

PSE&G: Winter Weather Readiness; FERC/ERO February 2021 Cold Weather Report Recommendations

July 18, 2022

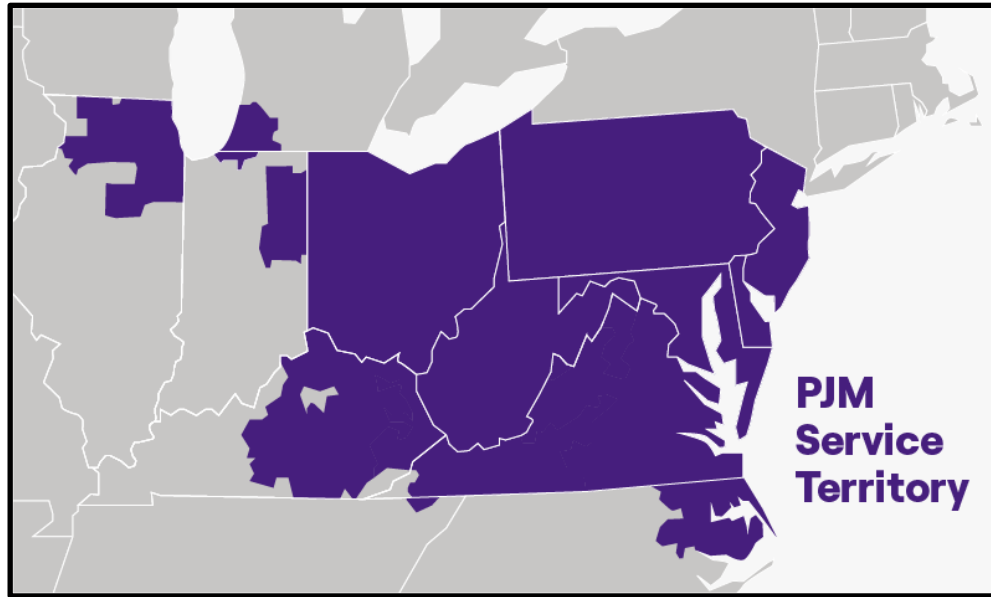
