

Exhibit No. \_\_\_\_ (TLK-5)

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UG-11 \_\_\_\_\_

EXHIBIT NO. \_\_\_\_ (TLK-5)

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## **NATURAL GAS COST OF SERVICE STUDY**

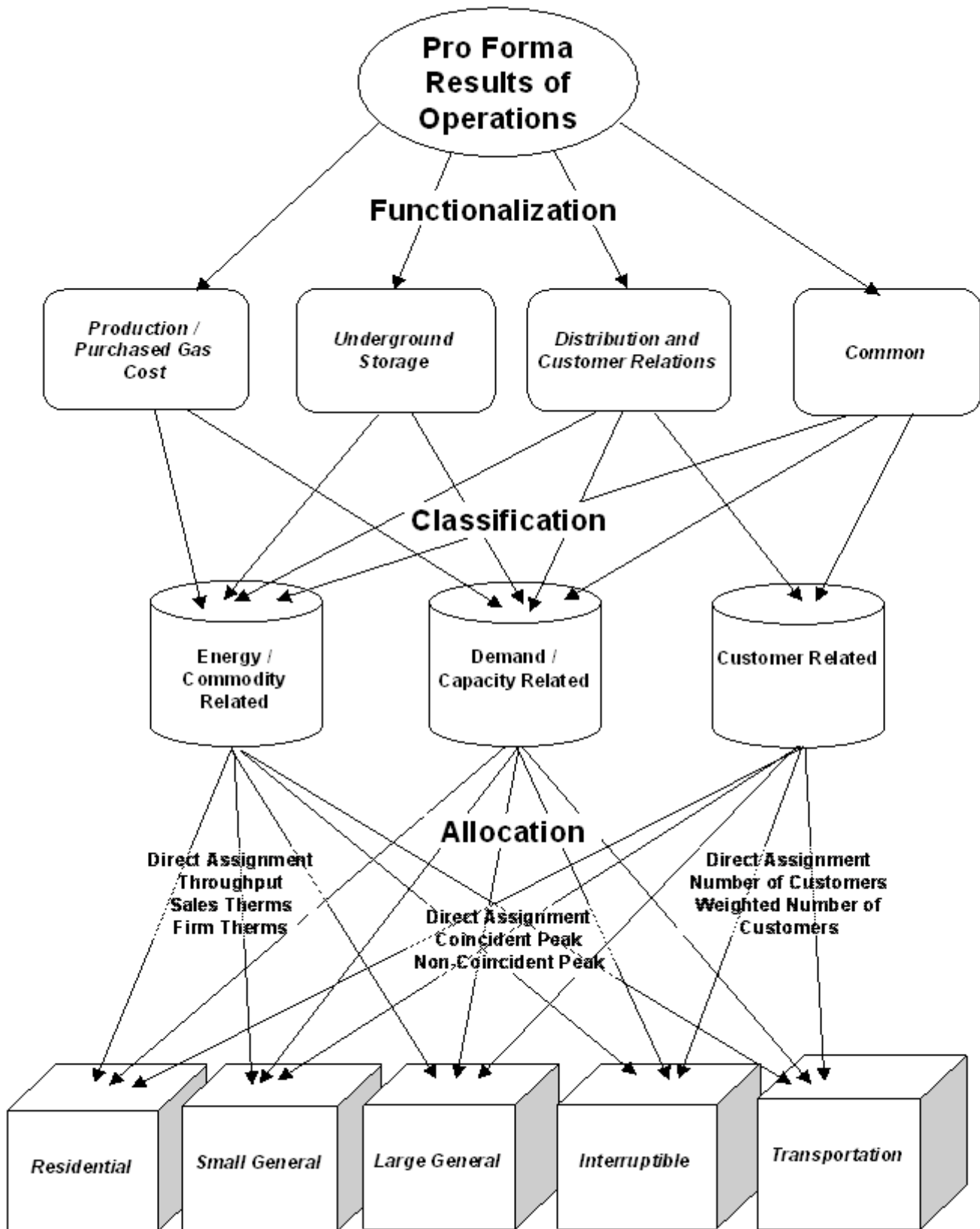
1  
2 A cost of service study is an engineering-economic study, which apportions the revenue,  
3 expenses, and rate base associated with providing natural gas service to designated groups of  
4 customers. It indicates whether the revenue provided by the customer group recovers the cost to  
5 serve those customers. The study results are used as a guide in determining the appropriate rate  
6 spread among the groups of customers.

