



EDC Loss De-Ration Factors Example

Summary

Implementation of Marginal Losses creates the potential for double counting of losses because a) EDCs gross up the derived loads measured at individual retail meters to account for losses based on State-filed retail rates; and b) PJM Settlement calculations now account for losses using the marginal loss component of LMP. To address these issues, hourly EDC Loss De-ration Factors will be computed to de-rate the loss-loaded schedules submitted in eSchedules by the amount of losses included in the marginal loss component of the LMP. Loads will be reduced based on a hourly EDC Loss De-ration Factor determined by state-estimated losses. The factor is then used to de-rate loss-loaded schedules as an alternative to re-filing state tariffs that include a loss loading factor.

Details of the Load de-rating process can be found in the PJM Training material. .

The EDC Loss De-Ration Factor, $f_{de-rate}$, is simply the ratio of the losses divided by the load. While the true EDC Loss De-Ration Factor will be calculated on an hourly basis, we can use hourly State Estimator data to determine an estimated value called $f_{de-rate}'$. The estimated De-Ration Factor is the hourly zonal State Estimator Losses divided by the hourly zonal State Estimator Load.

$$f_{margin}' = \frac{Loss_{SE}}{Load_{SE}} \quad (1)$$



Example EDC Loss De-Ration Factors

State Estimator load and loss data was collected for each zone within the PJM RTO for the period June 2004 to June 2005. Because of the integrations that occurred during this period, several zones have less than one year of data. Table 1 provides the approximate dates for which the zone data was obtained along with the number of observations.

Zone	Load Data	Loss Data	Number of Observations ¹
AECO	May 2004 – Jun 2005	May 2004 – Jun 2005	9924
AEP	Oct 2004 – Jun 2005	Oct 2004 – Jun 2005	6073
APS	May 2004 – Jun 2005	May 2004 – Jun 2005	9925
BGE	May 2004 – Jun 2005	May 2004 – Jun 2005	9925
COMED	May 2004 – Jun 2005	May 2004 – Jun 2005	9924
DAY	Oct 2004 – Jun 2005	Oct 2004 – Jun 2005	6075
DOM	May 2005 – Jun 2005	May 2005 – Jun 2005	1165
DPL	May 2004 – Jun 2005	May 2004 – Jun 2005	9925
DUQ	Jan 2005 – Jun 2005	Jan 2005 – Jun 2005	4043
JCPL	May 2004 – Jun 2005	May 2004 – Jun 2005	9925
METED	May 2004 – Jun 2005	May 2004 – Jun 2005	9925
PECO	May 2004 – Jun 2005	May 2004 – Jun 2005	9925
PENELEC	May 2004 – Jun 2005	May 2004 – Jun 2005	9925
PEPCO	May 2004 – Jun 2005	May 2004 – Jun 2005	9925
PPL	May 2004 – Jun 2005	May 2004 – Jun 2005	9923
PSEG	May 2004 – Jun 2005	May 2004 – Jun 2005	9925
RECO	May 2004 – Jun 2005	May 2004 – Jun 2005	9925

Table 1 – Input Data Description

As can be seen, sufficient data is present for the majority of the zones. The only zone in question is the DOM zone with 1165 observations.

The hourly estimated EDC Loss De-Ration Factor was calculated using equation 1 for each day of data obtained. Then the mean value of the hourly estimated EDC Loss De-Ration Factors was determined. This analysis was performed for losses with and without EHV Losses. Table 2 is a summary of the calculated mean hourly estimated EDC Loss De-Ration Factors for the various zones based on all the available data shown in Table 1. This data provides an estimate of the actual EDC Loss De-Ration Factors determined by PJM Market Settlements.

¹ The “Number of Observations” differs for certain zones because values determined to be outliers have been removed from the calculations. The observations are hourly values.



Zone	Mean (w/o EHV Losses)	Mean (w/ EHV Losses)
AECO	0.017475	0.023362
AEP	0.024018	0.030907
APS	0.013821	0.035406
BGE	0.008240	0.014127
COMED	0.023658	0.023965
DAY	0.040542	0.040542
DOM	0.011683	0.015905
DPL	0.016638	0.022526
DUQ	0.013688	0.013688
JCPL	0.013516	0.019403
METED	0.029586	0.035473
PECO	0.015077	0.020964
PENELEC	0.034013	0.039901
PEPCO	0.009205	0.015092
PPL	0.024697	0.030585
PSEG	0.010429	0.016316
RECO	0.007452	0.013339

Table 2 – Mean Zonal Estimated EDC Loss De-Ration Factors