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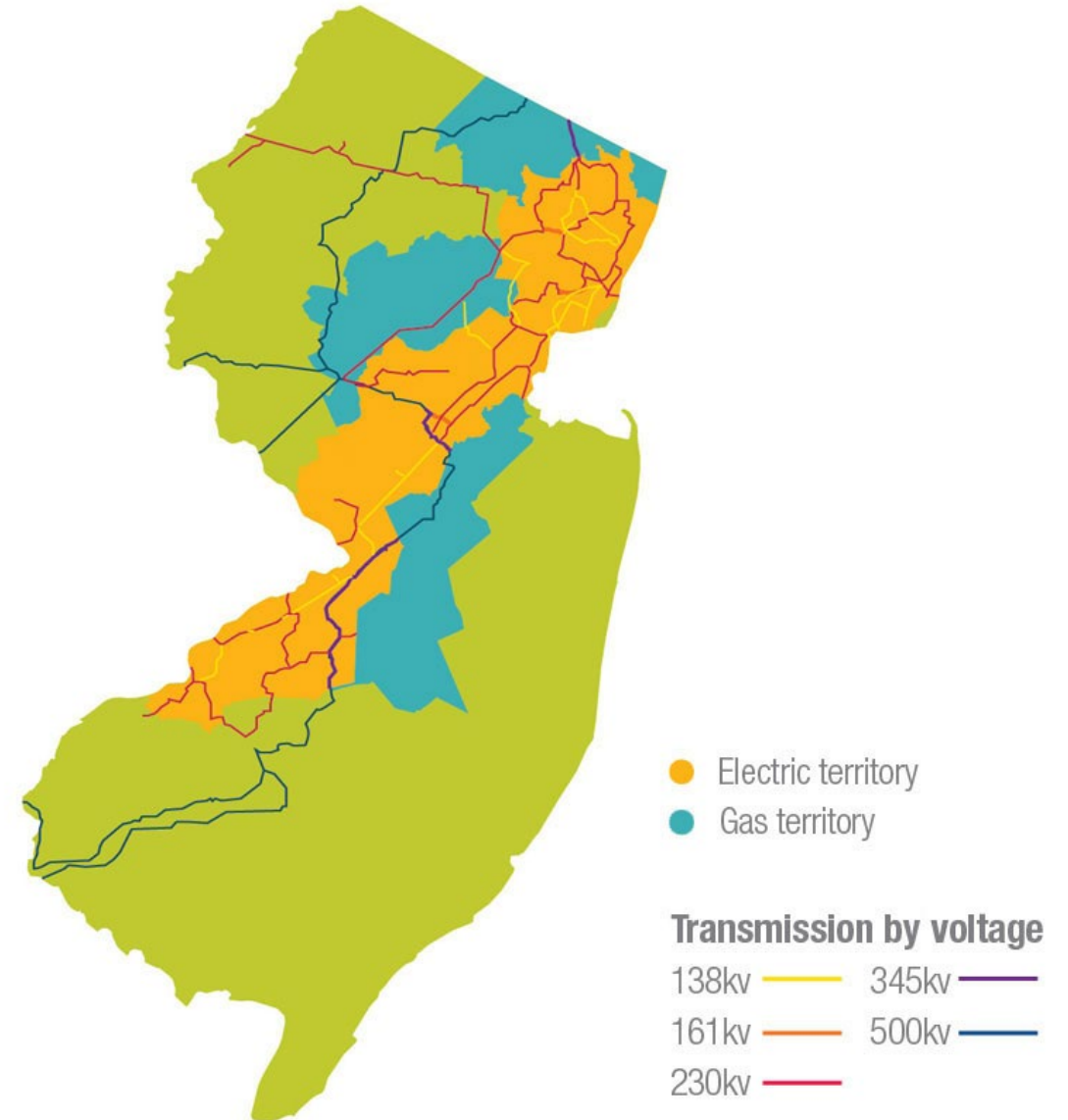
Public Service Electric and Gas (PSE&G) Background

