WHOLESALE ELECTRIC SERVICE CONTRACT VALUATION
PROJECT SUMMARY
APRIL 17, 2019

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

Net Energy - kWh

Net Renewables - kWh
LPEA Load Analysis – System Demand/Peak Self Gen

**Net Peak Demand - kW**

**Net Peak Renewables - kW**

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

2018 LPEA Monthly Energy Consumption
Meter Data Compared to Invoiced Data

- 2019 WHOLESALE POWER SERVICES CONTRACT VALUATION
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