LPEA

La Plata Electric Association, Inc.

A Touchstone Energy® Cooperative

WHOLESALE ELECTRIC SERVICE CONTRACT VALUATION

PROJECT SUMMARY

APRIL 17, 2019

Presented by: Enchantment Energy Consulting, LLC & Rio Energy, LLC

Presentation Outline

EEC/RIO Background

Project Overview

Project Approach

Data Requirements

Load Analysis

Transmission Considerations

Contract Valuation Methodologies

Enchantment Energy Consulting, LLC
Rio Energy, LLC

- Edwin Reyes Jr. (EEC)
  - 14 Years at Public Utility
    - Customer Accounts, Wholesale Marketing, Asset Acquisition
  - 7 Years at Demand Side Management Corporation
    - Regional Demand Response Deployment
  - 7 Years Independent Consultant
    - Cooperatives, Municipals, Public Utilities, Sovereigns, Independent Power Producers, Power Authorities

- Edward Padilla Jr. (RIO)
  - 32 Years at Public Utility
    - Transmission, Wholesale Marketing, Operations
  - 10 years Independent Consultant
    - Cooperatives, Municipals, Public Utilities, Sovereigns, Independent Power Producers, Merchant Transmission

Project Overview
Valuation of LPEA Contract with TSGT Utilizing Methodologies Requested by LPEA

Four Valuation Methodologies:

- Scaled Comparison to the Cost of Exit for Kit Carson Electric Cooperative
  - Energy, Demand, Revenue, & Load Factor Based Valuations
- Share of TSGT Debt
  - Pro-Rata Allocation of TSGT Debt Obligations
- Shoshone Method
  - Net Present Value of Loss of Annual Payment
  - Added a Valuation Based on NPV of Loss of Demand Charges
- Mark-to-Market Valuation
  - TSGT Gain/Loss Selling LPEA's Power to the Wholesale Market

Project Approach

LPEA Load Profile Analysis
- Delivery Points
- Coincident Peaks
- Solar/Self-Gen Contribution

Transmission Service Options - Assumptions
- TSGT NITSA
- WAPA NITSA

TSGT Planning and Financial Reports Analysis
- Debt Levels
- Asset Retirements
- IRP Assumptions
- Long Term Contractual Obligations
- Patronage Capital Contributions

Project Approach – Cont'd

Model Development

- Synthesize Loads into projected billing units
- Develop TSGT Rate Structure calculations
- Develop Transmission Rate Structure Calculations
- Common Assumptions for Escalation Rates, WACC, Disc Rate, etc.

Results Rationalization

Data Development Requirements To Facilitate Contract Valuation

LPEA Load Profile Used in All Valuations

- Delivery Points
- Coincident Peaks
- Solar/Self-Gen Contribution

Replacement Transmission Service Used in Valuations

- TSGT Network Integration Transmission Service
- Western Area Power Administration (WAPA) Network Integration Transmission Service

TSGT Financials Used as Input to Valuations

- TSGT 2016-2018 Securities And Exchange Commission Reports
  - Debt Levels, Long Term Contractual Obligations
- TSGT Integrated Resource Plan
  - Asset Retirements, Forward Pricing Forecasts
- TSGT Patronage Capital Report to Members

