### **Transmission Losses Follow-up**

Network Customer Meeting October 20, 2010

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# ATC, Billing & Schedule 9

- The purpose of this brief review is to impart some history regarding the tie between the network billing process and transmission losses
- ATC and Ameren are the only Pricing Zones that perform it's own Schedule 9 billing. The Midwest ISO performs this function for all others using a rate \* current month MW calculation



#### **MISO References to Losses**

- Energy Markets Tariff Module B
  - Definitions Section Section 1.168 Load: "A term that refers to either an end-user of Energy, net of system losses...."
  - Section 15.7 (PTP) & 28.5 (NITS) refer to "Marginal Losses".
    Both references indicate "Transmission Provider shall assess to Market Participants the Marginal Losses Component of the LMP"
- Energy Markets Tariff Module C
  - Other references in the context of *marginal losses. (GFA's, LMP, Scheduling et.al.)*
- Transmission Settlements Business Practice Manual (BPM-012) - Mentions losses with respect to Schedule 1 (Scheduling & Dispatch Service) and Schedules 7-8 (Point to Point Services) Station Power



#### Losses in the 5-Year Phase In

- ATC adopted a five-year phase-in of base transmission rates so all load within the ATC footprint would eventually be equalized
- In like manner, all energy losses were similarly equalized (see spreadsheet on the next slide)
- Losses not monetarily settled. Instead, the payback mechanism is in real time using a payment in kind process