7 There are three basic steps involved in a cost of service study: functionalization,  
8 classification, and allocation. See the flow chart below.

9 First, the expenses and rate base associated with the natural gas system under study are  
10 assigned to functional categories. The uniform system of accounts provides the basic segregation  
11 into production, underground storage, and distribution. Traditionally, customer accounting,  
12 customer information, and sales expenses are included in the distribution function and  
13 administrative and general expenses and general plant rate base are allocated to all functions. In  
14 this study I have created a separate functional category for common costs. Administrative and  
15 general costs that cannot be directly assigned to the other functions have been placed in this  
16 category.

17 Second, the expenses and rate base items are classified into three primary cost components:  
18 demand, commodity or customer related. Demand (capacity) related costs are allocated to rate  
19 schedules on the basis of each schedule's contribution to system peak demand. Commodity  
20 (energy) related costs are allocated based on each rate schedule's share of commodity  
21 consumption. Customer related items are allocated to rate schedules based on the number of  
22 customers within each schedule. The number of customers may be weighted by appropriate  
23 factors such as relative cost of metering equipment. In addition to these three cost components,  
24 any revenue related expense is allocated based on the proportion of revenues by rate schedule.

## NATURAL GAS COST OF SERVICE STUDY FLOWCHART



**Pro Forma Results of Operations by Customer Group**



**Distribution Facilities Classification (Peak and Average)**

Distribution mains and regulator station equipment (both general use and city gate stations) are classified as demand and commodity related using the peak and average ratio for the distribution system. Peak demand is defined as the average of the five-day sustained peaks from the most recent three years. Average daily load is calculated by dividing annual throughput by 365 (days in the year). The average daily load is divided by peak load to arrive at the system load factor of 34.89%. This proportion is classified as commodity related. The remaining 65.11% is classified as demand related. Meters, services and industrial measuring & regulating equipment are classified as customer related distribution plant. Distribution operating and maintenance expenses are classified (and allocated) in relation to the plant accounts they are associated with.

**Customer Relations Distribution Cost Classification**

Customer service, customer information and sales expenses are the core of the customer relations functional unit which is included with the distribution cost category. For the most part these costs are classified as customer related. Exceptions include uncollectible accounts expense, which is considered separately as a revenue conversion item, and Demand Side Management amortization expense recorded in Account 908. The demand side management investment costs and amortization expense are included with the distribution function and classified to demand and commodity by the peak and average ratio.

**Distribution Cost Allocation**

Demand related distribution costs are allocated to customer groups (rate schedules) by each group's contribution to the three year average five-day sustained peak. Commodity related distribution costs are allocated to customer groups by annual throughput. Distribution main investment has been segregated into large and small mains. Small mains are defined as less than four inches, with large mains being four inches or greater. The small main costs use the same

1 demand and commodity data, but large usage customers (Schedules 131 and 146) that connect to  
2 large system mains have been excluded from the allocations.

3 Most customer related costs are allocated by the annualized number of customers billed  
4 during the test period. Meter investment costs are allocated using the number of customers  
5 weighted by the relative current cost of meters in service at December 31, 2010. Services  
6 investment costs are allocated using the number of customers weighted by the relative current cost  
7 of typical service installations. Industrial measuring and regulating equipment investment costs  
8 are allocated by number of customers weighted by industrial meters at current cost.

### 9 **Administrative and General Costs**

10 General and intangible rate base items are allocated by the sum of Underground Storage  
11 and Distribution plant. Administrative and general expenses are segregated into plant related,  
12 labor related, revenue related and other. The plant related items are allocated based on total plant  
13 in service. Labor related items are allocated by operating and maintenance labor expense.  
14 Revenue related items are allocated by pro forma revenue. Other administrative and general  
15 expenses are allocated 50% by annual throughput (classified commodity related) and 50% by the  
16 sum of operating and maintenance expenses not including purchased gas cost or administrative &  
17 general expenses. Whenever costs are allocated by sums of other items within the study,  
18 classifications are imputed from the relationship embedded in the summed items.

