

# **Importance of Normalizing Usage in a Rate Case**

**A Whitepaper**

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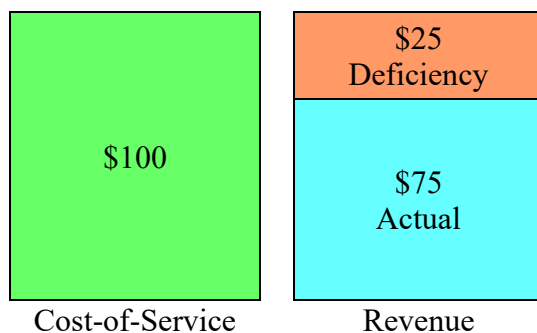
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## Introduction

A comparison of revenues collected through current rates with the utility's cost of providing service a/k/a cost-of-service - current, requested, and ordered - is fundamentally a test of the adequacy of rates. If revenues provided by the rates are less than the cost-of-service, the difference between the current revenues and the cost-of-service gives the amount of increase necessary to meet recover that cost-of-service. In a rate increase case, a comparison of the cost-of-service ordered by the Commission will give a measure of the change in revenues needed to achieve the cost-of-service (also called revenue requirement) ordered by the Commission. The chart below shows this relationship.

Chart 1  
Cost-of-Service vs Revenues



In this chart, the cost-of-service is \$100. The revenue billed from current rates is \$75 signifying a deficiency in revenues billed by current rates of \$25. In this instance, the revenue requirement increase necessary to recover the cost-of-service would be the \$25. If current rates were \$0.10 per thousand gallons, the new rates to cover the deficiency would be \$0.125 per thousand gallons increasing rates by 25%.

In a rate case, the Commission determines the normalized<sup>1</sup> and annualized<sup>2</sup> costs necessary for the utility to prudently provide the service and earn a return on its investments. It then must determine the appropriate increase<sup>3</sup> in revenue that allows the utility to recover its expenses and

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<sup>1</sup> Normalization adjustments are required when the test year reflects the impact of an abnormal event.

<sup>2</sup> Annualization adjustments are required when changes have occurred during the test year that are not reflective of a full year in the unadjusted test year results.

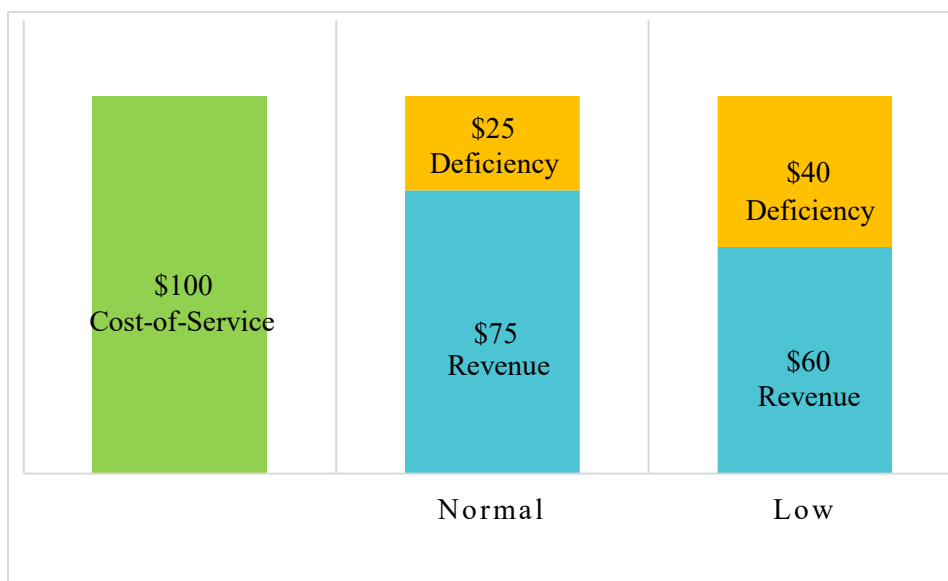
<sup>3</sup> While this whitepaper centers on revenue requirement increases, these concepts also apply in instances where the Commission determines that a decrease in revenues is appropriate.

earn a return on its capital expenditures. To determine if an increase in revenues is necessary, revenues generated by current rates should also be normalized<sup>4</sup> and annualized.<sup>5</sup>

If the normalized revenues used to determine the increase are too high, the resulting rates will reduce the utility’s opportunity to cover its costs and earn the return set by the Commission. Revenues that are too low will result in higher bills for the customers and the utility earning more than the return set by the Commission. This whitepaper describes the importance of using a normalized usage to determine revenue deficiency and rate design once a revenue requirement is determined. The matching principle is important when setting rates. Normalized, annualized rates should be compared to normalized, annualized revenues costs to determine how much revenue increase is needed to give the utility the opportunity to recover costs and earn a return on its investments.

### **Impact of Using Lower than Normal Usage**

If usage during the test year was lower than normal resulting in low revenues, the deficiency between the revenues and the cost-of-service is greater than the deficiency given normal usage as shown in the chart below.