### **ATC Energy Loss Phase-in**

4 /4 /2002

2001      2002      2003      2004      2005      MWHs        Loss      Loss      Loss      Loss      Loss      Loss      Daily        SLBA      Factor      Factor      Factor      Factor      Factor      Factor      Factor      Factor      Factor      Energy      Weighted        WEC      1.84%      1.88%      1.92%      1.97%      2.01%      90,000      50.7%      0.009327        Alliant      1.99%      2.00%      2.00%      2.01%      39,000      22.0%      0.004371        WPS      2.20%      2.15%      2.10%      2.05%      2.01%      36,000      20.3%      0.004461        MG&E      2.65%      2.49%      2.33%      2.17%      2.01%      9,700      5.5%      0.001448        UPPCO      3.00%      2.75%      2.50%      2.25%      2.01%      2,850      1.6%      0.000482        Average:      2.01%      2.01%      2.01%      177,550      2.01%        WEC      0.00%      0.04%      0.01%      0.01%							1/1/2002		
SLBA WEC      Factor      Factor      Factor      Factor      Factor      Factor      Factor      Factor      Factor      SLBA      Use		2001	2002	2003	2004	2005	MWHs		
WEC    1.84%    1.88%    1.92%    1.97%    2.01%    90,000    50.7%    0.009327      Alliant    1.99%    2.00%    2.00%    2.01%    39,000    22.0%    0.004371      WPS    2.20%    2.15%    2.10%    2.05%    2.01%    36,000    20.3%    0.004461      MG&E    2.65%    2.49%    2.33%    2.17%    2.01%    9,700    5.5%    0.001448      UPPCO    3.00%    2.75%    2.50%    2.25%    2.01%    2,850    1.6%    0.000482      Average:    2.01%    2.01%    2.01%    2.01%    177,550    2.01%      Loss Factor Differential    VEC    0.00%    0.04%    0.08%    0.13%    0.17%    36    Send      Alliant    0.00%    0.01%    0.01%    0.02%    4    Send      WPS    0.00%    -0.10%    -0.15%    -0.19%    (18)    Receive      MG&E    0.00%    -0.16%    -0.32%    -0.48%    -0.64%    (16)    Receive		Loss	Loss	Loss	Loss	Loss	Daily		
Alliant    1.99%    2.00%    2.00%    2.01%    39,000    22.0%    0.004371      WPS    2.20%    2.15%    2.10%    2.05%    2.01%    36,000    20.3%    0.004461      MG&E    2.65%    2.49%    2.33%    2.17%    2.01%    9,700    5.5%    0.001448      UPPCO    3.00%    2.75%    2.50%    2.25%    2.01%    2,850    1.6%    0.000482      Average:    2.01%    2.01%    2.01%    2.01%    2.01%    2.01%    2.01%    2.01%      MVEC    0.00%    0.04%    0.08%    0.13%    0.17%    36    Send      Alliant    0.00%    0.01%    0.01%    0.02%    4    Send      WPS    0.00%    -0.05%    -0.10%    -0.15%    -0.19%    (18)    Receive      MG&E    0.00%    -0.16%    -0.32%    -0.48%    -0.64%    (16)    Receive	<u>SLBA</u>	<b>Factor</b>	Factor	Factor	Factor	Factor	Energy		<u>Weighted</u>
WPS    2.20%    2.15%    2.10%    2.05%    2.01%    36,000    20.3%    0.004461      MG&E    2.65%    2.49%    2.33%    2.17%    2.01%    9,700    5.5%    0.001448      UPPCO    3.00%    2.75%    2.50%    2.25%    2.01%    2,850    1.6%    0.000482      Average:    2.01%    2.01%    2.01%    2.01%    2.01%    2.01%    2.01%    2.01%      MVEC    0.00%    0.04%    0.08%    0.13%    0.17%    36    Send      Alliant    0.00%    0.01%    0.01%    0.02%    4    Send      WPS    0.00%    -0.16%    -0.15%    -0.19%    (18)    Receive      MG&E    0.00%    -0.16%    -0.32%    -0.48%    -0.64%    (16)    Receive	WEC	1.84%	1.88%	1.92%	1.97%	2.01%	90,000	50.7%	0.009327
MG&E    2.65%    2.49%    2.33%    2.17%    2.01%    9,700    5.5%    0.001448      UPPCO    3.00%    2.75%    2.50%    2.25%    2.01%    2,850    1.6%    0.000482      Average:    2.01%    2.01%    2.01%    2.01%    177,550    2.01%      Loss Factor Differential    VEC    0.00%    0.04%    0.08%    0.13%    0.17%    36    Send      Alliant    0.00%    0.01%    0.01%    0.02%    4    Send      WPS    0.00%    -0.16%    -0.15%    -0.19%    (18)    Receive      MG&E    0.00%    -0.16%    -0.32%    -0.48%    -0.64%    (16)    Receive	Alliant	1.99%	2.00%	2.00%	2.00%	2.01%	39,000	22.0%	0.004371
UPPCO      3.00%      2.75%      2.50%      2.25%      2.01%      2,850      1.6%      0.000482        Average:      2.01%      2.01%      2.01%      2.01%      177,550      2.01%        Loss Factor Differential      VEC      0.00%      0.04%      0.08%      0.13%      0.17%      36      Send        Alliant      0.00%      0.01%      0.01%      0.02%      4      Send        WPS      0.00%      -0.15%      -0.19%      (18)      Receive        MG&E      0.00%      -0.16%      -0.32%      -0.48%      -0.64%      (16)      Receive	WPS	2.20%	2.15%	2.10%	2.05%	2.01%	36,000	20.3%	0.004461
Average:    2.01%    2.01%    2.01%    2.01%    177,550    2.01%      Loss Factor Differential      WEC    0.00%    0.04%    0.08%    0.13%    0.17%    36    Send      Alliant    0.00%    0.01%    0.01%    0.02%    4    Send      WPS    0.00%    -0.10%    -0.15%    -0.19%    (18) Receive      MG&E    0.00%    -0.16%    -0.32%    -0.48%    -0.64%    (16) Receive	MG&E	2.65%	2.49%	2.33%	2.17%	2.01%	9,700	5.5%	0.001448
Loss Factor Differential        WEC      0.00%      0.04%      0.08%      0.13%      0.17%      36      Send        Alliant      0.00%      0.01%      0.01%      0.02%      4      Send        WPS      0.00%      -0.10%      -0.15%      -0.19%      (18)      Receive        MG&E      0.00%      -0.16%      -0.32%      -0.48%      -0.64%      (16)      Receive	UPPCO	3.00%	2.75%	2.50%	2.25%	2.01%	2,850	1.6%	0.000482
WEC      0.00%      0.04%      0.08%      0.13%      0.17%      36      Send        Alliant      0.00%      0.01%      0.01%      0.02%      4      Send        WPS      0.00%      -0.05%      -0.10%      -0.19%      (18)      Receive        MG&E      0.00%      -0.16%      -0.32%      -0.48%      -0.64%      (16)      Receive	Average:	2.01%	2.01%	2.01%	2.01%	2.01%	177,550		2.01%
Alliant0.00%0.01%0.01%0.02%4SendWPS0.00%-0.05%-0.10%-0.15%-0.19%(18)ReceiveMG&E0.00%-0.16%-0.32%-0.48%-0.64%(16)Receive		L	oss Facto	r Different	ial				
WPS      0.00%      -0.05%      -0.10%      -0.19%      (18)      Receive        MG&E      0.00%      -0.16%      -0.32%      -0.48%      -0.64%      (16)      Receive	WEC	0.00%	0.04%	0.08%	0.13%	0.17%	36	Send	
MG&E 0.00% -0.16% -0.32% -0.48% -0.64% (16) Receive	Alliant	0.00%	0.01%	0.01%	0.01%	0.02%	4	Send	
	WPS	0.00%	-0.05%	-0.10%	-0.15%	-0.19%	(18)	Receive	
UPPCO 0.00% -0.25% -0.50% -0.75% -0.99% (7) Receive	MG&E	0.00%	-0.16%	-0.32%	-0.48%	-0.64%	(16)	Receive	
	UPPCO	0.00%	-0.25%	-0.50%	-0.75%	-0.99%	(7)	Receive	



#### The Market – LMP The Recently-Completed WUMS Loss & Congestion Socialization

	Congestion	Losses	Total
AE	\$ (1,696,817.43)	\$ (499,331.43)	\$ (2,196,148.86)
MG&E	\$ (391,893.62)	\$ 4,942,352.97	\$ 4,550,459.35
UPPCo	\$ 632,982.44	\$ 2,149,324.63	\$ 2,782,307.07
WeEnergies	\$ (1,549,601.69)	\$ (11,360,300.65)	\$ (12,909,902.33)
WPPI	\$ (216,104.94)	\$ (824,943.27)	\$ (1,041,048.21)
WPS	\$ 3,221,435.24	\$ 5,592,897.75	\$ 8,814,332.99

(Negative numbers means pay the kitty)



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# **Network Service (NITS)**

- In calculating the annual Load Ratio Share for billing purposes, ATC uses historical customer loads at the time of ATC's monthly coincident peaks (12 CP method) and invoices similar to budget billing
- No attempt is made to estimate demand losses by a Local Balancing Authority (LBA) at the time of the monthly peaks and there are no billing components related to losses







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