Markets / Operations: LFL-26

“Evaluate rules and process changes that may be necessary for considering LFLs, particularly those modeled as CLRs, in near-term reliability studies, including the Reliability Unit Commitment (RUC) process.”

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The ERCOT RUC engine considers energy from online capacity to be “free” See Protocol Section 5.5.2 (6). It does this by creating mitigated offer curves, then multiplying the energy in those curves by 0.10%. This process works when all load is treated as “firm.” However, if some load is willing to curtail for a price, then RUC should be updated to consider the actual expected real-time energy costs and any bids to buy in the DAM from CLRs.

If a CLR is willing to curtail for $200, but expected energy prices based on actual offers are $250, then RUC should not attempt to commit additional capacity to serve the CLR’s load. However, if expected energy prices are $100, then it is economically optimal to commit additional capacity to serve the CLR.

One issue that will have to be considered in evaluating how these CLR bids should be considered is the fact that the RUC process does not necessarily produce a useful prediction of what Real-Time prices will be. This is largely a function of the 0.10% scaling of offers previously mentioned. As such, direct use of energy bids for the CLRs without scaling may not be appropriate and may lead to commitment recommendations when dispatch of the CLR would have been the most economically efficient option.

Because a bid to buy is not associated with a particular resource the way a three-part offer is, the DAM may need to be updated to associate a bid to buy with a CLR, as well as load-specific ancillary service offers. If these options are available in the DAM, then the DAM could also co-optimize the energy and ancillary services from a CLR. This co-optimization can increase short term reliability by having an LFL curtail for an energy price instead of selling ancillary services. Eventually, real-time cooptimization should also account for this.