- The regulated natural gas and electric energy transmission and distribution service provider entity of Public Service Enterprise Group (PSEG; NYSE: PEG)
- Monopoly franchise territory is all within the State of New Jersey
 - Corporate affiliate PSEG-LI manages LIPA system on Long Island, NY, under contract with LIPA.
- NERC Transmission Operator (TO) and Distribution Provider (DP), all within the NERC Regional area of ReliabilityFirst (RF)
- Located inside and operate as part (“Member”) of PJM Interconnection LLC (PJM)
 - Trivia: PJM founding member - the “J” (for Jersey) in PJM
- Own and operate the PJM Local/TO Control Center for the PSE&G service territory
 - PSE&G Electric System Operations Center (“ESOC”)
 - ESOC subject to the PJM TO/TOP NERC Compliance Responsibilities Matrix (TO/TOP Matrix)
- PSEG’s RC, RP, TOP, BA, PA/PC, and TSP is PJM

PSE&G Service Territories Map

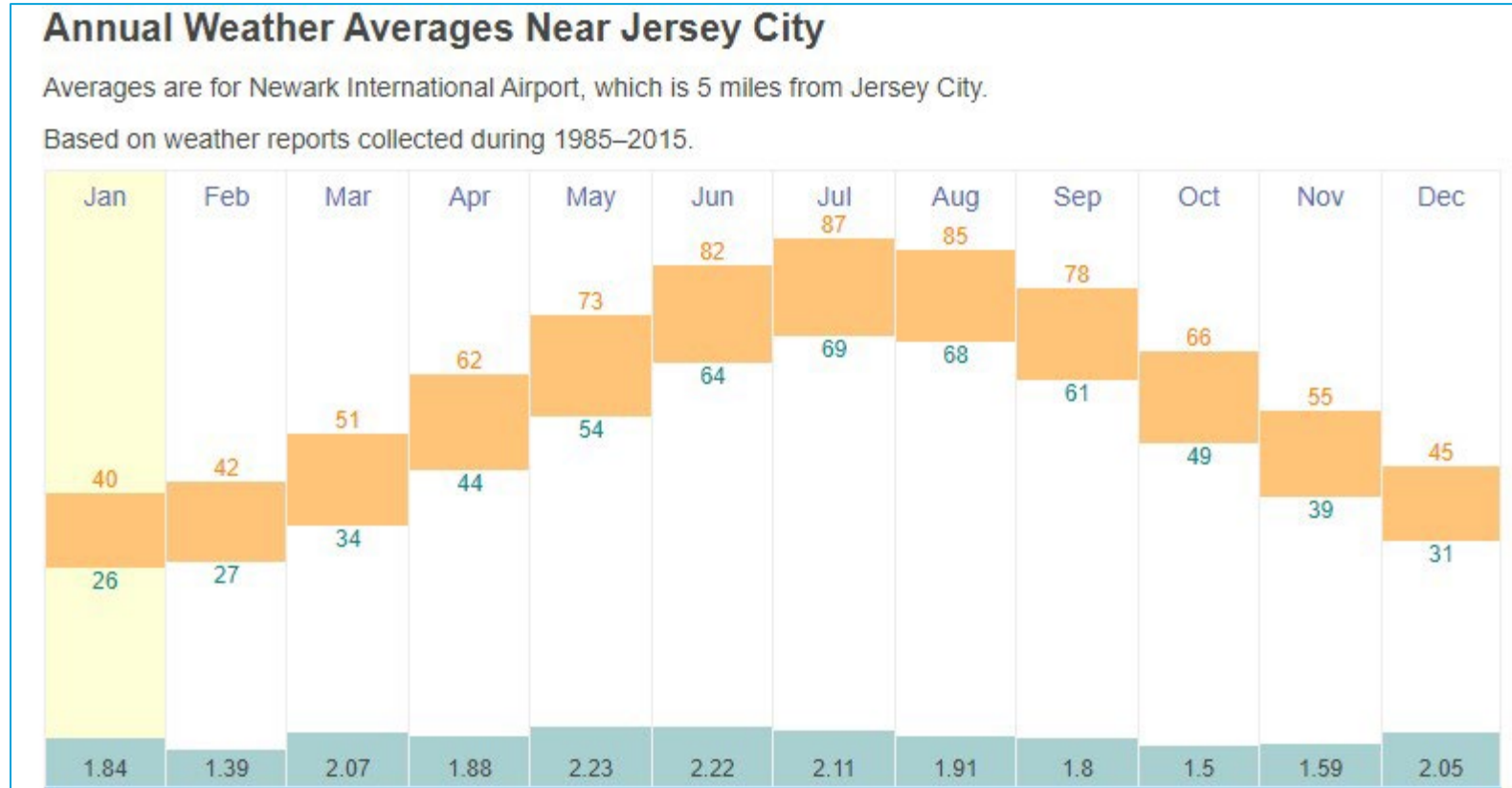


PSE&G serves the population in an area consisting of a 2,600-square-mile (6,700 km²) diagonal corridor across the state from Bergen to Gloucester Counties. PSE&G is the largest provider of gas and electric service, servicing 1.8 million gas customers and 2.2 million electric customers in more than 300 urban, suburban and rural communities, including New Jersey's six largest cities. [Wikipedia]



New Jersey Weather

- Period that freezing weather is typically experienced in New Jersey is from late November to late March



- Lower temperatures during Winter period usually still above 0° F; “Wind-Chill” values can be lower.