### 19 **Special Contract Customer Revenue**

20 Several special contract customers receive transportation service from the Company. Rates  
21 for these customers were individually negotiated to cover any incremental costs and retain some  
22 contribution to margin. The rates for these customers are not being adjusted in this case. The  
23 revenue from these special contract customers has been segregated from general rate revenue and  
24 allocated back to all the other rate classes by relative rate base. In treating these revenues like  
25 other operating revenues their system contribution reduces costs for all rate schedules.

1           **Revenue Conversion Items**

2           In this study uncollectible accounts, state excise tax, and commission fees have been  
3 classified as revenue related and are allocated by pro forma revenue. These items vary with  
4 revenue and are included in the calculation of the revenue conversion factor. Income tax expense  
5 items are allocated to schedules by net income before income tax adjusted by interest expense.

6           For the functional summaries on pages 2 and 3 of the cost of service study, these items are  
7 assigned to the component cost categories. The revenue related expense items have been reduced  
8 to a percent of all other costs and loaded onto each cost category by that ratio. Similarly, income  
9 tax items have been assigned to cost categories by relative rate base (as is net income).

10           The following matrix outlines the methodology applied in the Company's Base Case  
11 natural gas cost of service study.

WUTC Docket No. UG-11 \_\_\_\_ Methodology Matrix  
 Avista Utilities Washington Jurisdiction  
 Natural Gas Cost of Service Methodology

Line	Account	Functional Category	Classification	Allocation
<b>Underground Storage Plant</b>				
1	350 - 357 Underground Storage	Underground Storage	Commodity to match PGA items	E01/E04 Annual Throughput / Annual Sales Therms
<b>Distribution Plant</b>				
2	374 Land	Distribution	Demand/Commodity/Customer from Other Dist Plant	S05 Sum of accounts 376-385
3	375 Structures	Distribution	Demand/Commodity/Customer from Other Dist Plant	S05 Sum of accounts 376-385
4	376(S) Small Mains	Distribution	Demand/Commodity by Peak & Average	D02/E06 Coincident peak, annual therms (both excl lg use cust)
5	376(L) Large Mains	Distribution	Demand/Commodity by Peak & Average	D01/E01/D06/D07 Coincident peak (all), annual throughput (all), direct assign Sch 131, direct assign Sch 146
6	378 M&R General	Distribution	Demand/Commodity by Peak & Average	D01/E01 Coincident peak (all), annual throughput (all)
7	379 M&R City Gate	Distribution	Demand/Commodity by Peak & Average	D01/E01 Coincident peak (all), annual throughput (all)
8	380 Services	Distribution	Customer	C02, Customers weighted by current typical service cost
9	381 Meters	Distribution	Customer	C03, Customers weighted by average current meter cost
10	385 Industrial M&R	Distribution	Customer	C06, Customers weighted by industrial meter cost
11	387 Other	Distribution	Demand/Commodity/Customer from Other Dist Plant	S05 Sum of accounts 376-385
<b>General Plant</b>				
12	389-399 All General Plant	Common	Demand/Commodity/Customer from UG & D Plant	S03 Sum of Underground Storage and Distribution Plant in Service
<b>Intangible Plant</b>				
13	303 Misc Intangible Plant	Distribution	Demand/Commodity/Customer from Dist Plant	S15 Sum of Distribution Plant in Service
14	303 Computer Software	Common	Demand/Commodity/Customer from UG & D Plant	S03 Sum of Underground Storage and Distribution Plant in Service
<b>Reserve for Depreciation</b>				
15	Underground Storage	Underground Storage	Commodity same as related plant	Allocations linked to related plant accounts
16	Distribution	Distribution	Demand/Commodity/Customer same as related plant	Allocations linked to related plant accounts
17	General	Common	Demand/Commodity/Customer same as related plant	Allocations linked to related plant accounts
18	Intangible	Distribution/Common	Demand/Commodity/Customer same as related plant	Allocations linked to related plant accounts
<b>Other Rate Base</b>				
19	Accumulated Deferred FIT	All	Demand/Commodity/Customer from Plant in Service	S17 Sum of Total Plant in Service
20	Constuction Advances	Distribution	Customer	C10 Residential only
21	Gas Inventory	Underground Storage	Commodity from Underground Storage Plant	S14 Sum of Underground Storage Plant in Service
22	Gain on Sale of Office Bldg	Common	Demand/Commodity/Customer from UG & D Plant	S03 Sum of Underground Storage and Distribution Plant in Service
23	DSM Investment	Distribution	Demand/Commodity by Peak & Average	D01/E01 Coincident peak (all), annual throughput (all)
24	Working Capital	Common	Demand/Commodity/Customer from UG & D Plant	S03 Sum of Underground Storage and Distribution Plant in Service
<b>Purchased Gas Expenses</b>				
25	804 Purchased Gas Cost	Production	Demand/Commodity from PGA Tracker WACOG	D05/E07 PGA Demand / PGA Commodity
26	807 Purchased Gas Expenses	Production	Commodity	E01/E04 Annual Throughput / Annual Sales Therms
27	813 Gas Research Contributions	Production	Commodity	E08 GTI Expense (Weighted Annual Sales Therms)
28	813 Other Gas Expenses	Production	Commodity	E04 Annual Sales Therms



