Arizona Corporation Commission Workshop

Ninth Biennial Transmission Assessment

SRP Energy Efficiency and Distributed Generation Impact Study

Brian Keel, Senior Principal Engineer
SRP Transmission Planning

Arizona Corporation Commission, Phoenix, AZ
June 1, 2016

Commission Decision No. 74785

- Report the effects of Distributed Generation (DG) and Energy Efficiency (EE) installations and/or programs on future transmission needs
  - Perform on fifth year transmission plan
  - Perform contingency analysis with and without effects of forecasted DG and EE
  - Discuss DG and EE forecasting methodologies
  - Monitor transmission down to 115kV level

Energy Efficiency and Distributed Generation Forecasting

- Energy Efficiency
  - Estimates from Market Research and Customer Programs
  - Historical EE impacts
- Distributed Generation
  - Navigant
  - EPRI
  - SRP's Solar Initiative Team

Study Details
Case Information

- Determine transmission impact should EE/DG not be developed as projected
- Three scenarios on 5th year case:

Case	Scenario	Load	Approximate Hour of Day	EE	DG	Utility Solar	SRP Load
1	Base	Peak	5:00 PM	As Forecasted	As Forecasted	On	7607 MW
2	EE/DG	Peak	5:00 PM	Pre-2016 Only	Pre-2016 Only	On	8204 MW
3	Stressed	Near Peak	8:00 PM	Pre-2016 Only	Off	Off	7453 MW

  - Cases coordinated with APS

Analysis Performed

- Power flow analysis
- Monitored facilities greater than 100kV
- Study shows SRP's transmission plan meets all of SRP's internal criteria and satisfies applicable WECC and NERC criteria