



Power Generation Advisory Panel Meeting 2

October 22, 2020



Climate Action Council

Agenda

Updates

- > Approach to Natural Gas

Discuss and resolve process and organizational issues

- > Scope of Work Topics
- > Subgroups
- > Principles

Discuss and resolve the engagement we want with others

Finalize Work Plan

Overview of various studies (recent and current) under way at State agencies

New Proposal: Approach to Natural Gas

> **Power Gen panel**

- Transitioning power system from natural gas to carbon-free power, while maintaining system reliability. Includes exploration of options such as hydrogen, renewable natural gas, CCUS, synthetic methane etc.
- Leaks in natural gas infrastructure

> **Energy Efficiency & Housing panel**

- Transitioning buildings from natural gas (e.g., for space and hot water heating) to renewable solutions (e.g., electrification, geothermal heat pumps)

> **Just Transition panel**

- Impact of natural gas transition on workforce, including job creation and retention and workforce development to plug skills gap

> **Other panels**

- Explore transitioning from natural gas as needed

Scope of Work Topics

Resource Mix

- Electrification of Buildings and Transportation
- Natural Gas System
- Downstate Peakers
- Instate Renewables
- Regional Connections (beyond NYS)
- Downstate Renewables
- Resource Transition/Ramping Fossils Down
- Energy Conservation
- Local/DER
- Energy Storage

Solutions Needed for Future

- Reliability of the Future Grid – Storage, Flexible/Dispatchable Resources
- "Last" Clean Megawatts (Final X%)
- Encouraging the Needed Investment
- Markets for the Future (Including Resource Adequacy, Carbon)
- Needed Innovation
- Energy Delivery

Equity

- Equity - access to clean solutions
- Community impacts
- Affordability
- Jobs/Prevailing Wage/Equity of access

(Potential) Barriers

- Clean Energy Siting
- Energy Delivery
- Interconnections

Discussion:

- Leave possible “split” of Resource Mix up to that subgroup?
- Maintain Equity as a subgroup or imbed within all topics as an underlying principle instead?

Areas of Cross-Panel Engagement

| Topic | Panel | Time/Date | Format | Ready for Us |
|---|---|-----------|--------|--------------|
| Vehicle Electrification | Transportation Advisory Panel | TBD | TBD | soon |
| Building Electrification | Energy Efficiency & Housing Advisory Panel | TBD | TBD | ready |
| Clean Energy Siting and Power Plant Site Reuse | Land Use & Local Government Advisory Panel; Agriculture & Forests Advisory Panel | TBD | TBD | soon |
| Energy Jobs Transition | Just Transition Working Group | TBD | TBD | ready |
| Resilience & Adaptation | Land Use & Local Government Advisory Panel | TBD | TBD | ready |

Subgroup Membership

| | John Rhodes | Corinne DiDomenico | Bill Acker | Cecilio Aponte | Rory Christian | Betta Broad | Lisa Dix | Annel Hernandez | Kit Kennedy | Emilie Nelson | Shyam Mehta | John Reese | Stephan Roundtree | Jenn Schneider | Darren Suarez | Laurie Wheelock |
|------------------------------------|-------------|--------------------|------------|----------------|----------------|-------------|----------|-----------------|-------------|---------------|-------------|------------|-------------------|----------------|---------------|-----------------|
| <i>Power Generation Subgroups:</i> | | | | | | | | | | | | | | | | |
| Resource Mix | | | X | X | X | X | X | X | X | X | X | | X | X | X | |
| Equity | | | | | X | X | | X | | | | | X | X | | X |
| Solutions Needed for Future | | | X | X | | | X | | X | | X | | X | X | X | |
| (Potential) Barriers | | | | X | | | X | X | | X | X | X | X | X | | X |
| <i>Work with Other Panels:</i> | | | | | | | | | | | | | | | | |
| Siting | | | | X | | | | | | | | X | | | X | |
| Building Electrification | | | X | | | X | | | X | | | | | X | | |
| Transportation Electrification | | | X | | | X | | | | | | | | | | |
| Energy Job Transition | | | X | X | | X | X | | | | | | | X | X | |
| Adaptation and Resilience | | | | | X | | | X | | X | | X | X | X | | X |
| CJWG and EJAG | | | | | | | | X | | | | | | | | |

Subgroup/Panel Structure

> Subgroup Role

- Teams that own the work of digging into the topics, wrestling with the issues, and actively engaging (educating, briefing, discussing) with the Panel as a whole
- **Discussion**: Means that **both** subgroup and whole Panel will have a voice. OK?
- Will also engage with other panel subgroups to work topics of mutual interest
- Meetings do not have to be public, but notes should be taken to provide to the Panel and for public posting

> Landing our recommendations

- Aim for consensus where possible and document dissenting views where necessary
- Consensus by simple majority

> Panel Member Input

- Invitation to share your views on topics and priorities in writing in the next week
- Will be incorporated into 2-page issue briefs to advance discussion of topics and recommendations

Principles

- > Reliability
- > Equity
- > Cost
- > Clean
- > Timeliness

Discussion:

- Expand upon Equity to include Affordability, Job Creation and Community?
- Develop into phrases?