Data Development Requirements To Facilitate Contract Valuation - Continued

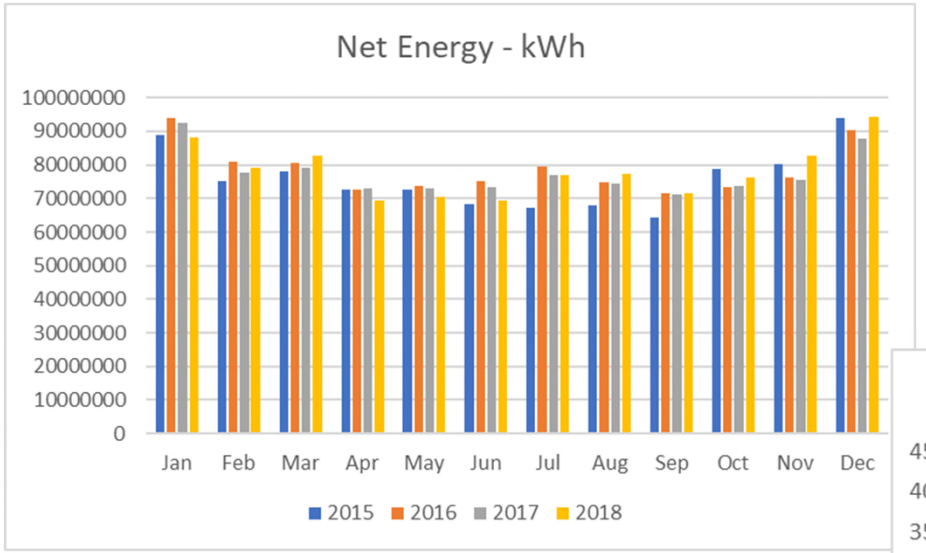
Other Information Sources

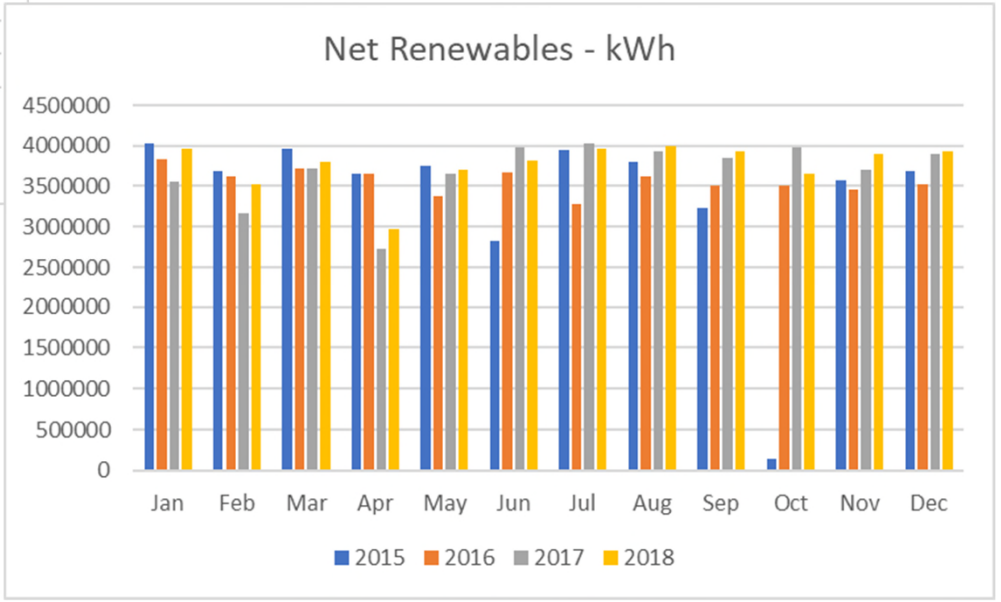
- Federal Energy Regulatory Commission
- Online Access Information System
- LPEA Provided Documents

Model Development

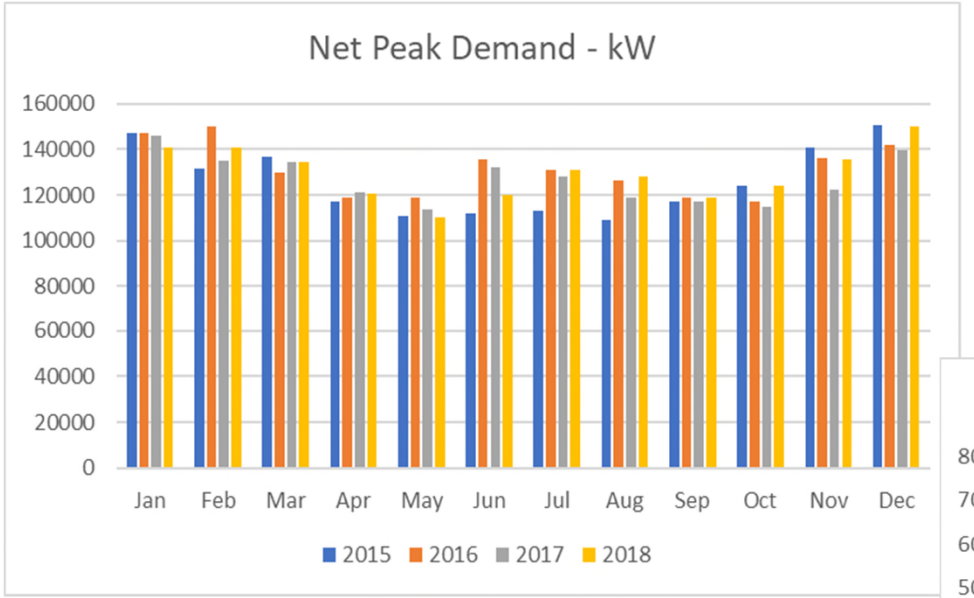
- Synthesize Loads into Projected Billing Units
- Model TSGT Rate Structure Calculations
- Develop Transmission Rate Structure Calculations
- Common Assumptions for Escalation Rates, WACD, Disc Rate, etc.

