Transmission Penalty Factors: Impact on Energy Market Results

MIC Special Session – TX Constraint Penalty Factor July 19, 2018 Devendra Canchi Joe Bowring



Impact on Generation Credits in 2017

- The IMM simulated the clearing of the real-time market, setting the shadow prices of violated transmission constraints equal to the transmission penalty factors.
- For every generating unit, credits were calculated using the simulated LMPs.
- Results: the distribution of changes in the credits that result from including the transmission penalty factors.

Impact on generation credits in 2017

Change in Generation Credits (\$ Millions)		Percent of Units
< (\$0.04)		2.1%
> or = (\$0.04)	< (\$0.02)	2.1%
> or = (\$0.02)	< (\$0.01)	3.8%
> or = (\$0.01)	< \$0.01	77.1%
> or = \$0.01	< \$0.02	6.6%
> or = \$0.02	< \$0.04	3.7%
> or = \$0.04		4.5%

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