External Engagement

> Panel Email

- General account established for public input: PowerGenPanel@dps.ny.gov

> Public Forum – for Discussion

- January 2021 forum to receive broad based public input on emerging recommendations

> Key Group Engagement – for Discussion

- Should we convene specific groups?
- Are there speakers we should invite?

> Public Meetings – for Discussion

- Approximately monthly meetings are scheduled through March (with 2 meetings in November and February)
- Need to determine topics for discussion

Finalize Work Plan

> Approach

- Staff Team to update Work Plan that was circulated Oct. 2nd to reflect this discussion, including:
 - Scope of Work Topics
 - Areas of Cross-Panel Engagement
 - Subgroup Membership
 - Subgroup/Panel Structure
 - Principles
 - External Engagement

> Schedule

- Friday Oct. 23: Circulate revised Work Plan
- Wednesday Oct. 28: Panel members provide feedback or approval of revised Work Plan
- Friday Oct. 30: Finalize Work Plan for public posting

Studies Under Way

> **Electrification**

- Carbon Neutral Buildings Roadmap, Building Electrification Roadmap, and Clean Transportation Roadmap underway
- Anticipate engagement on building studies starting in November
- Engagement on transportation study likely in 2021

> **Power Plant Inventory**

- The JTWG has formed a subgroup (which includes John Rhodes) on the power plant-related work
- Subgroup will be meeting to advance key deliverables:
 - Power plant inventory
 - Identification of opportunities and issues presented by site reuse
- Preliminary insights anticipated in December
- Envision close cross-panel engagement between JTWG and Power Gen on this work

> **Grid Modernization**

- Studies underway with anticipated Q1 2021 results

Grid Modernization Presentation



Department
of Public Service

NYS Electric System

Power Generation Advisory Panel

October 22, 2020

Bulk vs Distribution System

BULK SYSTEM

- Generation: NYISO administers market for large facilities (typically > 5 MW)
 - Independent competitive generators
 - NYISO operates competitive electric wholesale markets
- Bulk Transmission: NYISO administers planning for the Bulk Power Transmission System (generally 230 kV and above)
 - FERC sets rates for bulk system investments
 - NYS transmission facilities primarily owned by NYS utilities, along with independent developers