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<b>Underground Storage O&amp;M</b>				
1	814 - 837 Underground Storage Exp	Underground Storage	Commodity	E01/E04 Annual Throughput / Annual Sales Therms
<b>Distribution O&amp;M</b>				
2	870 OP Super & Engineering	Distribution	Demand/Commodity/Customer from Dist Plant	S15 Sum of Distribution Plant in Service
3	871 Load Dispatching	Distribution	Commodity	E01 Annual throughput
4	874 Mains & Services	Distribution	Demand/Commodity/Customer from related plant	S06 Sum of Mains and Services Plant in Service
5	875 M&R Station - General	Distribution	Demand/Commodity from related plant	S08 Sum of Meas & Reg Station - General Plant in Service
6	876 M&R Station - Industrial	Distribution	Customer from related plant	S19 Sum of Meas & Reg Station - Industrial Plant in Service
7	877 M&R Station - City Gate	Distribution	Demand/Commodity from related plant	S09 Sum of Meas & Reg Station - City Gate Plant in Service
8	878 Meter & House Regulator	Distribution	Customer from related plant	S07 Sum of Meter and Installation Plant in Service
9	879 Customer Installations	Distribution	Customer	C05, Customers weighted by average current meter cost
10	880 Other OP Expenses	Distribution	Demand/Commodity/Customer from other dist expenses	S04 Sum of Accounts 870 - 879 and 881 - 894
11	881 Rents	Distribution	Demand/Commodity/Customer from other dist expenses	S04 Sum of Accounts 870 - 879 and 881 - 894
12	885 MT Super & Engineering	Distribution	Demand/Commodity/Customer from Dist Plant	S15 Sum of Distribution Plant in Service
13	886 MT of Structures	Distribution	Demand/Commodity/Customer from Other Dist Plant	S05 Sum of accounts 376-385
14	887 MT of Mains	Distribution	Demand/Commodity from related plant	S21 Sum of Distribution Mains Plant in Service
15	889 MT of M&R General	Distribution	Demand/Commodity from related plant	S08 Sum of Meas & Reg Station - General Plant in Service
16	890 MT of M&R Industrial	Distribution	Customer from related plant	S19 Sum of Meas & Reg Station - Industrial Plant in Service
17	891 MT of M&R City Gate	Distribution	Demand/Commodity from related plant	S09 Sum of Meas & Reg Station - City Gate Plant in Service
18	892 MT of Services	Distribution	Customer from related plant	S20 Sum of Services Plant in Services
19	893 MT of Meters & Hs Reg	Distribution	Customer from related plant	S07 Sum of Meter and Installation Plant in Service
20	894 MT of Other Equipment	Distribution	Demand/Commodity/Customer from Dist Plant	S15 Sum of Distribution Plant in Service
<b>Customer Accounting Expenses</b>				
21	901 Supervision	Customer Relations	Customer	C01 All customers (unweighted)
22	902 Meter Reading	Customer Relations	Customer	C01 All customers (unweighted)
23	903 Customer Records & Collections	Customer Relations	Customer	C01 All customers (unweighted)
24	904 Uncollectible Accounts	Revenue Conversion	Revenue	R03 Retail Sales Revenue
25	905 Misc Cust Accounts	Customer Relations	Customer	C01 All customers (unweighted)
<b>Customer Service &amp; Info Expenses</b>				
26	907 Supervision	Customer Relations	Customer	C01 All customers (unweighted)
27	908 Customer Assistance	Customer Relations	Customer	C01 All customers (unweighted)
28	908 DSM Amortization	Distribution	Demand/Commodity by Peak & Average	D01/E01 Coincident peak (all), annual throughput (all)
29	909 Advertising	Customer Relations	Customer	C01 All customers (unweighted)
30	910 Misc Cust Service & Info	Customer Relations	Customer	C01 All customers (unweighted)
<b>Sales Expenses</b>				
31	911 - 916 Sales Expenses	Customer Relations	Customer	C01 All customers (unweighted)

