

FERC Transmission Ratemaking

Michael McHugh



Issues

- **Ratemaking - Requirements**
 - Cost of Service – Annual Transmission Revenue Requirement
 - System Use – Coincidental Peak
- **Pricing Options**
 - Point to Point
 - Network Integration Transmission Service (NT)
 - Load Ratio Share, or
 - Monthly CP
- **Example**
- **Coincidental Peak Alternatives**

Transmission Rate Requirements

- Annual Transmission Revenue Requirement (ATTR)
 - Gross Revenue Requirement minus Revenue Credits

- System Use (Coincidental Peak (CP))
 - Point to Point (Long-Term Firm Reservation) (PTP)
 - Network Integration Transmission Service (NT)

Annual Transmission Revenue Requirement

Annual Transmission Revenue Requirement equals:

- Gross Revenue Requirement:
 - O&M
 - Depreciation & Amortization
 - Taxes Other than Income
 - Investment Return (Rate Base X ROR)
 - Income Taxes (Gross up for State & Federal income taxes)

Minus

- Revenue Credits:
 - Rent from Electric Property
 - Service revenues: load that is not included in the divisor

Firm Point-to-Point and Network Integration Transmission Services

- **Firm Point-to-Point (PTP)** transmission service is designated for the receipt of energy and capacity at designated Point(s) of Receipt (POR) and the transfer of such capacity and energy to designated Point(s) of Delivery (POD).
- **Network Integration (NT)** transmission service allows for a network customer to integrate, economically dispatch and regulate its current and planned Network Resources to serve its Network Load in a manner that is comparable to that in which the transmission supplier utilizes its transmission system to serve its Native Load Customers.

Illustrative Example: Formula Rate Filing

	(\$million)
O&M	\$55
Depreciation & Amortization	\$65
Taxes Other than Income	\$20
Investment Return	\$195
Income Taxes	\$70
Interest on Network Upgrades	\$1
Transmission Incentive Credit	\$5
Gross Revenue Requirement	\$411
 Minus Revenue Credits & Adjustments:	
Excluded Transmission	\$10
Rent from Electric Property	\$2
Service revenues: load is not included in the divisor	\$83
Revenue Credits & Adjustments	\$95
Annual Transmission Revenue Requirement	\$316
Divisor - 12 Month Average Transmission Peak	11,500 MW
Transmission Rate (\$/MW – Year) - PTP & NT	\$27,478

Illustrative Example: Summary of Rates

Line Description	Reference	Amount
1 Annual Transmission Revenue Requirement	(Slide 6)	\$316,000,000
2 Divisor - 12 Month Average Transmission Peak (MW)	(Slide 8)	11,500
3 Transmission Rate (\$/kW – Year)	Line 1 / Line 2 / 1000	\$27.478
4 Transmission Rate (\$/kW - Month)	Line 3 / 12 months	\$2.290
5 Weekly Firm/Non-Firm Rate (\$/kW – Week)	Line 3 / 52 weeks	\$0.528
Daily Firm/Non-Firm Rates (\$/kW):		
6 On-Peak Days	Line 5 / 5 days	\$0.106
7 Off-Peak Days	Line 5 / 7 days	\$0.075
Non-Firm Hourly Rates (\$/MWh):		
8 On-Peak Hours	Line 6 / 16 hours * 1000	\$6.605
9 Off-Peak Hours	Line 7 / 24 hours * 1000	\$3.145

Illustrative Example: Revenue Requirement Allocation

	<u>12 CP MW</u>	<u>ATRR – Allocation (\$ million)</u>
Firm NT - Self	7,000	\$192.4
Firm NT - Others	1,500	\$41.2
Point to Point (LT Firm Reserved Capacity)	<u>3,000</u>	<u>\$82.4</u>
Total	11,500	\$316.0

Load Ratio Share vs. Monthly CP MW

■ Load Ratio Share (LRS)

- Ratio of the metered load (customer's) to the system load (NT customers' contribution to peak plus PTP reserved capacities) at the hour of the system peak (Coincidental Peak (CP))
 - Systems 12-CP - Average of the 12 system peak hours for the 12 month period
 - Customer's 12-CP – Average of the customers use during each "Systems" monthly peak hour