DISTRIBUTION SYSTEM

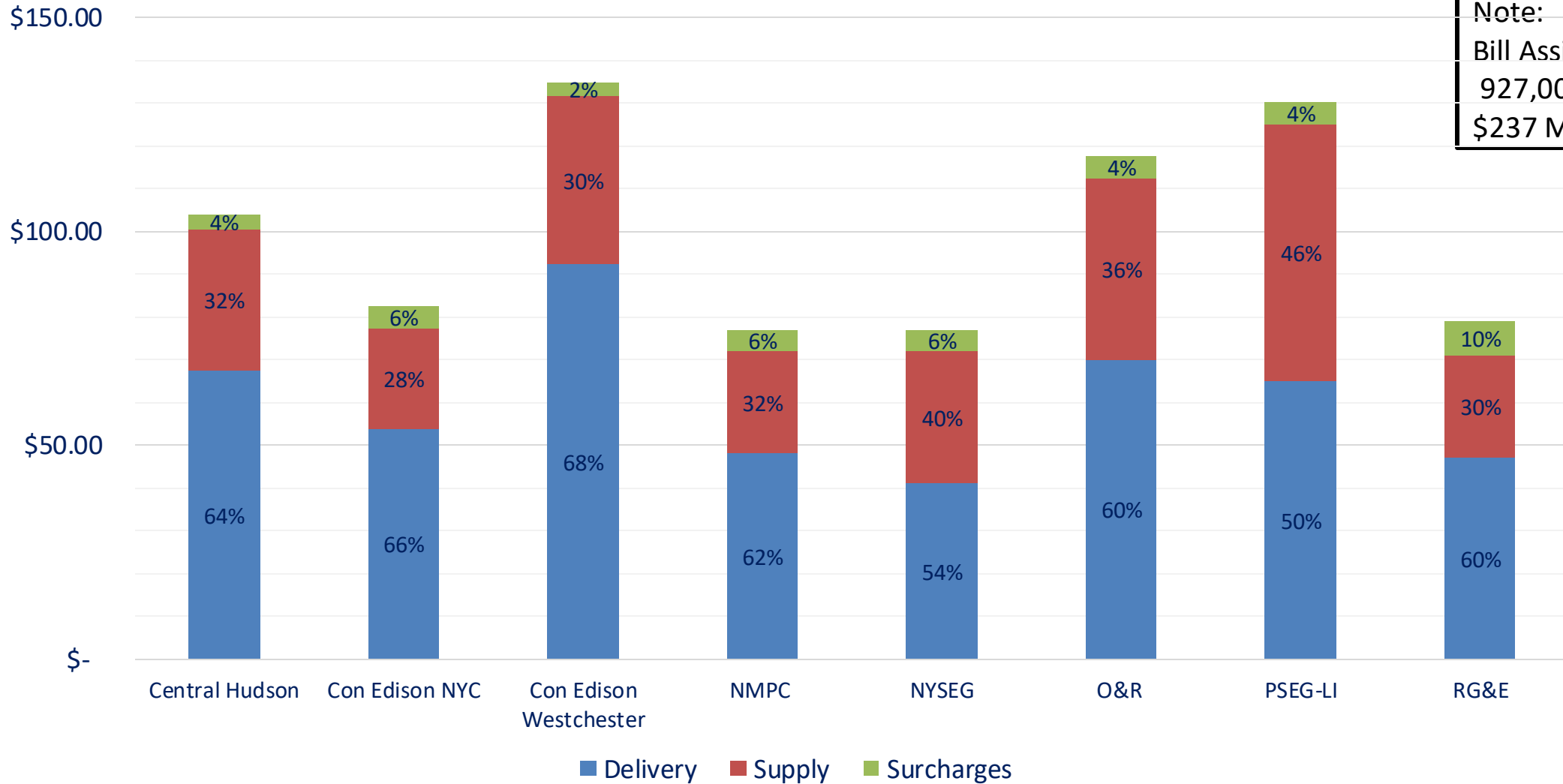
- Local transmission and distribution carried out by regulated utilities, PSC as regulator
- PSC approves funding of local transmission and distribution investments
 - Duty to ensure reliability at “just and reasonable rates”
- Retail activities: Carried out by utilities as well as independent energy service companies

Rate Case Process

- Primary mechanism for establishing utility capital and operating expenditure levels
 - Public window for guiding utility expenditures
 - Opportunity to receive comments on the implementation of the State priorities
 - Expert testimony provided by staff and interested parties; Commission decision based on full record through settlement or hearings
 - Balance between investments for system reliability, implementation of state programs and rate impacts to consumers

| NYS Electric Utility Operating Revenues (\$000) | |
|---|----------------------|
| Central Hudson | \$ 529,240 |
| Con Edison | \$ 8,086,284 |
| National Grid | \$ 2,614,978 |
| NYSEG | \$ 1,239,136 |
| Orange & Rockland | \$ 480,601 |
| PSEG-LI | \$ 3,604,153 |
| RG&E | \$ 603,886 |
| Total | \$ 17,158,279 |

