

Subzone Transmission Loss Estimation

*ISO Market Operations
Presentation
to the
NYISO Business Issues Committee*

*Albany, New York
February 20, 2002*

Agenda #6

Subzone Loss Estimates

- **Current Methodology**
- **ISO/TO Observations**
- **Retail Access Implications**
- **Proposed Interim Methodology**
- **Proposed Future Methodology**

Current Methodology

- **Calculation process using static breakdown factors multiplied by the total NYCA loss estimate may not result in an accurate determination of subzone losses**
- **Static breakdown factors do not consistently provide an accurate representation of the ratio of subzone losses to NYCA losses**
- **Significant variation in breakdown factors for those subzones that include ‘wheel-through’ power transfers**

TO Observations

- **TOs have identified significant positive and negative unaccounted energy when ‘truing up’ subzone loads from retail meter reads**
- **Positive unaccounted energy is the result of under-estimating a subzone’s losses and negative unaccounted energy is the result of over-estimating a subzone’s losses, given that:**
 - *all metering used for subzone load calculations are correct and,*
 - *all retail meter reads are correct and accounted for*

Retail Access Implications

- **Unaccounted energy that results from the misallocation of subzone losses results in one subzones' LSEs inappropriately charged for another subzone's LSE load**
- **Negative impact on existing and potential retail access programs in the affected subzones**

ISO Observations

Subzone		Operating Studies			SCUC DAM Cases		
		<i>Current Static</i>	<i>Winter 2000/2001</i>	<i>Summer 2001</i>	<i>08-Aug-01 15:00</i>	<i>30-Jun-01 12:00</i>	<i>25-Feb-01 13:00</i>
1	NMWE	11.28%	10.88%	8.99%	4.59%	6.23%	4.92%
2	NMCN	11.55%	13.03%	9.97%	5.74%	4.81%	3.58%
3	NMMV	10.85%	14.06%	17.71%	9.85%	8.80%	9.63%
4	NMCP	7.92%	6.93%	7.74%	17.81%	18.73%	18.97%
5	NYWE	3.66%	3.09%	2.48%	1.67%	2.48%	4.04%
6	NYCN	11.99%	12.34%	7.82%	9.71%	7.07%	11.64%
7	NYMV	2.13%	1.34%	0.97%	10.16%	7.32%	10.03%
8	NYHV	0.00%	0.00%	0.00%	0.05%	0.13%	0.05%
9	RGGN	3.01%	2.30%	3.09%	4.45%	5.52%	8.06%
10	CHHV	2.63%	2.07%	2.17%	5.09%	4.87%	3.61%
11	ORHV	2.29%	2.05%	2.06%	4.06%	5.25%	3.41%
12	LILI	6.97%	6.69%	8.54%	8.20%	10.06%	5.68%
14	PANO	1.23%	0.86%	0.71%	0.36%	0.28%	0.51%
15	CENY	10.79%	8.12%	11.84%	7.87%	7.11%	2.76%
19	NYNO	0.54%	0.52%	0.20%	0.99%	0.20%	0.25%
21	NYCP	0.41%	0.41%	0.28%	0.04%	0.02%	0.02%
23	CEML	1.61%	2.06%	2.62%	1.28%	1.55%	1.62%
25	CEDW	2.31%	2.59%	3.14%	3.56%	2.48%	4.28%
29	NMGN	6.64%	6.15%	4.70%	0.76%	1.60%	4.15%
30	NYML	0.78%	0.56%	0.36%	1.85%	1.09%	1.02%
31	NMNO	1.10%	0.88%	0.36%	1.79%	4.30%	1.57%
32	CEHV	0.33%	3.09%	4.23%	0.13%	0.13%	0.20%
33	CHMV	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
		100.02%	100.00%	100.00%	100.00%	100.00%	100.00%

Proposed Interim Methodology

- **Use same EDC Model that currently provides total NYCA loss estimate**
- **Use detailed EDC Areas to provide more accurate *locational* loss estimates within the NYCA**
- **Use breakdown factors for EDC Areas to estimate subzone losses**
- **9 EDC Areas breakdown to 22 subzones**

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LBMP		<i>Breakdown</i>	EDC	<i>Breakdown</i>
Subzone		<i>% of NYCA</i>	Area	<i>% of EDC area</i>
1	NMWE	11.28%	NMW	52.27%
5	NYWE	3.66%	NMW	16.96%
29	NMGN	6.64%	NMW	30.77%
9	RGGN	3.01%	RG	100.00%
14	PANO	1.23%	NMC	4.87%
31	NMNO	1.10%	NMC	4.35%
19	NYNO	0.54%	NMC	2.14%
2	NMCN	11.55%	NMC	45.71%
3	NMMV	10.85%	NMC	42.94%
4	NMCP	7.92%	NME	95.08%
21	NYCP	0.41%	NME	4.92%
6	NYCN	11.99%	NYSEG	84.92%
7	NYMV	2.13%	NYSEG	15.08%
33	CHMV	0.00%	NYSEG	0.00%
10	CHHV	2.63%	CH	100.00%
8	NYHV	0.00%	CH	
11	ORHV	2.29%	OR	100.00%
32	CEHV	0.33%	CE	2.09%
23	CEML	1.61%	CE	10.18%
25	CEDW	2.31%	CE	14.60%
15	CENY	10.79%	CE	68.20%
30	NYML	0.78%	CE	4.93%
12	LILI	6.97%	LI	100.00%

Proposed Future Methodology

- **State Estimator/Real-Time Dispatch power flow solution provides estimate of subzone losses**
- **Subzone loss estimates directly computed**