In this example, the cost-of-service is still \$100. Under normal usage, revenue would be \$75, and the deficiency in revenues to recover that cost-of-service is \$25. If the actual test year

<sup>4</sup> Normalization is intended to reflect normal ongoing circumstances. Normalization of revenues almost always includes adjustments for weather. Occasionally normalization of revenues includes other adjustments for other impacts, e.g. a pandemic.

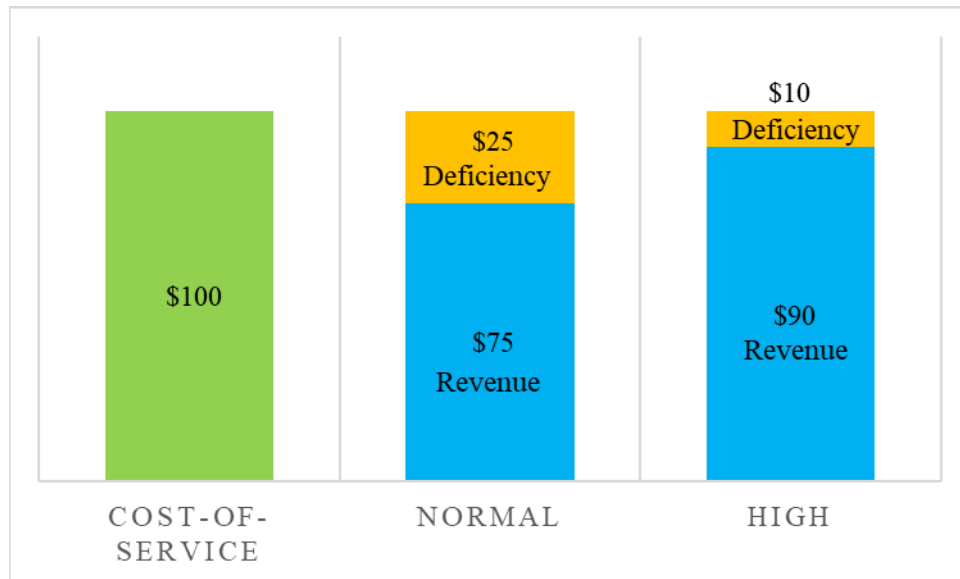
<sup>5</sup> Annualization adjustments are required when changes have occurred during the test year that significantly impact the revenues such as the addition or deletion of large customers or to make sure that the revenues are for 365 days.

revenues are used and this actual is less than normal due to lower than normal usage, when compared to the cost-of-service, the deficiency of revenues is higher at \$40. Assuming current rates are \$0.10 per thousand gallons, if the low revenues were used to determine the increase revenue deficiency, the rates would be raised to \$0.140 per thousand gallons – 15% higher than if normalized usage was used.

Customers’ bills would be higher if the lower usage was used to set revenue and it should be much easier for the utility to earn a return higher than what was used in its cost-of service.

**Impact of Using Higher than Normal Usage**

Using higher than normal usage to determine revenue results in rates that make it difficult for the utility to earn the return on equity included in its cost-of-service. The relationship is shown in the next chart.



In this example, the actual test year usage was higher than the normalized usage resulting in \$90 of revenue. When comparing this revenue to the cost-of-service of \$100, the deficiency is measured at \$10. If rates were set based on this \$10 deficiency, a \$0.10 per thousand gallon rate would only change to \$0.110 which is less than the \$0.125 that the rates would have been had normal usage been used to determine the deficiency. If the rate of \$0.125 was necessary on a

normalized basis to recover its cost-of-service, the utility would either need to find ways to cut its costs or ask for another increase in its rates.

### **Importance of Normalized Usage in Rate Design**

A general rate case results in the Commission ordering a revenue requirement that allows cost recovery of normalized and annualized costs. Rate design, at its simplest is the revenue requirement divided by billing determinants. Usage is a billing determinant. Given a set revenue requirement, the higher the usage, the lower the rate. The lower the usage, the higher the rate. This relationship is shown in the table below.

Revenue Requirement = \$100

	<u>Low</u>	<u>Normal</u>	<u>High</u>
Usage	780	880	980
Rate	\$0.13	\$0.11	\$0.10
Revenue Recovered	\$113	\$100	\$90

In this example, the ordered revenue requirement is \$100. The rates calculated using low, normal, and high usage vary from \$0.13 calculated using the low usage to \$0.10 when the high usage is used. Given normal usage, the “low” rate would provide 13% more revenue than the revenue requirement set by the Commission resulting in high bills for customers and overearnings by the utilities. If the “high” rate is used, the customers’ bills would be low and the utility would earn only 90% of its revenue requirement.

### **Conclusion**

Determining normalized usage is important to both the utility and their customers in a rate case in calculating both the revenue deficiency and the rates that will be charged. Usage that is abnormally low results in higher rates for the customers. Usage that is abnormally high takes away some of the opportunity of the utility to earn a fair return. The Commission should attempt to use a normalized usage that balances the interests of both the customers and the utility.

There are two main drivers in revenues 1) the number of customers, and 2) the usage of the customers.