



Limitations of Day-ahead Zonal Load Bus Distribution Factors

Problem / Opportunity Statement

Currently, business rules indicate that the default distribution of load buses for a Zone in the Day-ahead Energy Market is the State Estimator distribution of load for that Zone at 8:00 a.m. one week prior to the Operating Day (i.e. if the Operating Day is Monday, the default distribution is from 8:00 a.m. on Monday of the previous week). With Day-ahead zonal load bus distribution factors derived from a single market hour, the percentage of the zonal load attributed to each nodal load will remain constant for all 24 hours, whereas in reality this is not the case. Some nodal loads fluctuate with the zonal demand while others may remain constant throughout the day. With the influx of loads such as data centers or behind the meter solar facilities, which can typically see a constant or non-conforming demand throughout the day, the individual nodal demand in Day-ahead could become less reflective of what is happening in Real-time.

When a non-conforming load, one that does not follow the typical load curve but instead remains relatively flat throughout the day, is assigned a zonal factor from the single morning hour, that factor will apply to all hours of the day. Thus, at a higher peak zonal load, for example later in the day in the summer, the evening load curve in combination with this zonal factor can result in a higher load ratio at that node than may be expected in Real-time. This creates a potential misalignment between Day-ahead and Real-time.

An opportunity exists to improve alignment between the day-ahead and real-time market results by refining the factors that are used to calculate zonal loads