

Changes associated with the FRI Report September 30th Draft:

1. Significant enhancement of Recommendation 1 to expand the scope of the proposed Frequency Responsive Resource Guideline to include electronically-coupled resources such as wind, solar, and energy storage. Also included is a mandate to address primary frequency response withdrawal from traditional turbine generators.
2. FRCC has agreed to have the IFRO for the Eastern Interconnection be calculated with a UFLS base value of 59.5 Hz (the predominant first step of UFLS in the interconnection) instead of the 59.7 Hz shown in the previous draft. The 59.7 Hz value is the first UFLS step approved by FRCC under their UFLS program, but is based on internal stability concerns and preventing the Florida peninsula from separation from the rest of the interconnection.
3. Addition of an adjustment to the maximum allowable delta frequency used in the calculation of Interconnection Frequency Response Obligations to compensate for the primary frequency response withdrawal exhibited in the Eastern Interconnection. Such withdrawal results in a frequency nadir expected to be at about 82 seconds (based on events analyzed).
4. The calculation of the IFRO and the associated tables was streamlined to perform keep the adjustments together and simplify the subsequent tables of calculations.
5. The statistics used in the IFRO calculation were modified from using 5 years (2007 through 2011) of 1-second data to using 3 years of data. Analysis of the 5 year showed the Western Interconnection frequency characteristic to be less volatile than actual experience since the Balancing Authority ACE Limit (BAAL) field trial began there in March of 2010. This change did not substantially change any of the calculations but will be incorporated into the metrics and IFRO calculations going forward.
6. Addition of a stability analysis of the frequency response withdrawal of the Eastern Interconnection to provide a check against any potential withdrawal impacts as a result of reducing the UFLS minimum setpoint to 59.5 Hz. The analysis indicated a need for caution associated with the withdrawal phenomenon in the Eastern Interconnection.