

## **Flawed Elements of Cost of Service Study**

### **Intangible**

Allocated on basis of total plant. Most if franchises, which are revenue-related.

### **Production**

No distinction between high-load-factor uses like water heat, vs low load-factor usage like space heat. Tends to overprice gas supply for higher load-factor end-uses.

### **Transmission**

No distinction between high-load-factor uses like water heat, vs low load-factor usage like space heat. Tends to overprice gas supply for higher load-factor end-uses.

### **Distribution**

Calculation of 5-day, 3-year peak demands do not appear to match raw data provided in response to PC Data Request 320

Direct assignments to special contract customers were not clear.

No non-coincident peak allocation; sharp decline in large customer (transportation) usage suggests some direct assignment of underused plant may be appropriate.

Services and house regulators classified as customer-related. Line extension policy includes services, house regulators as part of the volumetric line extension allowance, not as part of the customer-related meter installation. This is a huge impact on the COS study.

*Billing costs not allocated on weighted customer basis, reflecting the higher cost of processing large-customer bills, and greater distance between them for meter readers.*

### **Administrative and General**

*Commission past directive to allocate 50% of A&G expense on throughput was not followed. This is a huge impact on the COS Study.*

### **Contributions in Aid of Construction / Customer Advances**

Allocated to all classes. Actual revenues are almost exclusively residential in nature. This is a significant impact on the COS Study.

Elements in italics are addressed in the sensitivity study presented within the testimony.

## Uniform Percentage of Margin Rate Spread Company-Requested Revenue Level

Class	Schedule	Current Margin	Proposed Increase	%
Residential	503	\$ 29,932,654	\$ 4,538,176	15.2%
Dry Out	502	\$ 372,852	\$ 56,529	15.2%
Gas AirCon	541	\$ 35,738	\$ 5,418	15.2%
Commerical GS	504	\$ 16,417,848	\$ 2,489,157	15.2%
Large Volume	511	\$ 1,014,714	\$ 153,844	15.2%
CNG	512	\$ 12,452	\$ 1,888	15.2%
Industrial Firm	505	\$ 1,407,925	\$ 213,460	15.2%
Industrial Interruptible	570	\$ 189,142	\$ 28,676	15.2%
Instittutional Interruptible	577	\$ 36,976	\$ 5,606	15.2%
<b>Subtotal Core</b>		<b>\$ 49,420,301</b>	<b>\$ 7,492,754</b>	<b>15.2%</b>
Distribution Transporation	663	\$ 8,619,620	\$ 1,306,845	15.2%
Large Volume Transporation	664	\$ 5,922,700	\$ 897,958	15.2%
Special Contracts	901	\$ 5,832,167	\$ 884,232	15.2%
<b>Subtotal non-Core</b>		<b>\$ 20,374,487</b>	<b>\$ 3,089,035</b>	<b>15.2%</b>
<b>Subtotal Tariff Revenues</b>		<b>\$ 69,794,788</b>	<b>\$ 10,581,789</b>	<b>15.2%</b>

**Uniform Percentage of Margin Rate Spread**  
**\$4 million overall increase**

Class	Schedule	Current Margin	Proposed Increase	%
Residential	503	\$ 29,932,654	\$ 1,715,466	5.7%
Dry Out	502	\$ 372,852	\$ 21,368	5.7%
Gas AirCon	541	\$ 35,738	\$ 2,048	5.7%
Commerical GS	504	\$ 16,417,848	\$ 940,921	5.7%
Large Volume	511	\$ 1,014,714	\$ 58,154	5.7%
CNG	512	\$ 12,452	\$ 714	5.7%
Industrial Firm	505	\$ 1,407,925	\$ 80,689	5.7%
Industrial Interruptible	570	\$ 189,142	\$ 10,840	5.7%
Instittutional Interruptible	577	\$ 36,976	\$ 2,119	5.7%
<b>Subtotal Core</b>		<b>\$ 49,420,301</b>	<b>\$ 2,832,320</b>	<b>5.7%</b>
Distribution Transporation	663	\$ 8,619,620	\$ 493,998	5.7%
Large Volume Transporation	664	\$ 5,922,700	\$ 339,435	5.7%
Special Contracts	901	\$ 5,832,167	\$ 334,247	5.7%
<b>Subtotal non-Core</b>		<b>\$ 20,374,487</b>	<b>\$ 1,167,680</b>	<b>5.7%</b>
<b>Subtotal Tariff Revenues</b>		<b>\$ 69,794,788</b>	<b>\$ 4,000,000</b>	<b>5.7%</b>

