Improving efficiency in the City of Neosho

• How efficient are we?
• How are we improving efficiency?
• Comments and Questions
How efficiency percentage is measured:

- Expenses/gallons sold = water rate
What Effects Efficiency

- Pumped vs. Sold ratio
- Power Cost
- Personal Cost
WATER LOSS
Example of Water Loss
City of Neosho’s Biggest Challenges

- Pumped
- Accounted
- Loss
Where does it come from?

- Leaks
- Inaccurate Meters
- Non Metered Water
- Inaccurate Billing
Why are we concerned about Water Loss?

- Creates a Mess
- Health Hazard
- Rates Are Affected
- Capacity is Affected
What Is the City of Neosho Doing to improve efficiency?

• Leak Surveys
• Audit Billing System
• Water Improvement Project
#### Neosho, Mo.

**Computerized Leak Detection Survey**

**Cost Analysis**

This survey was conducted by Westrum Leak Detection Inc. utilizing the latest leak detection correlation technology to pinpoint suspected leakage in the system. The following leaks were located.

<table>
<thead>
<tr>
<th>Type of Leak</th>
<th>No. of Leaks</th>
<th>GPD</th>
<th>Millions per yrt.</th>
<th>Dollars per Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main leaks</td>
<td>7</td>
<td>131,000</td>
<td>47.8</td>
<td>28,680</td>
</tr>
<tr>
<td>PRVS not working</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service line leaks</td>
<td>12</td>
<td>70,000</td>
<td>25.5</td>
<td>15,300</td>
</tr>
<tr>
<td>Valve leaks</td>
<td>9</td>
<td>6,000</td>
<td>2.2</td>
<td>1,320</td>
</tr>
<tr>
<td>Hydrant leaks</td>
<td>7</td>
<td>6,000</td>
<td>2.2</td>
<td>1,320</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>37</strong></td>
<td><strong>213,000</strong></td>
<td><strong>77.7</strong></td>
<td><strong>$46,620</strong></td>
</tr>
</tbody>
</table>

**Estimated annual savings based on production cost of $.60 per thousand gallons**

- **$7,500**
- **$5,000**
- **$2,500**

**Cost of survey**: $5,600

**Estimated payback period**: 6.26 weeks

As you know, because of increased production, testing and maintenance costs, operating and maintaining an efficient water distribution system has become a necessity. The most effective method to reach and maintain that goal is with an annual leak detection program. We appreciate the opportunity to serve Neosho.
Projected Water Supply Requirements **With Out** Water loss Reductions

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual Production MGD</th>
<th>Water Loss</th>
<th>Avg. Daily MGD</th>
<th>Max. Daily MGD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>1,269</td>
<td>50%</td>
<td>3.64</td>
<td>6.37</td>
</tr>
<tr>
<td>2030</td>
<td>1,694</td>
<td>50%</td>
<td>4.64</td>
<td>8.12</td>
</tr>
</tbody>
</table>

Projected Water supply Requirements **With** Water Loss Reduction.

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual Production MGD</th>
<th>Water Loss</th>
<th>Avg. Daily MGD</th>
<th>Max. Daily MGD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2030</td>
<td>1,841</td>
<td>14%</td>
<td>2.97</td>
<td>5.20</td>
</tr>
</tbody>
</table>
Audit Billing System:

• Is everyone receiving a bill?
• Are the bills being calculated correctly?
• Types and sizes of meters
Water Improvement Project

- Water Line Replacement
- Regulation of upgrades at Treatment Plant
- New 16 inch main on the west side of Neosho.
$3,000,000 Project for replacement and abandonment of Six miles of old water mains
Question And Comments