Offered to segregate funds
- Filed testimony and exhibits explaining its request

Approved
- Was authorized a 5% Return on Rate Base and $580,000 in Expense Depreciation
- Decided by the full Commission - not a delegated case
- In terms of cash flow, Marshfield got what it asked for
Commission Concerns Raised in Past Cases

• **Double Recovery**
  Utility is requesting additional dollars to pay for construction. After construction, it adds the new plant to rate base - customers are charged twice for the same plant.

• **Intergenerational Equity**
  One group of customers should not bear full cost of plant that is long-lived and benefits multiple generations of customers.
Expense Depreciation Alternative

• **Existing Statutory Framework**
  - Wis. Stat 196.09 states that the Commission may establish depreciation rates and practices that are reasonable and proper

• **Double Recovery Avoided**
  - Main is depreciated fully in year it’s installed

• **Intergenerational Equity**
  - Consistency: 0.5% of total feet replaced each year in Marshfield
  - All customers contribute to cost of main over time
Utility Revenue Requirement – Quick Review

- Operation and maintenance expenses
- Depreciation expense as a recovery of capital investment
- Taxes and tax equivalent (PILOT)
- Reasonable return on net investment rate base (ROR on NIRB)
### Expense Depreciation - Rate Impact Estimates

<table>
<thead>
<tr>
<th>Cost</th>
<th>Utility Financed Plant</th>
<th>Expense Depreciation Plant</th>
<th>Impact of Expense Depreciation on Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>O &amp; M expenses</td>
<td>1-2%</td>
<td>0%</td>
<td>Lower?</td>
</tr>
<tr>
<td>Depreciation expense</td>
<td>3-4%</td>
<td>100%</td>
<td>Higher</td>
</tr>
<tr>
<td>Taxes (PILOT)</td>
<td>2%</td>
<td>0% or 2%</td>
<td>Local Decision</td>
</tr>
<tr>
<td>ROR on rate base</td>
<td>5-7%</td>
<td>0%</td>
<td>Lower</td>
</tr>
<tr>
<td>TOTAL</td>
<td>13%</td>
<td>102%</td>
<td>Higher</td>
</tr>
</tbody>
</table>
## Example of Expense Depreciation Impact - $1,000,000 project

<table>
<thead>
<tr>
<th></th>
<th>Utility Financed $1,000,000</th>
<th>Expense Depreciation $1,000,000</th>
<th>Impact of Expense Depreciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>O&amp;M</td>
<td>$0</td>
<td>$0</td>
<td>Same</td>
</tr>
<tr>
<td>Depreciation</td>
<td>$13,000</td>
<td>$1,000,000</td>
<td>Higher</td>
</tr>
<tr>
<td>Taxes (PILOT)</td>
<td>$20,000</td>
<td>$20,000</td>
<td>Same</td>
</tr>
<tr>
<td>ROR</td>
<td>$50,000</td>
<td>$0</td>
<td>Lower</td>
</tr>
<tr>
<td>Total</td>
<td>$83,000</td>
<td>$1,020,000</td>
<td>Higher</td>
</tr>
</tbody>
</table>
Example of Expense Depreciation Rate Impact: Current average bill/qtr. $100

<table>
<thead>
<tr>
<th></th>
<th>Borrow</th>
<th>Expense Depreciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Revenues</td>
<td>$2,000,000</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>$ Increase</td>
<td>$83,000</td>
<td>$1,020,000</td>
</tr>
<tr>
<td>% Increase</td>
<td>4%</td>
<td>51%</td>
</tr>
<tr>
<td>Average bill/qtr. (current)</td>
<td>$100</td>
<td>$100</td>
</tr>
<tr>
<td>Average bill/qtr. (new)</td>
<td>$104</td>
<td>$151</td>
</tr>
</tbody>
</table>
Rate Design Options

• Standard Rate Design
  • Used in Marshfield rate case

• Main Replacement Fixed Charge
  • Used in Janesville rate case
  • Used in Fort Atkinson rate case
Rate Design Options - Standard

• Typical Service Charge, Volume Charge, and Public Fire Protection Charge
  • Schedule Mg-1
  • Schedule F-1

• Based on AWWA's M1 Principles of Water Rates, Fees, and Charges Manual

• Goal is to ensure that the utility recovers the appropriate amount of revenue from each customer class

• Often reflects other policy preferences such as promoting water conservation, simplifying billing practices, or maintaining equity among customer classes
Rate Design – Main Replacement Fixed Charge

- Schedule Mg-1S1, General Service – Metered – Main Replacement Charge
- Fixed charge on water bill based on equivalent meter ratios
- Dedicated source of revenue to be used solely for a portion of main replacement projects funded through expense depreciation
- Can result in a fixed charge that is a high portion of the total water bill
- To limit the fixed portion of the water bill, utilities included only a portion of the depreciation expense in the Main Replacement Charge
- The remaining dollars are collected through general service volumetric rates and direct charges for public fire protection (if applicable)
# Summary of Three Rate Cases