Typical 2019 Residential Monthly Electric Bills



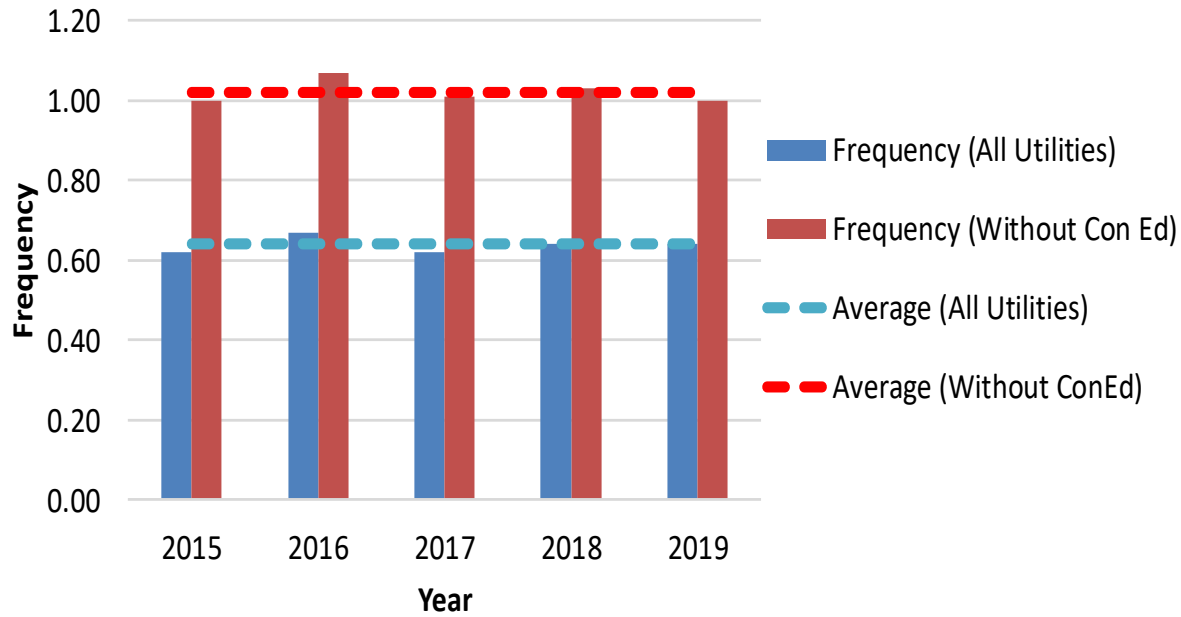
Note:
 Bill Assistance:
 927,000 Customers,
 \$237 Million

Notes:

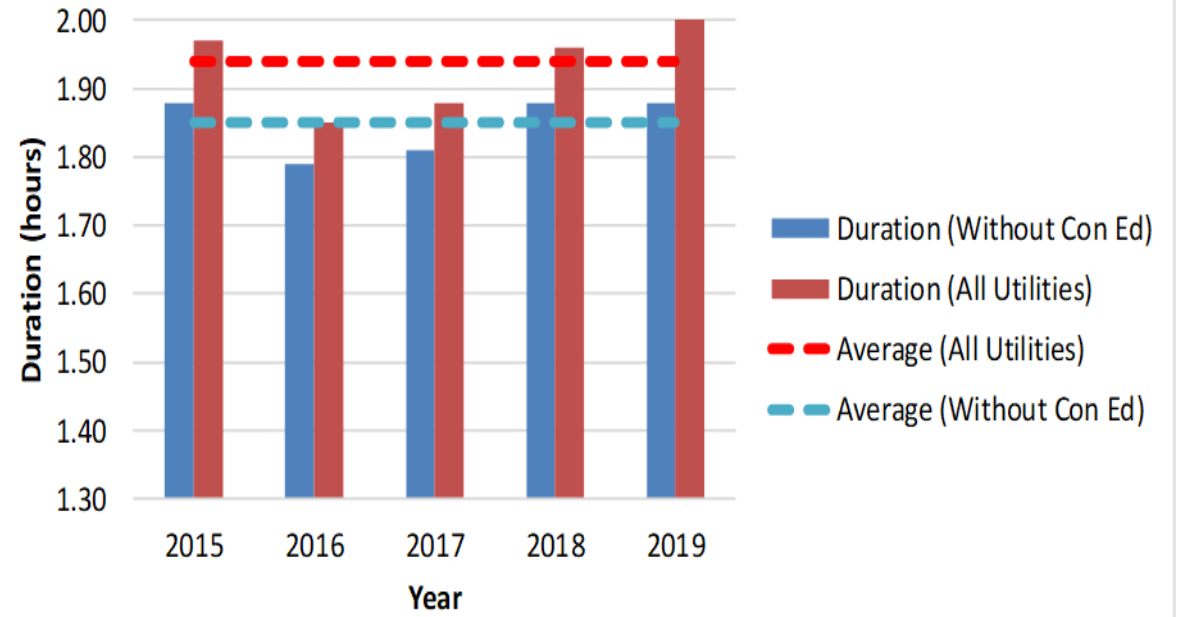
All bills are at 600 kWh per month except Con Edison NYC which is at 300 kWh
 For upstate companies taxes represent approximately 15% of the total monthly bill
 For Con Edison taxes represent approximately 25% of the total monthly bill

Recent Statewide Reliability Metrics

Statewide Five Year Frequency History (Excluding Major Storms)



Statewide Five Year Duration History (Excluding Major Storms)



