Rationale for Energy Efficiency Template

Prepared by Philip B. Simpson for El Paso Electric Public Advisory Group

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The attached template is a request to model, within Strategist, a set of Energy Efficiency (EE) programs and measures, which are intended to be implemented in EPE service territory in both New Mexico and Texas. The focus is on reduction of peak demand, rather than total energy, since peak demand drives total generating capacity, and its impact on the Loads and Resources table is obvious. The current total NM and TX EE savings at peak of 4.82 MW is only one quarter of one percent of the 2016 native system peak demand of 1892 MW (numbers from EPE 8/8/2017 presentation, pages 53, 59, and 88). This is far below national standards, and creates a large opportunity for reduction in demand through increased EE programs.

The Template is based upon the Arizona Public Service Company 2017 Integrated Resource Plan (APS 2017 IRP), which provides regionally relevant information on how a utility in the desert southwest can use several types of Energy Efficiency (EE) programs as a cost-effective demand-side resource. The APS 2017 IRP information is publicly available and should be considered part of this modeling request.

This request is really a request to model each of the 13 EE programs separately and individually, using the cost and capacity data provided in worksheets included in the Excel file along with the Template. The initial program size for 2017 is the same as 2016 EE savings, with the sizes of programs made proportional to the APS program sizes, but reduced by the 1/4 relative size of the EPE to APS peak loads.

The EPA technical support document mentioned in Template Notes demonstrates that 1.0% annual incremental growth in EE is reasonable, and is in fact on the lower end of what other states are planning (<https://19january2017snapshot.epa.gov/cleanpowerplan/clean-power-plan-final-rule-technical-documents_.html>). It also notes that several factors both raise and lower costs as programs scale up, and recommends an approach that lowers overall costs as programs grow beyond 0.5% incremental annual growth.

The U.S. Energy Information Administration (EIA) estimates that on average, 7.5% of generated electricity is lost in transmission and distribution. This means that EE should be given a cost advantage over supply-side resources of 7.5%, since EE occurs at the point of use and is not subject to the loss during T&D. Please incorporate this cost differential into Strategist modeling, if possible.