

COST OF SERVICE

OBJECTIVES & METHODOLOGY

Utah Cost of Service Taskforce

May 23, 2005

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Cost of Service Objectives & Methodology

- I. Conceptual Overview
- II. Current PacifiCorp Methodology
 - A. Functionalization
 - B. Classification & Allocation
 - 1. Generation
 - 2. Transmission
 - 3. Distribution
 - 4. Customer Service, Billing & Collections
- III. Cost of Service to Rate Design

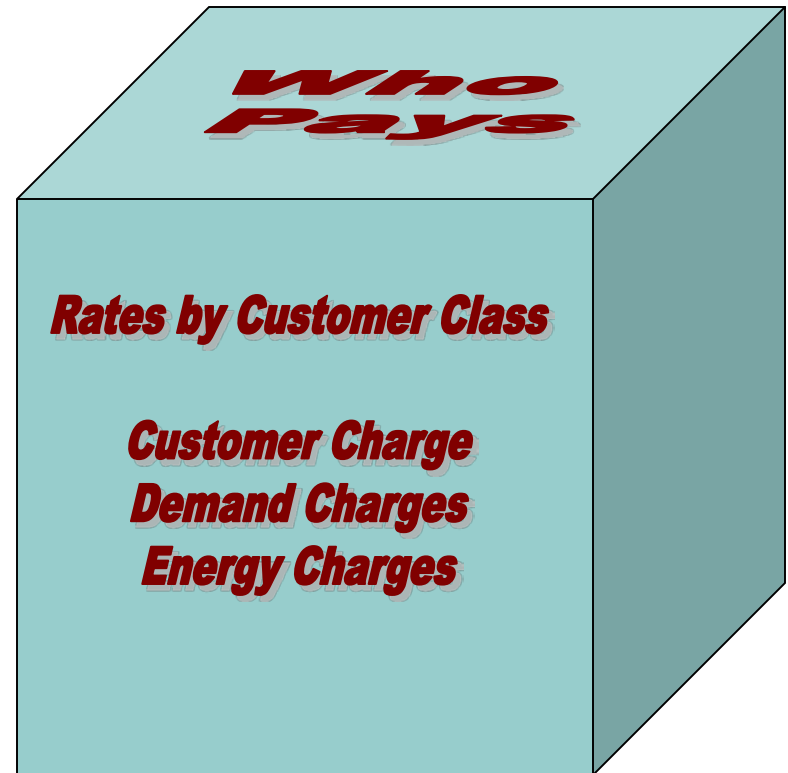
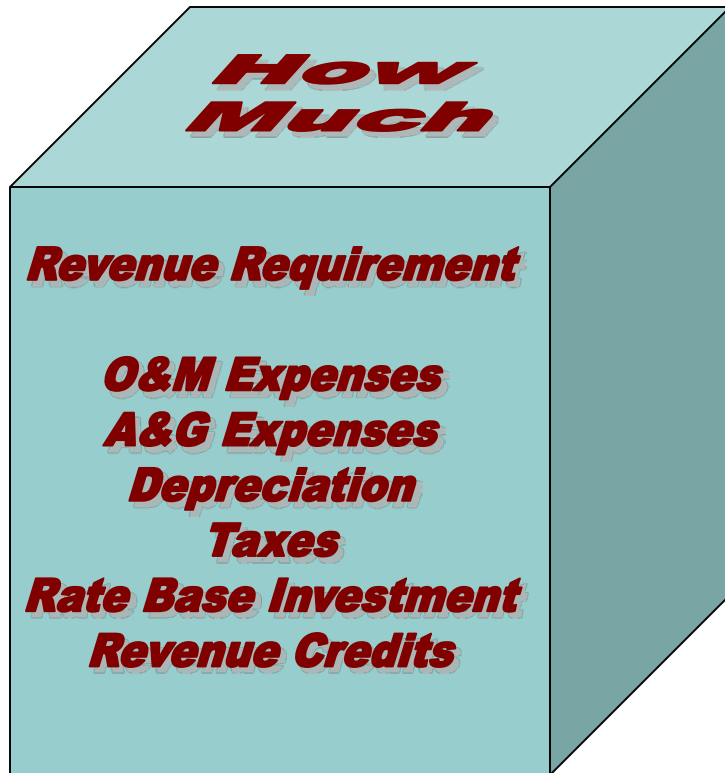
*Cost of Service
Section 1
Conceptual Overview*