## Rates With \$4 Million Overall Increase

### Current Rate Design

<b>Basic Charge</b>							
Winter		881,668	\$ 4.00	\$ 3,526,672	\$ 4.00	\$ 3,526,672	0%
Summer		845,518	\$ 4.00	\$ 3,382,072	\$ 4.00	\$ 3,382,072	0%
		1,727,186					
<b>Commodity Charge</b>							
Distribution		97,153,392	\$ 0.22658	\$ 22,013,016	\$0.25746	\$ 25,013,016	14%
Total				\$ 28,921,760		\$ 31,921,760	10.4%
WACOG		97,153,392	\$ 0.91942	\$ 89,324,772	\$ 0.91942	\$ 89,324,772	0%
Total With Gas				\$118,246,531		\$ 121,246,531	2.5%
Target Increase:				\$ 1,715,466			
Provided by Customer Charge				\$ -			
Required from Commodity Charge				\$ 1,715,466			
Increase Required				\$ 0.0177			

### Inverted Rate Design Holding First Block Constant

<b>Basic Charge</b>							
		1,727,186	\$ 4.00	\$ 6,908,744	\$ 4.00	\$ 6,908,744	
First 30 Therms		40,101,886	\$ 0.22658	\$ 9,086,285	\$ 0.22658	\$ 9,086,285	
Additional Therms		57,051,506	\$ 0.22658	\$ 12,926,730	\$ 0.27916	\$ 15,926,730	
Total Therms		97,153,392		\$ 28,921,760		\$ 31,921,760	

## Rates With Company-Requested Increase

### Current Rate Design

<b>Basic Charge</b>							
Winter		881,668	\$ 4.00	\$ 3,526,672	\$ 4.00	\$ 3,526,672	0%
Summer		845,518	\$ 4.00	\$ 3,382,072	\$ 4.00	\$ 3,382,072	0%
		1,727,186					
<b>Commodity Charge</b>							
Distribution		97,153,392	\$ 0.22658	\$ 22,013,016	\$0.32382	\$ 31,460,217	43%
Total				\$ 28,921,760		\$ 38,368,961	32.7%
WACOG		97,153,392	\$ 0.91942	\$ 89,324,772	\$ 0.91942	\$ 89,324,772	0%
Total With Gas				\$118,246,531		\$ 127,693,733	8.0%
Target Increase:				\$ 4,538,176			
Provided by Customer Charge				\$ -			
Required from Commodity Charge				\$ 4,538,176			
Increase Required				\$ 0			

### Inverted Rate Design Holding First Block Constant

Basic Charge		1,727,186	\$ 4.00	\$ 6,908,744	\$ 4.00	\$ 6,908,744
First 30 Therms		40,101,886	\$ 0.22658	\$ 9,086,285	\$ 0.22658	\$ 9,086,285
Additional Therms		57,051,506	\$ 0.22658	\$ 12,926,730	\$ 0.39217	\$ 22,373,932
Total		97,153,392		\$ 28,921,760		\$ 38,368,961

<b>Elasticity Impact of Inverted Rate Design</b>							
						<b>Company Revenue Level</b>	<b>\$4 million Revenue Level</b>
<b>Usage Subject to Relative Increase</b>						57,051,506	57,051,506
<b>Assumed Commodity Rate</b>						\$ 0.91942	\$ 0.91942
<b>Rate Without Inverted Rate</b>						\$ 1.24324	\$ 1.17688
<b>Rate With Inverted Rate</b>						\$ 1.31159	\$ 1.19858
<b>Difference %</b>						5%	2%
<b>Long Run Elasticity at -.0.3</b>						(940,971)	(315,659)
<b>Usage Subject to Relative Decrease</b>						9,319,126	9,319,126
<b>Rate Without Inverted Rate</b>						\$ 1.24324	\$ 1.17688
<b>Rate With Inverted Rate</b>						\$ 1.31159	\$ 1.19858
<b>Difference %</b>						-5%	-2%
<b>Long Run Elasticity at -.0.3</b>						145,694	50,628
<b>Net Annual Therm Savings</b>						(795,277)	(265,031)
<b>%</b>						<b>-0.8%</b>	<b>-0.3%</b>