Note: Con Edison Has Significant Underground Facilities

Integration of New Resources

- **Goal**: Integrate Reliably and Cost-effectively
- Non-wires Alternatives
 - Utilities applying NWA suitability criteria to capital plans to identify potential NWAs
 - Currently over 40 NWAs are being pursued or under consideration
- Distributed Energy Resources
 - Solar target - 6000 MW by 2025
 - Over 2400 MW installed
 - Approximately 4700 MW in utility queues
 - DPS staff ombudsman and interconnection working groups
 - Access to compensation through both retail compensation and NYISO markets

Integration of New Resources (continued)

- Storage
 - Target: 1500 MW by 2025; 3000 MWs by 2030
 - 936 MW operational/awarded, all programs
 - Approximately 1200 MW in utility queues
 - Utilities also pursuing storage projects through rate cases or PSC proceedings
 - Use cases:
 - Customer sided
 - Distribution system
 - Bulk system

Integration of New Resources (continued)

- Beneficial Electrification
 - Electric Vehicles
 - PSC Make-Ready Order
 - Provides for utility funding of EV charging station through 2025
 - Sized to meet the NYS ZEV goal
 - Locational/System considerations
 - Building Electrification
 - PSC Order
 - Established targets and budgets for heat pumps
 - \$454 million in funding to achieve 3.6 TBtu

NYS Electric System Planning

- CLCPA
 - Establishes targets for the reduction in greenhouse gas (GHG) emissions, renewable generation, and development of off-shore wind
 - Need to site renewable energy in a timely, balanced and cost-effective manner
- Accelerated Renewable Energy Growth Act
 - Expand and streamline renewable energy deployment
 - Office of Renewable Energy Siting
 - Build Ready
 - Power Grid Study & Investment Plan

NYS Electric System Planning (Power Grid Study)

- Power Grid Study & Investment Plan
 - PSC to establish State transmission and distribution plans to meet CLCPA goals
 - May 14, 2020 PSC Order (C. 20-E-0197) - initiated planning proceeding
 - System studies needed to inform the Plan are underway
 - Three components of Power Grid Study
 - 100x40
 - Offshore Wind
 - Utility Local T&D
 - Initial results due end of 2020
 - In early 2021,
 - PSC will identify bulk level and local T&D investments and needs
 - Establish guidelines for integrating CLCPA goals in utility planning processes
 - PSC will revisit the plan and progress toward CLCPA goals by January 1, 2023 and every 4 years thereafter

NYS Electric System Planning (Power Grid Study)

- 100x40 Study
 - Objective – evaluate transmission, generation and storage scenarios for meeting New York’s 100% carbon free electricity goal by 2040 in a manner that provides adequate, reliable and lowest system cost service to New York’s electric consumers
 - Preliminary results expected by end of 2020
- Offshore Wind Study
 - Objective –recommend long-term transmission and storage strategies to the state that will best support the development of 9 GW of OSW by 2035 in a manner that provides adequate, reliable and lowest system cost service to New York’s electric consumers. Preliminary results expected by end of 2020
 - Preliminary results expected by end of 2020

NYS Electric System Planning (Power Grid Study)

- Utility Distribution & Local Transmission Study
 - Objective – NYS utilities will develop proposed distribution and local transmission upgrades that will help the State achieve the targets of the CLCPA
 - Submit proposals for selecting, prioritizing, and funding
 - Identify advanced technologies
 - Report due November 2, 2020
 - Commission action expected early 2021
- Stakeholder Engagement
 - October Technical Conference
 - November Technical Conference

NYS Electric System Planning (NYPA PTPs)

- July 2 NYPA/DSP petition
 - Criteria for identifying PTP and Northern NY PTP
 - Commission decision – October
 - Adopted criteria for identifying priority transmission projects
 - Identified NYPA's proposed Northern New York project as a PTP
 - Benefits economy in Northern NY, unlocks between 950 to 1,050 MW of clean energy, avoids 1.16 million tons of CO2 emissions annually and save \$447 million in annual congestion costs
- July 13 NYPA petition
 - Western NY PTP
 - No action taken yet

NYS Electric System Planning (PPTPP)

- LIPA July 30 PPTN Referral Letter
 - LIPA determined a transmission need exists on LI driven by 2018 PSC OSW Standard
 - Requests that the PSC refer the Public Policy Transmission Need to the NYISO for solicitation and evaluation of potential solutions
- NYISO Public Policy Transmission Planning Process
 - 2020 cycle initiated August 2020
 - 15 proposals were submitted by October 2 identifying transmission needs being driven by Public Policy Requirements for which transmission solutions should be requested and evaluated
 - PSC to determine whether there is a Public Policy Transmission Need

Questions?