**Getting from
“How Much” to “Who
Pays”**

Utility Rate Setting

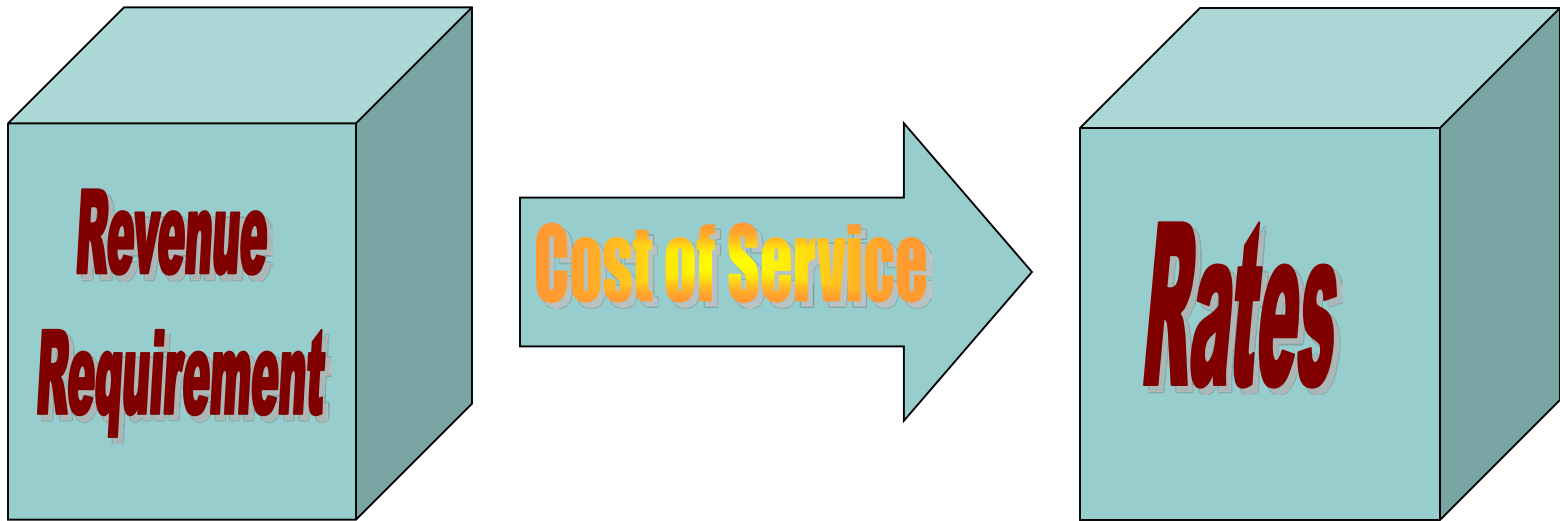
Two Questions

How Much & Who Pays



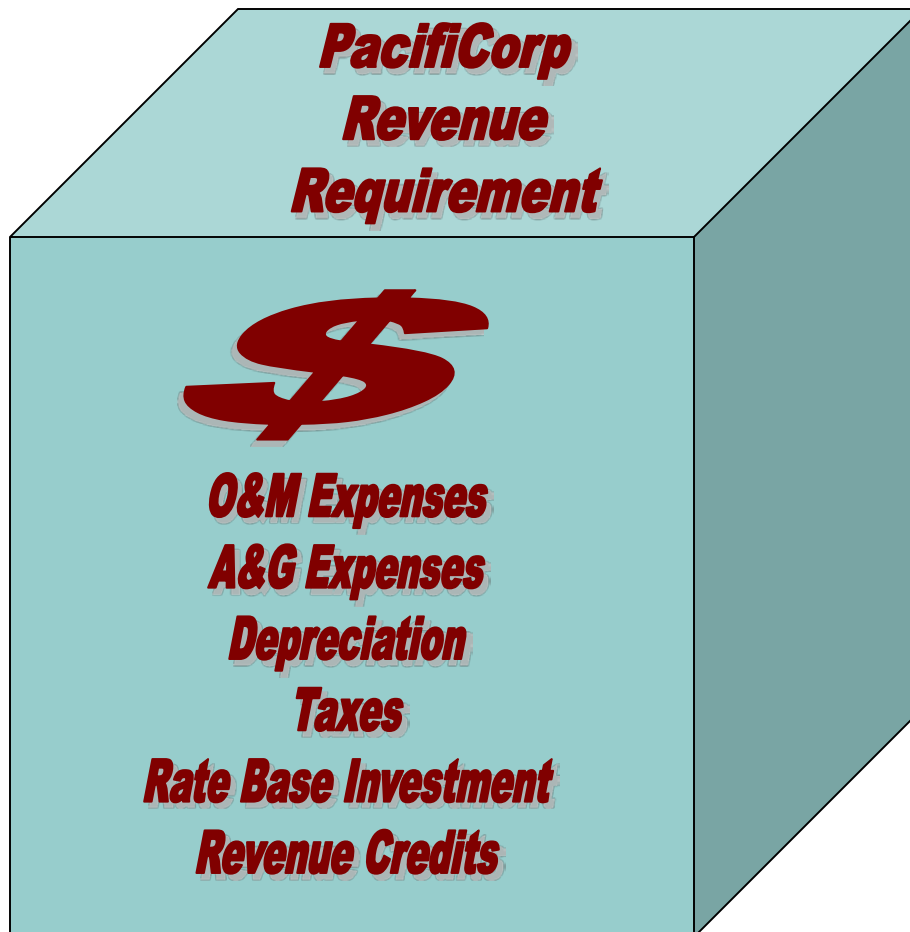
Cost of Service

The Bridge between
Revenue Requirement & Rates



Cost of Service

Dividing the Revenue Requirement



Cost of Service

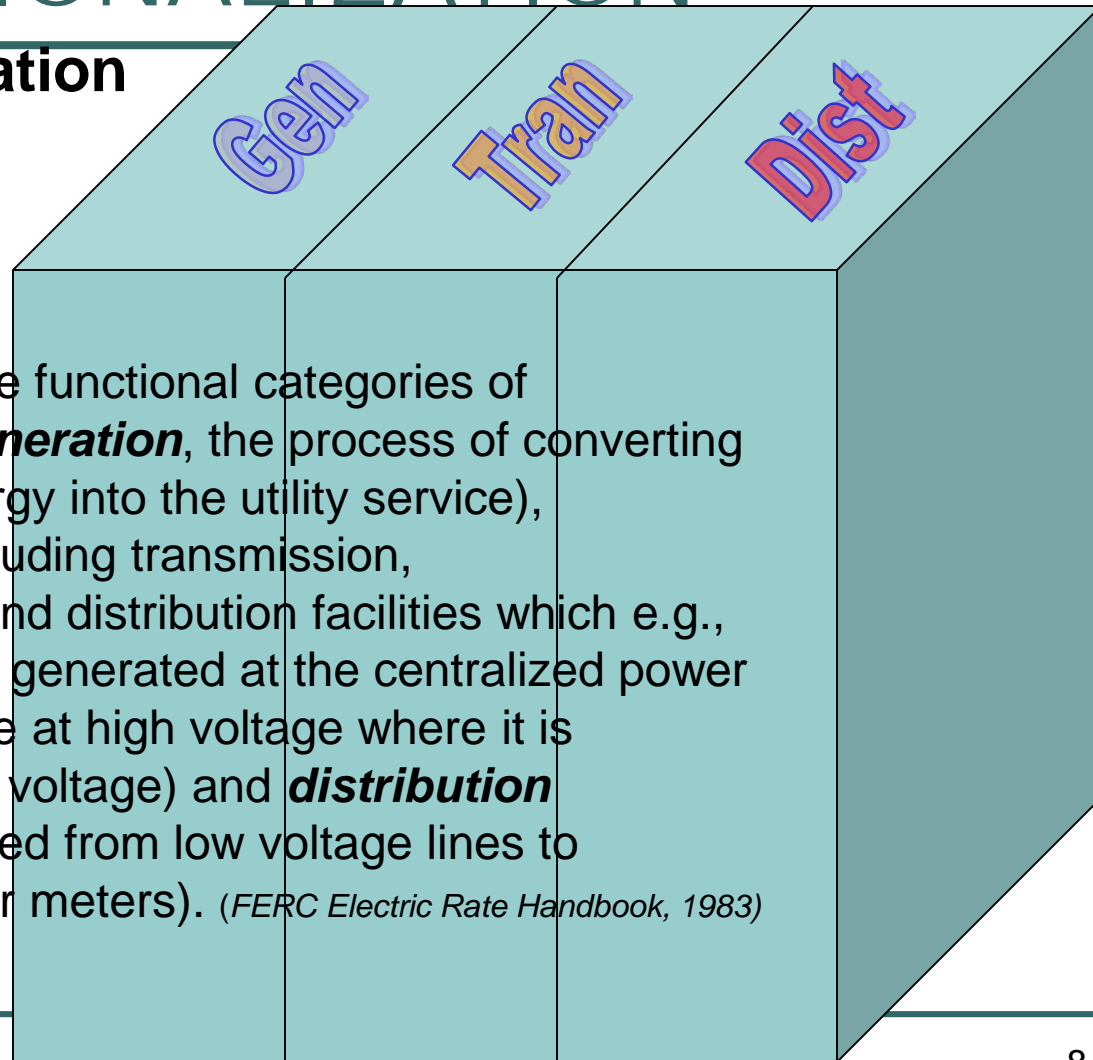
A Three Step Process

Functionalization
Classification