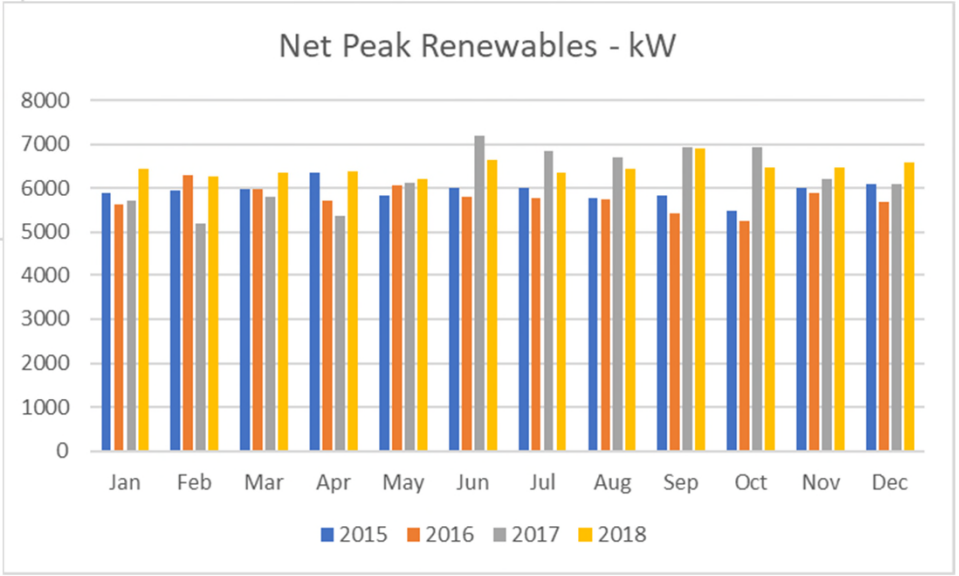
LPEA Load Analysis – Delivered Energy/Renewable-Self Gen





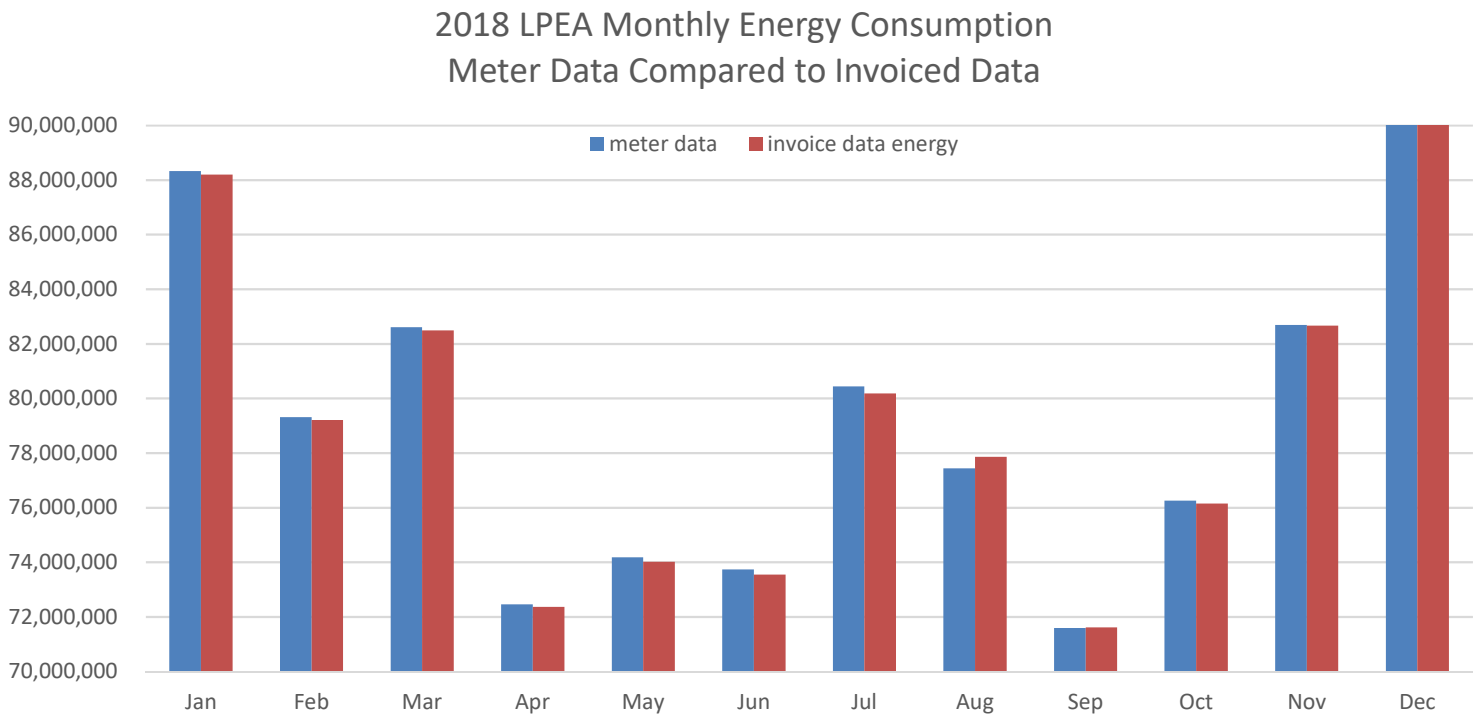
LPEA Load Analysis – System Demand/Peak Self Gen