February 2021 Cold Weather Recommendations Implementation: Things to Consider Regarding PSE&G

- PSE&G's typical, expected Winter period conditions
 - New Jersey is not Texas or the US Southwest, where the 2021 Event occurred
- PSE&G long-standing, established program of readiness preparations for its Transmission assets, for expected and historically-experienced winter conditions
 - Cold temperatures along with wind, sleet, snow, etc.
- PSE&G existing Facility Ratings, Inspection, etc. practices
- Good history with respect to avoidable cold-weather-induced Transmission incidents or events
 - 2014 Northeast Polar Vortex – no incidents
 - No FAC-003-reportable or other non-FAC-003-reportable (e.g. <200 kV lines) vegetation events

PSE&G Specific Winter Readiness Preparations

- Summer to Winter weather Station preparedness transition
 - Transition activity begins ~October 1; completed prior to expected cold weather onset
 - Unique, specific task checklist for each Station:
 - Filters (e.g. HVAC systems)
 - Water drainage (freeze-risk systems/devices)
 - Oil Changes (reduce accumulated moisture content; viscosity/breakdown)
 - Louver closures (buildings; enclosures)
 - Door seal/closure checks/repairs (“draft” reduction/elimination)
- Natural Gas Curtailment Response Procedure
 - Annual review and exercise; ESOC and PSE&G Operations
 - Manual Load Shed in the event of Generation shortages due to NG availability
 - Manual Load shed would be called for by PJM as TOP/BA/RC
 - Should be rare in PJM footprint given “Capacity Performance” requirements upon Generators receiving capacity payments from the PJM market (e.g. “Firm” gas, or backup fuel capability/supplies)

Winter Readiness: PSE&G Existing Practices

- Inspection and Testing Practices
 - Station Protection System (PS) DC battery checks:
 - Planned periodicity: weekly
 - Scope: PS for all Stations, including non-BES (i.e. non-PRC-005 applicable)
 - PS Powerline Carrier communications functional verification checks:
 - Planned periodicity: monthly
- Vegetation Management Program
 - Scope: all spans of all PSE&G Transmission lines
 - No distinction or difference in VM program for non-FAC-003-applicable lines
- Facility Ratings
 - Ratings determined for temperatures below (and above) PJM reporting/model requirements
 - Ratings determined between -15 C° and 40 C° , at 5 C° increments.
 - Ratings outside of PJM modeling provided to ESOC
- PSE&G Daily Operations “Morning Call”
 - Current and expected weather over next 72 hours noted/discussed

Winter Readiness: Actual Event

- PSE&G Utility Emergency Preparedness (UEP) Group
 - Determine and then declare when PSE&G goes into “Storm Preparation” mode
- PSE&G Groups’ preparation and response activities pursuant to respective, pre-planned/documented severe weather preparations procedures/checklists
 - Snow removal plans (sites, facilities);
 - Equipment availability (e.g. snow shovels)
 - Ice buildup plans
 - Reporting back to UEP Group
(completion status of severe weather preparations and response activities)
- New Jersey Board of Public Utilities
 - Readiness reporting requirements of PSE&G at the 72, 48, 24 and 12 hours-in-advance time points, before the expected weather event.
 - Status and event reporting during and post-event
- PSE&G Personnel
 - “Storm Duty” assignments and management pre-planned and organized on an ongoing, continuous basis.

February 2021 Cold Weather Recommendations Implementation

- **PSE&G** is addressing as a participant (Member) in **PJM**
 - Critical Natural Gas Infrastructure (CNGI) loads participate in PJM markets as Demand Response. This will be impacted, starting Winter 2023/2024
 - **PJM Problem Statement** notes that: (i) PJM’s current estimate is that there are approximately 20 facilities (~95 MW winter capability/190 MW summer capability) of critical gas infrastructure load that participate as Demand Response in the PJM wholesale markets; (ii) most of these loads have plans in place to avoid any significant disruption in the supply of gas when curtailed.
 - PJM plans to create transition mechanism for Members with capacity commitments relying on CNGI, similar to what was done when new capacity products were introduced
- **PSEG** is engaging in NERC Standard Development Project 2021-07 “Extreme Cold Weather Grid Operations, Preparedness, and Coordination”;
 - Will take action if/as needed to achieve then maintain compliance with new or revised NERC Reliability Standards
- **PSEG** will also engage in any other associated future NERC SD Projects

Thanks for your time and attention....

Questions?

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