Allocation

FUNCTIONALIZATION

- **Functionalization**
- Classification
- Allocation

Assignment into the functional categories of **production** (or **generation**, the process of converting other forms of energy into the utility service), **transmission** (including transmission, subtransmission, and distribution facilities which e.g., send the electricity generated at the centralized power station through wire at high voltage where it is transformed to low voltage) and **distribution** (electricity distributed from low voltage lines to individual ratepayer meters). (*FERC Electric Rate Handbook, 1983*)

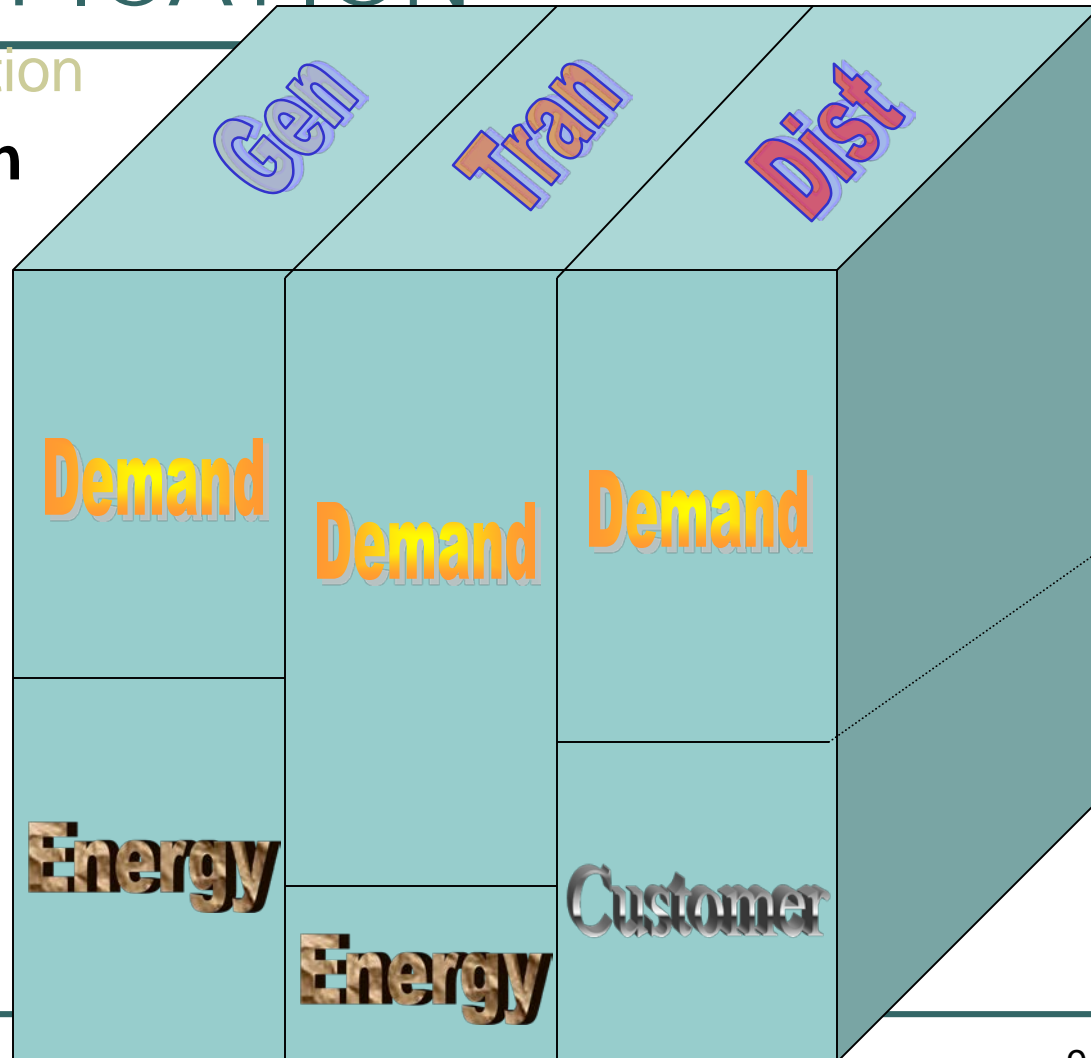


CLASSIFICATION

- Functionalization
- **Classification**
- Allocation

Assignment by energy usage, peak demand, and number of customers within the functional categories.

