



Eastern Interconnection Planning Collaborative

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# EIPC Gas-Electric Study

## Data Sources

Stakeholder Steering Committee

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**LEVITAN & ASSOCIATES, INC.**

MARKET DESIGN, ECONOMICS AND POWER SYSTEMS

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# Target 1

## Baseline Existing Systems

# Target 1 Data Sources

- ◆ Target 1 analysis / deliverables will rely on public data
- ◆ Pipeline data
  - EBB Postings
  - FERC filings
- ◆ LDC data
  - Tariffs
  - Service territory maps
  - PSC filings
- ◆ EIA storage facility database
- ◆ PHMSA
  - Safety regulations
  - National Pipeline Mapping System
- ◆ Generator list developed in coordination with PPAs

# Target 2 Infrastructure Adequacy

# Electric Simulation Modeling Inputs

- ◆ Input data based on public sources and modeling system proprietary databases
- ◆ Differentiated by Case (Reference / High / Low)
- ◆ Transmission topology and transfer limits (PPAs)
- ◆ Load Data by Area (PPAs)
  - Peak and Energy Forecast
  - Hourly Load Shape
- ◆ Fuel prices (EIA & LAI?)
- ◆ Environmental compliance costs (EIA & LAI?)

# Electric Simulation Modeling Inputs

- ◆ Resource Schedule (PPAs)
  - Existing Generating Units
  - Generating Unit entry and exit
  - DR / EE penetration
  - Renewable resource development and production
  - Imports and Exports
    - Capacity
    - Energy by hour or by seasonal/time-of-day blocks

# Electric Simulation Modeling Inputs

## ◆ Thermal Units

- Full Load Heat Rate (PPAs)
- Heat Rate Shapes (EIPC Phase II CRA)
- Min Up / Min Down Times (EIPC Phase II CRA)
- Startup Costs (EIPC Phase II CRA)
- VO&M (EIPC Phase I or LAI or Aurora)
- Forced & Planned Outage Rates (EIPC Phase I or LAI or Aurora)
- Emissions Rates (EIPC Phase I or LAI or Aurora)

## ◆ Hydro & Pumped Storage (PPAs or LAI or Aurora)

- Monthly Energy (Hydro)
- Storage Capacity (PS and, if available, Hydro)
- PS Efficiency (EIPC Phase II CRA)



# Electric Simulation Modeling Inputs

- ◆ Intermittent Resources (PPAs or LAI)
  - Energy by hour or by seasonal/time-of-day blocks

## RCI Sector Demand Forecast / GPCM Inputs

- ◆ Data requests to pipelines / storage facilities / LDCs
  - Differentiated by jurisdiction
- ◆ Public Data Information Request
  - Daily capacity / meter flows (EBB data or equivalent)
  - Capacity release transactional data
  - Current and upcoming expansion projects
  - Integrated resource plans or other demand forecasts
  - System map
- ◆ LAI will develop supplemental inputs to GPCM based on publicly available data or GPCM database
  - Throughput capacity
  - LNG imports / exports
  - Demand / supply curves

# Target 3 Contingency Analysis

## WinFlow / WinTran Model Inputs

- ◆ Hydraulic system data (CELL or equivalent)
- ◆ Requested from FERC for FERC-jurisdictional entities
- ◆ Second information request to NEB / OEC / PSC jurisdictional entities
  - Operating pressures
  - Pipe diameters
  - Segment lengths
  - Compressor station design
  - Expansion project data
- ◆ Hourly supply and demand profiles for transient modeling
  - Electric sector demands from AURORAmp
  - RCI sector generalized by PPA

# Target 4 Dual-Fuel Capability

# Generator Capabilities

- ◆ Liquid fuel storage capacity for dual-fuel plants
  - From PPAs / generators (primary)
  - From permit data (secondary)
- ◆ Turbine operating characteristics
  - From manufacturers
  - Fuel-switching limitations
  - Gas inlet pressure (for Target 3)
- ◆ Fuel assurance comparison
  - Gas transportation charges (tariffs / rate schedules)
  - Plant costs (NYISO demand curve / PJM Net CONE)