



10-Year Assessment

An annual report summarizing proposed additions and expansions to ensure electric system reliability.

2016

2016 10-Year Assessment
www.atc10yearplan.com

Executive Summary

There were two main objectives for this study of distribution substation capacitor bank retirement. The first was to provide a recommendation on whether distribution substation capacitor banks within the ATC system could be retired, if requested, and what distribution substation capacitor banks within the ATC system require further analysis before they could be retired. The second was to identify major impacts to the ATC system if all distribution substation capacitor banks within the ATC system are retired.

The base models for the study were the 2026 project deficient 90/10 summer peak and the 2026 project deficient shoulder from the 2016 10-Year Assessment. Four models were created from the base models, two with all capacitor banks online and two with distribution capacitor banks offline. Comparison of the results from the two shoulder models and the two 90/10 models allowed ATC to determine if the distribution capacitor banks have transmission benefits and if the aggregate retirement of the distribution capacitor banks would be detrimental to reliability.

The study showed retirement of distribution substation capacitor banks in aggregate had no detrimental impact on reliability. The study identified four locations with potential local area impacts that need to be analyzed further before they can be retired. These locations are Germantown, Bark River, Cottonwood, and Charter Mill Shop. In Zone 5, the Charter Mill Shop distribution substation capacitor bank will require a harmonic analysis if its retirement is requested. ATC will create a schedule to address further analysis as retirements are requested. The results of the study are based on the 2015 load forecast, and major changes to the load forecast, especially in areas with distribution substation capacitor banks, could prompt ATC to further analyze any requests for retirement of distribution substation capacitor banks.