(FERC Electric Rate Handbook, 1983)

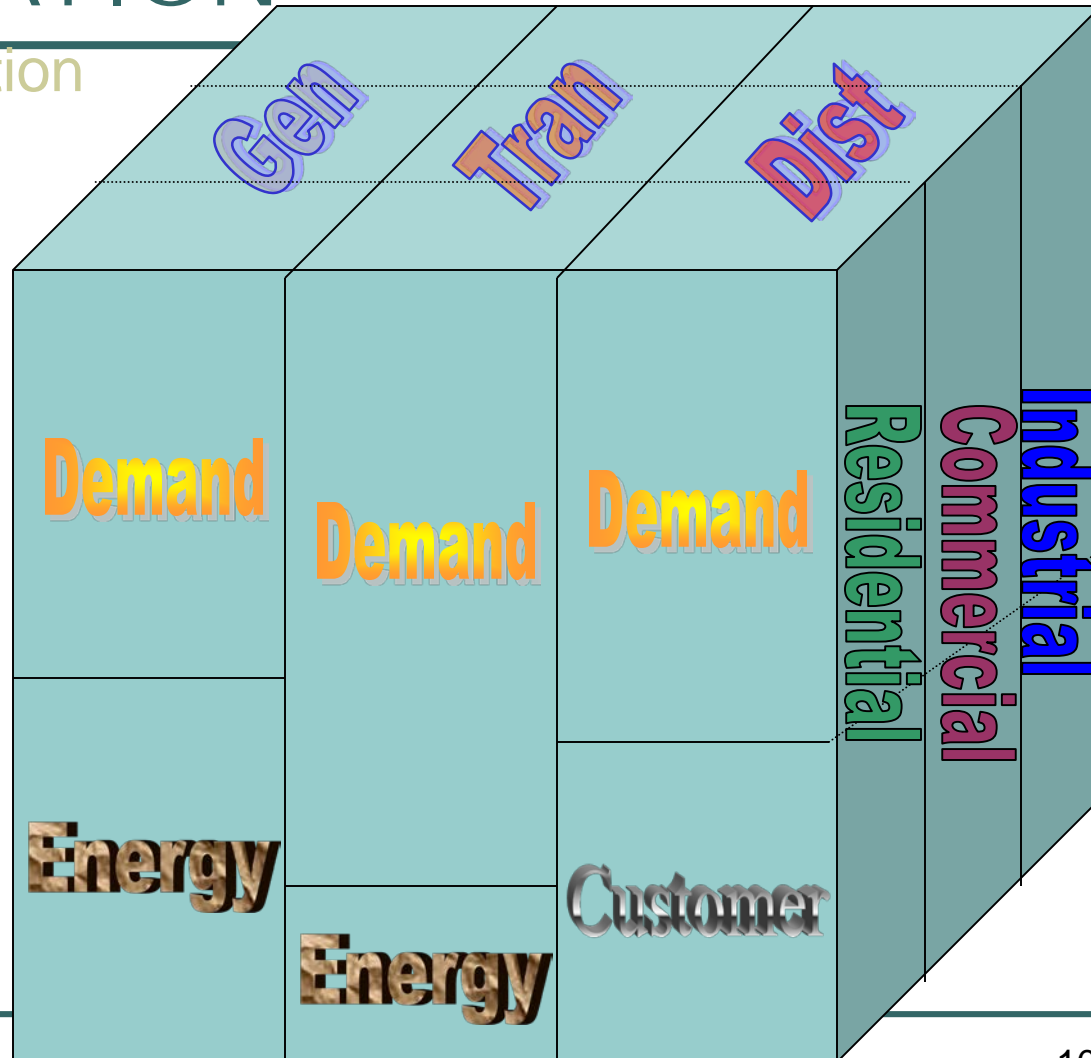


ALLOCATION

- Functionalization
- Classification
- **Allocation**

Assignment to stable customer groupings or classes consistent with Functionalization and Classification

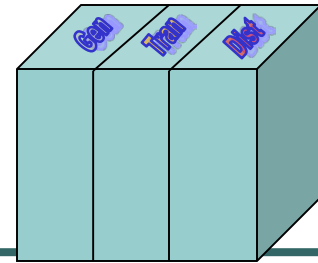
(FERC Electric Rate Handbook, 1983)



