

Legacy vs. SMD2 Transmission Loss Treatment

Review of Market Trial 6
6/17/04 DAM Benchmarking

*ISO Market Structures WG
January 12, 2005*

SMD2 Transmission Loss Treatment

- **DAM:**
 - ▶ Marginal losses (unit/zone/proxy bus penalty factors) based on each of 24 hourly SCUC powerflow solutions as done today
 - ▶ Legacy SCUC Forecast Load Passes uses aggregate load and loss forecast
 - ▶ SMD2 Forecast Load Passes will use load forecast less losses with separately determined transmission losses
 - ▶ SMD2 SCUC Bid Load Passes will include transmission loss determination
 - ▶ Transmission loss determination based on SCUC powerflow solutions

- **RTM:**
 - ▶ Marginal losses (penalty factors) based on each of the powerflow solutions corresponding to RTS intervals
 - ▶ RTS loss treatment includes NYCA loss determination (similar to SCD)
 - ▶ Transmission loss determination based on RTS powerflow solutions

- **Benefits:**
 - ▶ Improved DAM and RTM load forecast modeling, improved DAM and RTM operation results by having consistent treatment of losses

Load Demand Comparison from Market Trial #6

SCUC Forecast Load Pass for 6/17/04 HB12:00

Legacy Load Demand
[Forecast of
Load plus Losses]

Zone	Load+Loss
WEST	2226
GENESE	1411
CENTRL	2375
NORTH	633
MHK VL	1001
CAPITL	1660
HUD VL	1589
MILLWD	388
DUNWOD	1117
N.Y.C.	9156
LONGIL	<u>3569</u>
NYCA	25125

SMD Load Demand
[Forecast of Load Only
with Losses from BMS]

Zone	Load	Loss	Load+Loss
WEST	2159	80.3	2239
GENESE	1368	52.6	1421
CENTRL	2303	82.1	2385
NORTH	614	7.3	621
MHK VL	970	77.7	1048
CAPITL	1610	69.4	1679
HUD VL	1541	35.7	1577
MILLWD	376	20.8	397
DUNWOD	1083	15.7	1099
N.Y.C.	8881	43.5	8925
LONGIL	<u>3461</u>	<u>34.7</u>	<u>3496</u>
NYCA	24366	519.8	24886

SMD less Legacy
Load Demand
[Load plus Losses]

Zone	Delta
WEST	13
GENESE	10
CENTRL	10
NORTH	-12
MHK VL	47
CAPITL	19
HUD VL	-12
MILLWD	9
DUNWOD	-18
N.Y.C.	-231
LONGIL	<u>-73</u>
NYCA	-239

- SMD2 Load [Only] Forecast was a 3% reduction of the 6/17/04 Legacy Load Forecast based on a 3% estimate of NYCA transmission losses (753MW)
- SMD2 actual losses determined by RTD powerflow solution (520MW)
- Total amount of NYCA losses similar for SMD2 as compared to Legacy (239MW diff)
- Distribution of losses within NYCA will be improved under SMD2 as compared to Legacy