

Exhibit ___ (DPK-7)
Docket No. UW-051444
Witness: Danny P. Kermode

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

**KAYAK ESTATES WATER, LLC.
Respondent.**

DOCKET NO. UW-051444

**EXHIBIT TO
TESTIMONY OF**

Danny P. Kermode

**STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION**

RE: KAYAK ESTATES WATER, LLC., GENERAL RATE CASE

*Excerpt - Department of Health's Small Business Economic Impact Study
Water Use Efficiency, Draft 01-24-06*

01-24-06 DRAFT

**Significant Analysis
Chapter 246-296 WAC
Water Use Efficiency**

01-24-06 DRAFT

These provisions of the rule give anyone the ability to participate in the decision making process and monitor performance over time.

Goal setting is integrally linked to the selection of water use efficiency measures that occurs during the planning process. Similarly, the process of developing performance reports is closely linked to the data collection efforts undertaken for planning purposes as well as the goal setting process. For this reason, the costs associated with establishing goals are included above under the heading Water Use Efficiency Program Development.

Similarly, the process of developing performance reports is closely linked to the data collection efforts undertaken for planning purposes as well as the goal setting process, cost associated with establishing goals are included in Section 8.2 (a) Selection of Measures, Establishing Goals and Preparing Performance Reports for Systems Developing Water System Plans and Section 8.3 (a) Selection of Measures, Establishing Goals and Preparing Performance Reports for Systems Developing Small Water System Management Programs

Metering Requirements WAC 246-290-495

Production Meters

The proposed rule requires MWS to measure all water that enters their distribution system. Current regulations and laws already require all water sources to be metered. This is not a new requirement. Therefore, the associated costs and benefits were not assessed.

Service Meters

The primary reason for the service meter requirement is that DOH had concluded that only through full system metering (source and service) can system provide a credible determination of distributions system leakage. However, the benefits associated with service meters are numerous and significant. Throughout the process of rule development service meters were cited by many stakeholders as the most cost-effective measure that a public water system could implement. *The Best Management Practices Costs & Savings Study* published by the California Urban Water Conservation Council found that "Savings have been reported in the range of 20 to 40 percent..." in studies on the effect of service metering.

In addition, installing service meters has the following benefits

- Identifies how much water customers use
- Assists in determining trends and variations in water usage
- Provides a tool to educate customers about water use
- Aids in the creation of customer-specific water use efficiency programs
- Allows MWS to begin to charge equitably based on usage
- Increases efficiency which can expand system capacity, especially when combined with leak detection, leak repairs, and a consumption-based rate structure

Cost of Installation

Residential service lines are typically metered with 5/8 or 3/4 inch meters. Manual read meters of this size that meet AWWA accuracy standards are available for less than \$100 or less including the necessary fittings and a shutoff valve where such is not already installed. The meter boxes

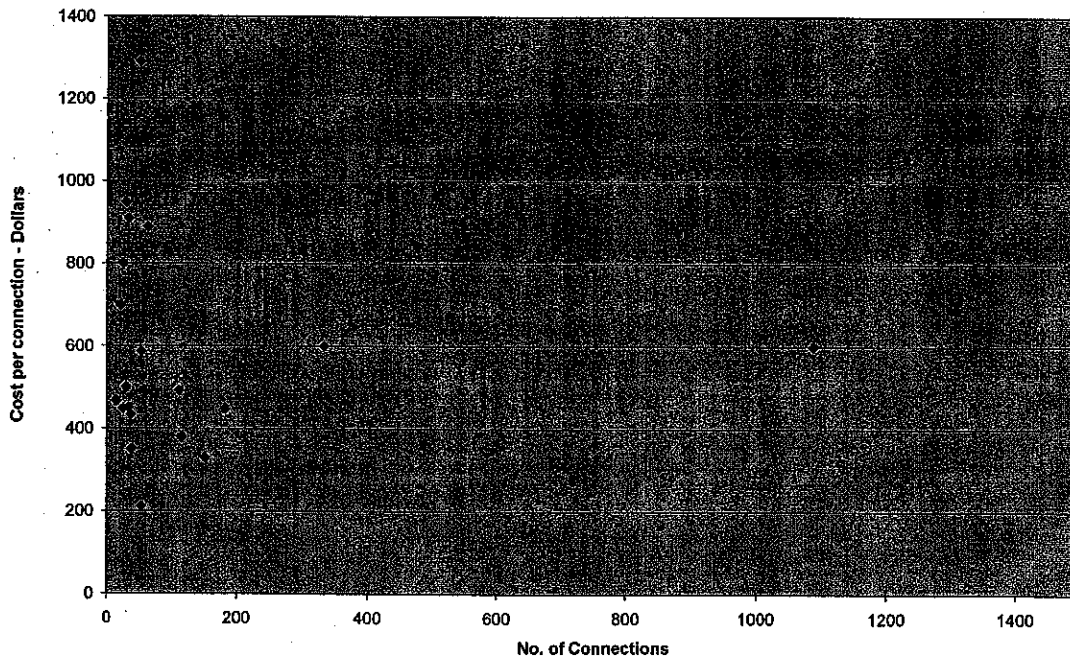
for this size meter cost approximately \$15-\$25. Thus the total cost for meters, shutoff valve, fittings, and boxes to place them in should in most cases be less than \$125.