*Cost of Service
Section II*

**Current PacifiCorp
Methodology**

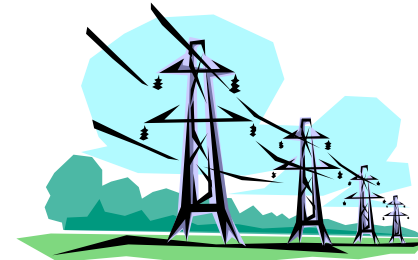
Functionalization



- Generation



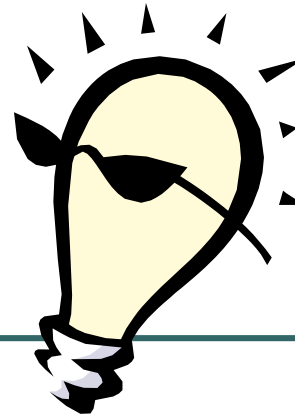
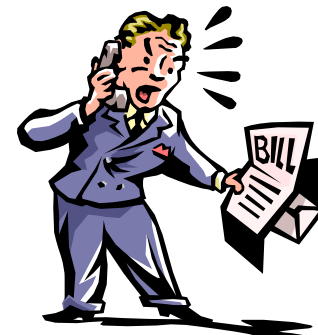
- Transmission



- Distribution



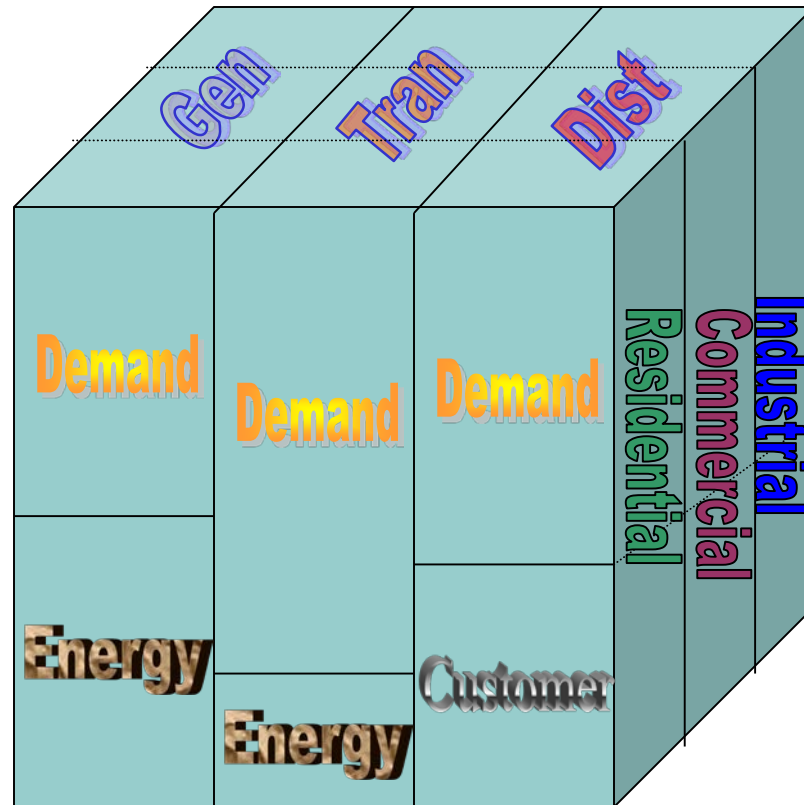
- Retail
(Customer Service & Billing)



Functionalization Procedures

- Direct Assign where Practical
 - 80% to 90% of costs can be direct assigned to one of the primary functions
- FUNC Factors
 - Composite more granular direct assignments
 - % of Direct Assigned Plant Investment by Function
 - % of Direct Assigned Labor by Function

Classification and Allocation



Generation

Current Utah Methodology

- **Classification**

- Plant Investment & Other Fixed Costs
 - 75% Demand / 25% Energy
- Fuel
 - 100% Energy
- Firm Wholesale Purchases & Sales
 - 75% Demand / 25% Energy
- Non-Firm Wholesale Purchases & Sales
 - 100% Energy
- Total Generation Costs
 - Approximately 50% Demand / 50% Energy

Generation

Current Utah Methodology

- Allocation
 - Demand Related Costs
 - 12 CP
 - Energy Related Costs
 - Annual MWh

Generation

Methodology used in Other States

- Idaho & Wyoming
 - Same as Utah
- Oregon & California (Marginal Costs)
 - Demand – Fixed Costs of SCCT
 - Allocated on Average of 12 Monthly CP
 - Energy – Fuel and remaining Fixed Costs of CCCT
 - Allocated on Annual MWh
 - Total Generation Costs Approximately 25% Demand / 75% Energy
- Washington
 - Demand – $\frac{1}{2}$ Fixed & Fuel Cost of SCCT running 200 Hours
 - Allocated on top 100 winter & 100 summer peak hours
 - Energy – All other costs
 - Allocated on Annual MWh
 - Total Generation Costs Approximately 13% Demand / 87% Energy