## Cascade Residential Rate Design As Proposed

Per Company	Units	Current Rate	Current Revenue	Proposed Rate	Proposed Revenue	% Increase
Basic Charge						
Winter	881,668	\$ 4.00	\$ 3,526,672	\$ 10.00	\$ 8,816,680	150%
Summer	845,518	\$ 4.00	\$ 3,382,072	\$ 4.00	\$ 3,382,072	0%
	1,727,186					
Commodity Charge						
Distribution	97,153,392	\$ 0.22658	\$ 22,013,016	\$0.26937	\$ 26,170,209	19%
Total Margin			\$ 28,921,760		\$ 38,368,961	32.7%
WACOG	97,153,392	\$ 0.91942	\$ 89,324,772	\$ 0.91942	\$ 89,324,772	0%
Total With Gas			\$118,246,531		\$ 127,693,733	8.0%

## Residential Rates With Current Rate Design

	Current Rate	\$4 Million Increase	Company-Requested Increase
Basic Charge	\$ 4.00	\$ 4.00	\$ 4.00
Delivery Charge	\$ 0.22658	\$ 0.25746	\$ 0.32382

## Residential Rates With Inverted Rate Design

	Current Rate	\$4 Million Increase	Company-Requested Increase
Basic Charge	\$ 4.00	\$ -	\$ -
First 30 Therms	\$ 0.22658	\$ 0.22658	\$ 0.22658
Over 30 Therms	\$ 0.22658	\$ 0.27916	\$ 0.39217

**Cost of Meters and Meter Reading and Billing**

<b>Plant in Service</b>			
Meters		\$ 16,976,350	Dickey, LMD-2
Meter Installations		\$ 9,111,507	Dickey, LMD-2
<b>Less Accumulated Depreciation</b>			
Meters		\$ (4,822,069)	Dickey, LMD-2
Meter Installations		\$ (2,473,104)	Dickey, LMD-2
Net Rate Base		\$ 18,792,684	
Net of Tax Rate of Return (from PSE)		6.61%	
Conversion Factor (Cascade)		62%	Barnard, KJB-3
Meter Return Requirement		\$ 1,997,743	
Depreciation Expense		\$ 522,219	Dickey, LMD-2
<b>Total Meter Revenue Requirement</b>		<b>\$ 2,519,962</b>	
Customers		143,932	
Meter Revenue Requirement / Year / Customer		\$ 17.51	
Meter Reading and Billing Cost / Year / Customer		\$ 18.61	PC #64
Total Metering, Meter Reading, and Billing Cost		\$ 36.12	
<b>Cost/Month/Customer</b>		<b>\$ 3.01</b>	
Current Basic Charge:		\$ 4.00	

Note: PSE Net of Tax Return as Proposed by Staff Used as Proxy for Cascade



Class	Schedule	Current Margin	Proposed Increase	%
Residential	503	\$ 29,932,654	\$ 9,729,088	32.5%
Dry Out	502	\$ 372,852	\$ (56,857)	-15.2%
Gas AirCon	541	\$ 35,738	\$ 15,509	43.4%
Commerical GS	504	\$ 16,417,848	\$ 3,183,697	19.4%
Large Volume	511	\$ 1,014,714	\$ (499,084)	-49.2%
CNG	512	\$ 12,452	\$ (13,581)	-109.1%
Industrial Firm	505	\$ 1,407,925	\$ 472,681	33.6%
Industrial Interruptible	570	\$ 189,142	\$ (31,492)	-16.6%
Instittutional Interruptible	577	\$ 36,976	\$ (13,272)	-35.9%
<b>Subtotal Core</b>		\$ 49,420,301	\$ 12,786,689	25.9%
Distribution Transporation	663	\$ 8,619,620	\$ (3,839,428)	-44.5%
Large Volume Transporation	664	\$ 5,922,700	\$ 1,634,528	27.6%
Special Contracts	901	\$ 5,832,167	\$ -	0.0%
<b>Subtotal non-Core</b>		\$ 20,374,487	\$ (2,204,900)	-10.8%
<b>Subtotal Tariff Revenues</b>		\$ 69,794,788	\$ 10,581,789	15.2%
<b>Total Other Revenue and Taxes</b>		\$ 9,760,691	\$ 1,130,612	11.6%
<b>Total</b>		\$ 79,555,479	\$ 11,712,401	14.7%

From: Stolz JTS-9 Schedule 3 P. 2  
 Addition errors corrected by Mr. Lazar



Cascade Usage of Residential and Transportation Customers

Year	Residential	Transportation
1987		
1988		
1989		
1990		
1991		
1992		
1993		
1994		
1995	93,524	471,657
1996	101,779	606,743
1997	110,137	642,060
1998	106,454	908,278
1999	119,909	911,801
2000	121,847	1,101,960
2001	126,781	1,149,224
2002	129,212	782,019
2003	122,623	805,286
2004	131,267	790,870

Source: Cascade Natural Gas Annual Reports to Shareholders