The costs associated with installation of service water meters are system specific and vary with a number of factors. Installing meters on existing services will typically cost more than installing meters at the time new service lines are installed. The increased costs associated with existing services include the labor, tools, and material necessary to locate the service line, digging out a hole of sufficient size for the meter box if locating the meter outside, cutting the service line and installing the fittings, meter, and shutoff valve if needed, repairing any damage done at the time to sidewalks, paving, landscaping or other surface features, and providing disinfection of lines that have been opened.

The estimated cost for purchasing and installing water meters in small systems is available from the State Revolving Fund program. Most water systems applying for funding under the State Revolving Fund program are required to install service meters as part of the project if they currently are not metered. The loan applications from 21 such systems in 2003 - 2005 varying in size from 15 to 1088 connections illustrate the variability in estimated costs for installing meters. As seen in Chart 1, the estimated costs ranged from \$211 to \$1290 per connection with an average of \$570.

There appears to be little relationship between system size and per meter cost in this sample of water systems. The highest costs estimated are for a system of 50 connections and the lowest for a system of 54 connections.

Chart 1. Estimated Cost of Installing Meters
2003-5 SRF Projects



Most of the SRF projects involving meter installation are in the small systems category, and the average per connection costs is expected to be high compared to larger systems. Larger systems may be able to use creative financing to install meters at a lower cost, have more current information about the location of existing lines and thus have to spend less time locating the lines, and also benefit from economy of scale when installing large numbers of meters. At least one example is the a city of about 6000 connections in western Washington where the installed cost of remote reading meters (which are higher cost than manual read meters) was approximately \$300 per connection.

However, available information indicates that many systems that are not currently metered, and therefore will be impacted by the rule requiring such meters, are those less than 1000 connections. Therefore, an the average cost of \$570 per connection for purchasing and installing meters as determined from the SRF projects would appear to be a reasonable basis for determining the cost impact of the rule.

Water meters at the costs cited above (<\$100 for the meter itself) are available with 15 year warranty to meet AWWA accuracy standards and therefore a 15 year replacement cycle can be used to calculate the monthly costs. Assuming the water system can borrow the \$570 cost of purchasing and installing the meters at 6%, and that the meters must be replaced every 15 years, the monthly per connection charge is approximately \$4.80/month. For those systems who can purchase and install meters at the rate of \$300/connection, the monthly cost would be about \$2.50.

Cost of reading meters

Since most of the systems that will be required to add meters are small, it is expected that manually read meters will be installed. Based on observation of meter readers and a review of available literature, one person can read between 300 and 500 meters /day. Assuming an average of 400 meters/day, one meter per connection read once per month at a labor rate of \$25/ hour, the monthly per connection cost is approximately:

$$(20 \text{ workday /month}) * (\$25/\text{hour}) * 8 \text{ hours/workday} / (400 \text{ meters/day}) (20 \text{ days}) = \$4000 / 8000 \text{ meters} = \$0.50/\text{connection}$$

Summary of Estimated Costs

Based on the above assumptions and calculations, the average estimated total cost to install, read, and replace meters on an ongoing basis is estimated to be about \$6/connection/month. Some water systems have been able to install meters for much less and others have estimated a significantly higher cost. The average cost can be used to calculate the cost impact of this rule.

Initial meter and installation Cost	\$4.80
Meter reading cost	\$0.50
Total monthly cost	\$5.30

Since the cost of the meter installation is expressed on a per connection basis there is no value on projecting these costs for the categories of system. Typically systems are either fully metered or