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<b>Admin &amp; General Expenses</b>			
1 920 Salaries	Common	Demand/Commodity/Customer from Other O&M	S02/E01 50% O&M excl Gas Purchases and A&G / 50% throughput
2 921 Office Supplies	Common	Demand/Commodity/Customer from Other O&M	S02/E01 50% O&M excl Gas Purchases and A&G / 50% throughput
3 922 Admin Expenses Transferred	Common	Demand/Commodity/Customer from Other O&M	S02/E01 50% O&M excl Gas Purchases and A&G / 50% throughput
4 923 Outside Services	Common	Demand/Commodity/Customer from Other O&M	S02/E01 50% O&M excl Gas Purchases and A&G / 50% throughput
5 924 Property Insurance	Common	Demand/Commodity/Customer from Plant in Service	S17 Sum of Total Plant in Service
6 925 Injuries & Damages	Common	Demand/Commodity/Customer from Other O&M	S02/E01 50% O&M excl Gas Purchases and A&G / 50% throughput
7 926 Pensions & Benefits	Common	Demand/Commodity/Customer from Labpr O&M	S13 O&M Labor Expense
9 928 Regulatory Commision	Common	Demand/Commodity/Customer from Other O&M	S02/E01 50% O&M excl Gas Purchases and A&G / 50% throughput
10 928 Commission Fees	Revenue Conversion	Revenue	R01 Retail Sales Revenue
11 930 Miscellaneous General	Common	Demand/Commodity/Customer from Other O&M	S02/E01 50% O&M excl Gas Purchases and A&G / 50% throughput
12 931 Rents	Common	Demand/Commodity/Customer from Other O&M	S02/E01 50% O&M excl Gas Purchases and A&G / 50% throughput
13 931 CSS Rent	Customer Relations	Customer	C01 All customers (unweighted)
14 935 MT of General Plant	Common	Demand/Commodity/Customer from Plant in Service	S17 Sum of Total Plant in Service
<b>Depreciation Expense</b>			
15 Underground Storage	Underground Storage	Commodity same as related plant	Allocations linked to related plant accounts
16 Distribution	Distribution	Demand/Commodity/Customer same as related plant	Allocations linked to related plant accounts
17 General	Common	Demand/Commodity/Customer same as related plant	Allocations linked to related plant accounts
18 Intangible	Distribution/Common	Demand/Commodity/Customer same as related plant	Allocations linked to related plant accounts
<b>Taxes</b>			
19 Property Tax	All	Demand/Commodity/Customer from related plant	S14/S15/S16 Sum of UG Plant/Sum of Dist Plant/Sum of Gen Plant
20 Miscellaneous Dist Tax	Distribution	Demand/Commodity/Customer from Dist Plant	S15 Sum of Distribution Plant in Service
21 State Excise Tax	Revenue Conversion	Revenue	R01 Retail Sales Revenue
22 Federal Income Tax	Revenue Conversion	Revenue	R02 Net Income before Taxes Less Interest Expense
23 Deferred FIT	Revenue Conversion	Revenue	R02 Net Income before Taxes Less Interest Expense
24 ITC	Revenue Conversion	Revenue	R02 Net Income before Taxes Less Interest Expense
<b>Operating Revenues</b>			
25 Revenue from Rates	Revenue	Revenue	Pro Forma Revenue per Revenue Study
26 Special Contract Revenue	All	Demand/Commodity/Customer from Rate Base	S01 Sum of Rate Base
27 Off System Sales	Production	Commodity	E04 Sales Therms
28 Miscellaneous Service Revenue	Distribution	Demand/Commodity/Customer from Dist Plant	S15 Sum of Distribution Plant in Service
29 Rent From Gas Property	All	Demand/Commodity/Customer from Rate Base	S01 Sum of Rate Base