Transmission

Current Utah Methodology

- **Classification**

- Plant Investment & Expenses
 - 75% Demand / 25% Energy
- Firm Wheeling
 - 75% Demand / 25% Energy
- Non-Firm Wheeling
 - 100% Energy

- **Allocation**

- Demand - 12 CP
- Energy - Annual MWh

Transmission

Methodology used in Other States

- Idaho & Wyoming
 - Same as Utah
- Oregon & California (Marginal Costs)
 - Backbone Transmission
 - Classified & Allocated Same as Generation
 - Local Transmission –
 - Classified 100% Demand
 - Allocated on Average of 12 Monthly CP
- Washington
 - Same as Generation

Distribution

Current Utah Methodology

- Classification
 - Meters & Service Drops – Customer Related
 - All Other Distribution Costs – Demand Related
- Allocation
 - Substation & Primary Lines
 - 12 Weighted Distribution Peaks
 - Line Transformers
 - Secondary Voltage Customers Only
 - Class Maximum Month Customer NCP Adjusted for Customer per Transformer Coincidence Factor
 - Secondary Lines
 - Only classes where more than one customer shares line transformer
 - Class Maximum Month Customer NCP Adjusted for Customer per Transformer Coincidence Factor
 - Meters & Services
 - Fully Installed Costs of New Meters and Services

Distribution

Methodology used in Other States

- Wyoming
 - Primary Lines
 - Large Industrial Customers broken out separately
 - All other Classes – 12 Distribution Peaks
- Washington
 - Primary Lines
 - Annual Schedule Peak (Class NCP)
- Oregon (Marginal Costs)
 - Distribution Feeders (Primary and Secondary)
 - Composite Feeder
 - Distance Based
 - Minimum System (Demand & Commitment)
 - Transformers
 - Zero Intercept Method

Retail Functions

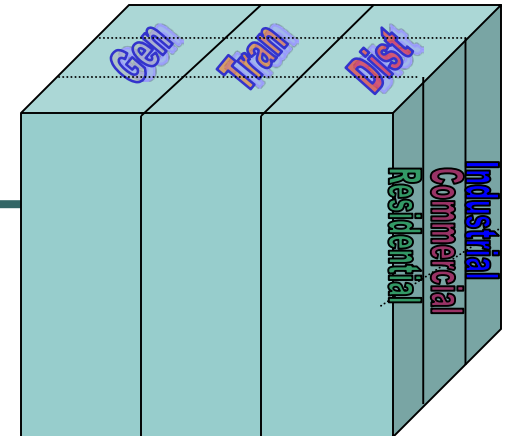
Customer Service – Billing - Collections

- Meter Reading
 - Typical Meter Reading Times by Class
(Including Travel Time)
- Customer Service – Billing - Collections
 - Weighted Customers
 - Average per Customer Billing Costs
(Including Manual Bills)
 - Average Write-off per Customer
 - Many activities have same weighting for all Customers

*Cost of Service
Section III*

Cost of Service
To
Rate Design

Cost of Service Summary



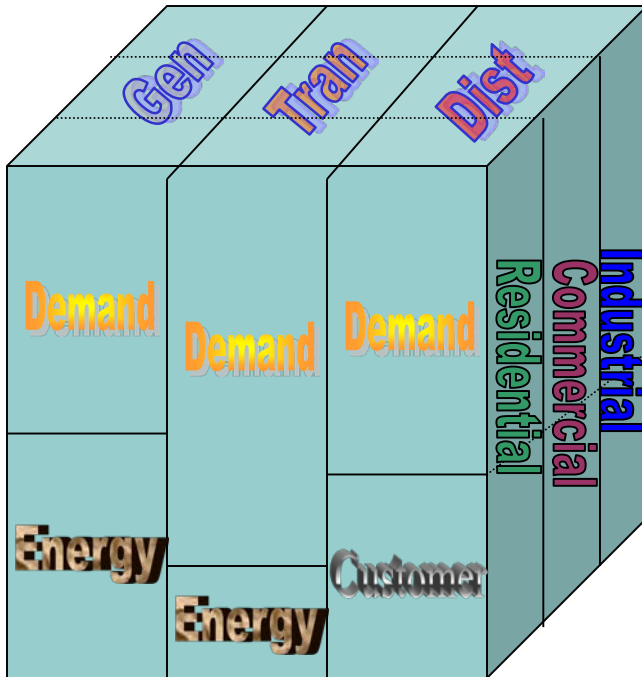
PacifiCorp
 Cost Of Service By Rate Schedule
 State of Utah
 12 Months Ending March 2006
 MSP

