**DWG Report to ROS**

June 2014

* The Final CY2014 Flat Start case was posted on ERCOT’s website on March 27.
* Work continues on the HWLL2017 Flat Start Case.
* The DWG had a meeting on May 15, 2014 in Austin, TX
  + Flat Start progress
  + Talked more about criteria/methodology to meet new upcoming standards
  + FY 2019 will start June 16 and may overlap the HWLL case build
  + VR Update
  + V33 conversion
* The DWG had a conference call on May 28, 2014
  + Discussed v33 conversion
  + VR Update
  + HWLL
* See V33 Presentation
* VR Study Conclusion

Motor stall is a phenomenon that occurs at lower voltages.  While VR (Voltage Reduction) itself would not be enough to cause motor stall, there was a concern that VR might have the potential to make motor stall more likely following a fault because of the reduced initial voltage. In order to access this risk, DWG was asked to perform a study.

The study studied several different scenarios. Three types of faults were performed: three phase normally cleared fault on nearby kV auto-transformer, three phase normally cleared fault on nearby 138 kV line, single line to ground fault with delayed 15 cycle clearing on nearby 138 kV line. In addition, several sensitivities were run during the study including: types of motor load, amount of motor load, level of VR, distribution capacitor banks enabled or disabled, and initial starting voltage on the low side of the feeder.  Field Trials only used 2.5 % and 5% VR.  7.5% and 10% were studied to determine a margin level.  Stall only occurred under severe conditions when a combination of a large load composed entirely of air conditioner was subjected to a three phase normally cleared fault during a period where a high level (7.5% -10%) of VR is applied.

Based on this study, DWG concludes that 2.5% and 5% VR would not result in motor stalling and there is a reasonable level of margin at the 2.5 % and 5% VR level.  DWG notes that the study was done on a strong (high short circuit ratio) area.  Weak areas (low short circuit ratio) may be more sensitive to changes in voltage.  These areas would require a screening study to verify that the location is suitable as a VR site.