Load-Ratio Share = Customer's 12-CP /Systems 12-CP

■ Monthly CP MW

- Metered load (customers) at the hour of the system peak (Coincidental Peak (CP))

Monthly CP MW = MW_{Coincidental Peak}

Revenue by Service Type

Point to Point

- $\$/\text{MW-month} * \text{MW}_{\text{Reservation}}$

Network Integration Transmission Services (NT)

- Load Ratio Share
 - One-Twelfth Annual Transmission Revenue Requirement (ATRR) * Customers Load Ratio Share (LRS)

Or

- Monthly Rate (\$ / MW)
 - $\$/\text{MW-month} * \text{MW}_{\text{Coincidental Peak}}$

$\$/\text{MW-month} = (\text{ATRR} / \text{System Use (Coincidental Peak (CP))})/12$ – This is the same rate for both Point to Point and NT Service

LRS vs Monthly \$/MW 12CP

Assume:

- NT Customer's Network usage on hour of system peak in October is 200 MW
 - Actual 12CP is 11,500 MW
- Load Ratio Share
 - $(200 \text{ MW} / 11,500 \text{ MW}) * \$26.3 \text{ million}^1 = \0.458 million
 - Monthly Rate Method
 - $200 \text{ MW} * \$2,290^2 / \text{MW} = \0.458 million

If actual numbers are the same as the forecasted rate case numbers both methods should yield similar results.

¹ ATRR / 12; i.e. \$316 million / 12 = \$26.3 million

² Monthly NT Rate (\$316 million / 11,500 MW / 12)

Coincidental Peak - Alternatives

- **1-CP** - “Systems 1-CP” - system peak hour for the system peak month (where the single coincident peak month is statistically "significantly different" from the other 11 months)
- **4 CP** - “Systems 4-CP” - Average of the system peak hours for a 4 contiguous month period (where peaks in 4 contiguous months are statistically "significantly different" from the other 8 months)
- **12-CP** - “Systems 12-CP” - Average of the system peak hours for a 12 month period (where peaks are not statistically "significantly different" over the entire 12 months)

Illustrative Example: ATTR CP Allocation Alternatives

MONTHLY PEAK				
	Monthly System Peak	Long Term Firm PTP	Firm NT for others	Firm NT for Self
Jan	9,000	950	900	7,150
Feb	8,000	950	800	6,250
Mar	8,000	950	800	6,250
Apr	8,000	950	800	6,250
May	6,000	950	600	4,450
Jun	6,000	950	600	4,450
Jul	6,000	950	600	4,450
Aug	8,000	950	800	6,250
Sep	12,000	950	1,200	9,850
Oct	11,000	950	1,100	8,950
Nov	12,000	950	1,200	9,850
Dec	16,000	950	2,000	13,050

12CP		9,167		950		950		7,267
% ATTR Responsibility				10%		10%		79%
ATTR	\$	50.00	\$	5.18	\$	5.18	\$	39.64

4CP (Sept - Dec)		12,750		950		1,375		10,425
% ATTR Responsibility				7%		11%		82%
ATTR	\$	50.00	\$	3.73	\$	5.39	\$	40.88

1CP (Dec)		16,000		950		2,000		13,050
% ATTR Responsibility				6%		13%		82%
ATTR	\$	50.00	\$	2.97	\$	6.25	\$	40.78

FERC CP Test

- **On and Off Peak Test** - Average of the system peaks during the purported peak period, as a percentage of the annual peak, to the average of the system peaks during the off-peak months, as a percentage of the annual peak. (A nineteen percentage point or less difference between these two figures supports using the 12 CP method.)
- **Low-to-Annual Peak Test** - Lowest monthly peak as a percentage of the annual peak. (Range of sixty-six percent or higher as indicative of a 12 CP system.)
- **Average to Annual Peak Test** - Average of the twelve monthly peaks as a percentage of annual peak. (The range for a utility to be considered 12 CP is eighty-one percent or higher.)

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WEB Sites

- www.oatioasis.com/ipco/index.html
- www.ferc.gov