LPEA Metered Data Calibration

Strong Correlation to Invoiced Data
Metered Data Utilized for Scaled Comparison and Mark-to-Market Valuations



Transmission Service Computations Utilized in Valuations

LPEA's Actual 2018 Transmission Charge from TSGT was $14.5M

- Includes All Transmission Charges Incurred by TSGT on Behalf of LPEA as Charged Under Class A Member Rates

Computed 2018 Transmission Cost for Replacement Service is $14.5M

- Replacement Transmission Service is Calculated Utilizing Western Area Power Administration and TSGT Published Non-Member Transmission Rates
- Replacement Service Assumes LPEA Contracts for Transmission Service from Both Western and TSGT Based on Likely Need for "Stacked" Service

Project Overview-Scaled Comparison

Scaled Comparison to the Cost of Exit for Kit Carson Electric

- Energy Forecast Based Valuation
  - Valuation based strictly on the delivered energy to LPEA and KCEC
- Demand Forecast Based Valuation
  - Valuation based strictly on the Peak Demands of LPEA and KCEC on the TSGT Generation and Transmission systems
- Combined Demand/Energy Load Factor Valuation
  - Subsidy considerations based on Load Factor & TSGT Rate Design

TSGT Debt Obligation Valuation
Based on LPEA Pro-Rata Member Share

Share of TSGT Debt

- 2 Pro-Rata Allocations of TSGT debt Obligations
  - Based on the Contribution from Peak Demand
  - Based on the Contribution from Delivered Energy
- Recognition of Allocated Patronage Capital
- Recognition of Future Patronage Capital Streams

Valuation Based on the Shoshone Method

Shoshone Method

- NPV of Loss of Annual Payment
  - Analysis of Expected Future Revenues
  - Less breakout of Avoidable Costs Post Exit/Termination
  - Estimates the Member's Annual Contribution to TSGT Fixed Costs
- Recognition of Fuel Commitments (expiring 2019-2034)
- 2019 Base Year LTFF for Expected Revenues/Costs
  - Escalated at TSGT Assumed Escalation Rates

Alternative Method - NPV of Loss of Demand Charges

- Adjusted for Current and Future Patronage Capital

Valuation Based on Mark-to-Market

What would TSGT Gain/Lose Selling LPEA's Power in the Market?

Mark-to-Market Valuation

- Based on TSGT's LPEA 20 year Load Forecast
- Consideration of TSGT Long Range Rate Forecasts
- Consideration of 2 Forward Price Forecasts
  - Publicly Available Price Proposals
  - Commonly Used Price Indices
- Includes Transmission Costs For Delivery To LPEA System
- Net Present Values
- 5% & 6% Discount Rates
  - Full Contract Term – Through 2050
  - Period with Positive Differentials – Contract Prices Greater Than Market Prices

LPEA-TSGT Contract Valuation Summary