MSP Allocation Factors

8.15% = Target Return on Rate Base

Line No.	Schedule No.	Description	Annual Revenue	Return on Rate Base	Rate of Return Index	Total Cost of Service	Generation Cost of Service	Transmission Cost of Service	Distribution Cost of Service	Retail Cost of Service	Misc Cost of Service	Increase (Decrease) to = ROR	Percentage Change from Current Revenues
1	1	Residential	441,366,225	8.30%	1.17	447,109,436	225,249,748	24,200,694	157,305,000	37,669,405	2,684,588	5,743,211	1.30%
2	6	General Service - Large	315,525,083	6.42%	0.90	336,956,586	219,070,471	24,669,124	88,927,487	1,957,891	2,331,612	21,431,503	6.79%
3	8	General Service - Over 1 MW	96,635,356	6.90%	0.97	101,563,045	69,938,974	7,481,461	23,261,771	143,056	737,784	4,927,689	5.10%
4	7,11,12,13	Street & Area Lighting	10,847,300	2.77%	0.39	12,386,007	1,836,157	131,741	10,038,227	339,601	40,281	1,538,707	14.19%
5	9	General Service - High Voltage	136,757,310	6.72%	0.94	143,321,419	125,725,649	14,441,890	1,075,534	839,233	1,239,114	6,564,109	4.80%
6	10	Irrigation	9,352,282	2.89%	0.41	11,063,981	7,197,833	743,384	2,894,508	155,278	72,978	1,711,699	18.30%
7	12	Traffic Signals	739,505	7.89%	1.11	755,321	389,811	39,100	204,430	117,339	4,642	15,816	2.14%
8	12	Outdoor Lighting	725,216	61.77%	8.67	335,155	228,508	15,016	71,734	16,290	3,606	(390,061)	-53.79%
9	21	Electric Furnace	241,825	11.04%	1.55	229,598	150,476	19,754	25,938	31,724	1,707	(12,227)	-5.06%
10	23	General Service - Small	80,575,401	7.32%	1.03	83,922,273	47,377,319	5,305,674	27,515,554	3,189,672	534,055	3,346,872	4.15%
11	25	Mobile Home Parks	658,771	7.65%	1.07	680,675	415,437	44,604	215,665	404	4,564	21,904	3.32%
12	SpC	Customer A	7,845,685	5.11%	0.72	8,529,757	7,609,707	777,706	60,192	8,252	73,899	684,072	8.72%
13	SpC	Customer B	16,333,550	6.58%	0.92	17,027,659	15,480,100	1,227,286	93,581	72,342	154,351	694,109	4.25%
14	SpC	Customer C	17,601,092	-0.66%	(0.09)	22,323,689	19,825,219	2,203,618	101,166	9,530	184,157	4,722,597	26.83%
15		Total Utah Jurisdiction	1,135,204,601	7.12%	1.00	1,186,204,601	740,495,410	81,301,052	311,790,786	44,550,016	8,067,337	51,000,000	4.49%

Unit Costs



Schedule No. 6

Demand per kW Month

Gen	\$7.72
Tran	\$1.33
Dist	\$5.37

Energy per kWh

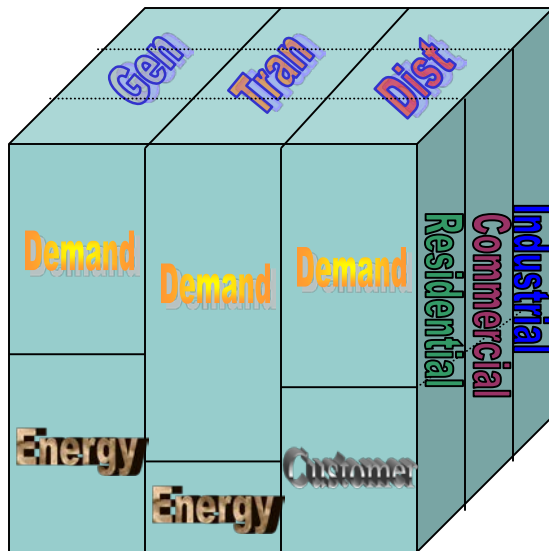
Gen	1.75 Cents
Tran	0.38 Cents
Misc	0.04 Cents

Customer per Month

Meter	\$13.36
Service	\$11.56
Retail	\$11.60

Cost of Service to Rate Design

How Costs are
Allocated



How Bills are
Paid