<table>
<thead>
<tr>
<th>Marshfield</th>
<th>Janesville</th>
<th>Fort Atkinson</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Docket 3420-WR-106</td>
<td>• Docket 2740-WR-110</td>
<td>• Docket 2060-WR-106</td>
</tr>
<tr>
<td>• Issued May 26, 2017</td>
<td>• Issued October 16, 2019</td>
<td>• Issued July 28, 2021</td>
</tr>
<tr>
<td>• Replace 1% per year</td>
<td>• Replace 1% per year</td>
<td>• Replace 1% per year</td>
</tr>
<tr>
<td>• 0.5% of cost using expense depreciation</td>
<td>• 1% of cost using expense depreciation</td>
<td>• 1% of cost using expense depreciation</td>
</tr>
<tr>
<td>• Full PILOT expense</td>
<td>• Full PILOT expense</td>
<td>• No PILOT on project mains</td>
</tr>
<tr>
<td>• Standard rate design</td>
<td>• Special rate design</td>
<td>• Special rate design</td>
</tr>
<tr>
<td>• 10% rate increase</td>
<td>• Main replacement charge to recover a portion of program costs</td>
<td>• Main replacement charge to recover a portion of program costs</td>
</tr>
<tr>
<td>• All due to mains</td>
<td>• 53% rate increase</td>
<td>• 55% rate increase</td>
</tr>
<tr>
<td></td>
<td>• 42% due to mains</td>
<td>• 42% due to mains</td>
</tr>
</tbody>
</table>
Special Order Points Approved in Past Dockets

- Funds must be kept in segregated account
- Plant and depreciation must be kept in sub-accounts
- Funds may only be used for program
  - If needed for debt, must notify Commission and apply for a rate increase within 45 days
- Utility must file additional information in its Annual Reports
- Utility must work with health department and WDNR if LSL replacement concerns
- SRC clarification
- Construction authorization required for program replacing more than 3 miles of main with diameter of 8 inches or greater
## Expense Depreciation

<table>
<thead>
<tr>
<th>Acct. No.</th>
<th>Account Title</th>
<th>Dep. Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>342</td>
<td>Distribution Reservoirs and Standpipes</td>
<td>2.2%</td>
</tr>
<tr>
<td>343.1</td>
<td>Transmission and Distribution Mains</td>
<td>1.3%</td>
</tr>
<tr>
<td>343.2</td>
<td>Transmission and Distribution Mains, Relined Mains</td>
<td>2.0%</td>
</tr>
<tr>
<td>343.3</td>
<td>Annual Amount Main Replacement Depreciation</td>
<td>$580,000</td>
</tr>
<tr>
<td>345</td>
<td>Services</td>
<td>2.9%</td>
</tr>
<tr>
<td>346</td>
<td>Meters</td>
<td>6.3%</td>
</tr>
<tr>
<td>348</td>
<td>Hydrants</td>
<td>2.2%</td>
</tr>
</tbody>
</table>

### TRANSMISSION AND DISTRIBUTION PLANT

- Distribution Reservoirs and Standpipes: 2.2%
- Transmission and Distribution Mains: 1.3%
- Transmission and Distribution Mains, Relined: 2.0%
- Annual Amount Main Replacement Depreciation: $580,000
- Services: 2.9%
- Meters: 6.3%
- Hydrants: 2.2%

### PUMPING PLANT

- Structures and Improvements: 3.2%
- Electric Pumping Equipment: 4.4%
- Other Pumping Equipment: 4.4%

### WATER TREATMENT PLANT

- Structures and Improvements: 3.2%
- Sand and Other Media Filtration Equipment: 3.3%
- Membrane Filtration Equipment: 6.0%
- Other Water Treatment Equipment: 6.0%

### TRANSMISSION AND DISTRIBUTION PLANT

- Distribution Reservoirs and Standpipes: 2.2%
- Transmission and Distribution Mains: 2.0%
- Annual Amount Main Replacement Depreciation: $580,000

### GENERAL PLANT

- Office Furniture and Equipment: 5.8%
- Transportation Equipment: 20.0% Unit
- Tools, Shop and Garage Equipment: 5.8%
- Laboratory Equipment: 5.8%
- Power Operated Equipment: 10.0% Unit
- Communication Equipment: 15.0%
Follow-up After Order is Issued

- Follow all the order points
- Use funds only for program, otherwise notify Commission
- Notify Commission of any changes in spending
  - Utility should plan to spend authorized amount each year
  - Minor fluctuations are acceptable
  - Notify Commission and get approval for larger fluctuations
Benefits

• Encourage investment in water infrastructure
• Reduce non-revenue water
• Reduce maintenance costs
• Minimize future borrowing costs
• Help maintain a balanced capital structure
• Can be done in existing statutory framework
<table>
<thead>
<tr>
<th>Maybe</th>
<th>Maybe not</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Utility built out over many decades</td>
<td>• Utility is fairly new</td>
</tr>
<tr>
<td>• Long-term plan to replace mains</td>
<td>• Most infrastructure installed in a short span of years</td>
</tr>
<tr>
<td>• Consistent work per year</td>
<td>• No detailed plan to replace mains in an on-going and consistent manner</td>
</tr>
<tr>
<td>• Understanding and support from municipal decision makers</td>
<td></td>
</tr>
</tbody>
</table>
Useful Information for the Record

• Still a new process so could refine over time
• Every utility is a little different so each filing will be a little different!
• Contact PSC water staff to discuss what should be included in your utility’s application
• A pre-application meeting is a good idea
• Process still new and decided by full Commission
Useful Information for the Record

• Analysis of water main materials, ages, and main breaks
• Method for prioritizing mains to replace
  • Specific list of projects for the first few years
  • Possible projects for future years
  • Description of how future projects will be selected
• Information supporting why this funding method is reasonable
• Documentation of local support
  • Support for size of rate increase
  • Support for ongoing program for many years
  • Coordination with sewer and street work
Process – Full Commission Decision

• File a complete application package
  • Information on prior slides
  • COSS and Rate Design if non-standard rates proposed
  • Testimony and exhibits
• Rounds of written testimony prior to hearing
• Decision Matrix after hearing
• Commissioners discuss and decide case at an open meeting
• Written Final Decision issued
Goals

Less of This

More of This