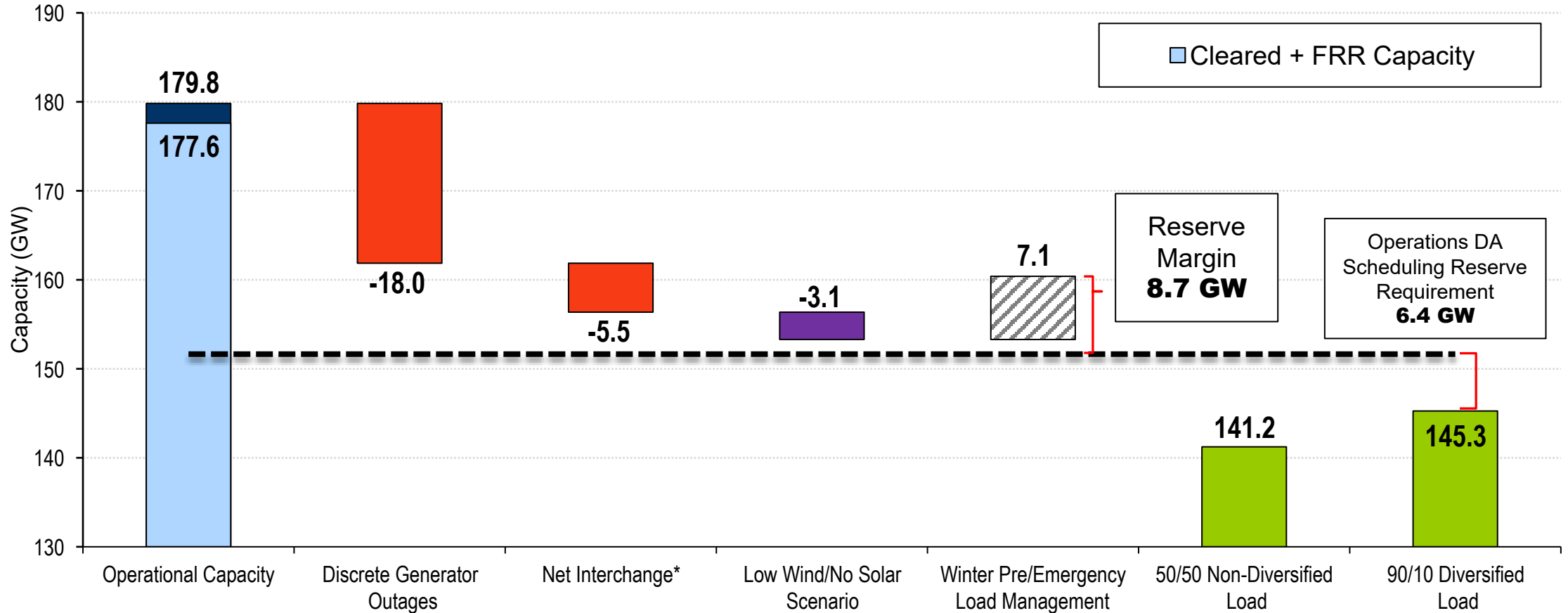




Operations Assessment Task Force 2024-25 Winter Study

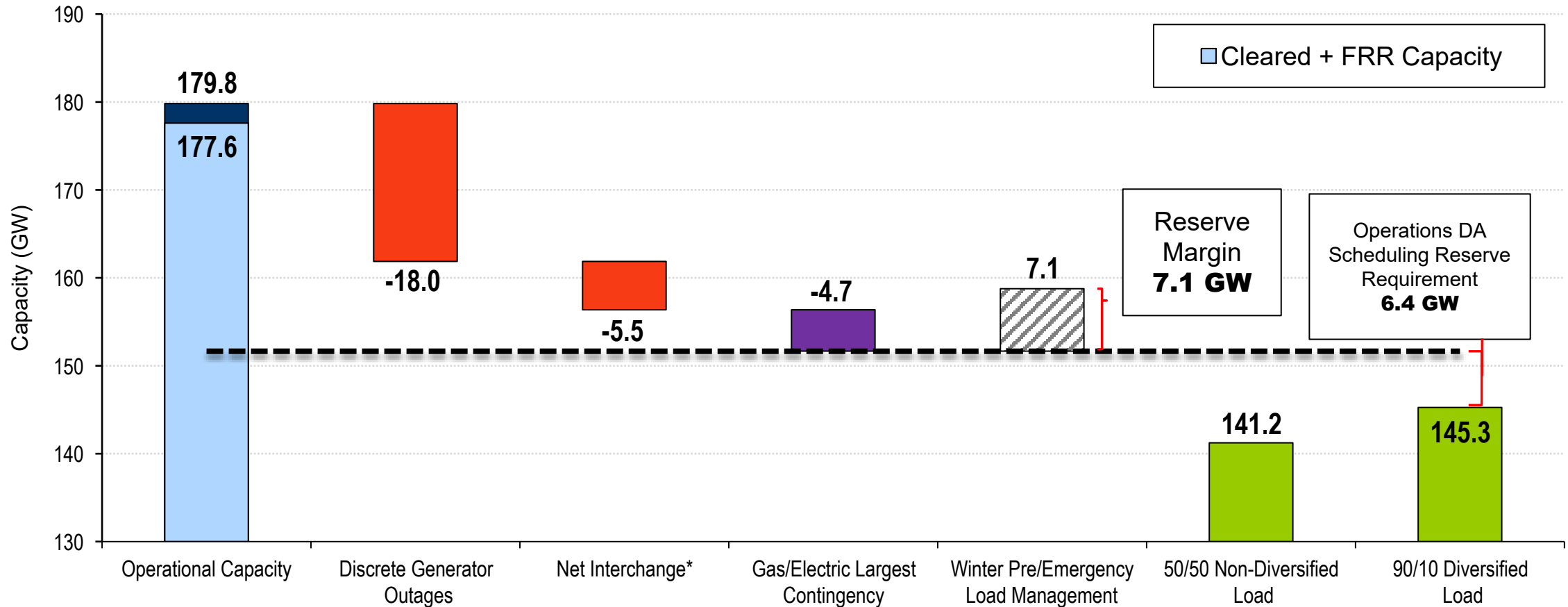
Mark Dettrey
Engineer II, Transmission Operations
Operating Committee
November 8, 2024

Winter 2024-25 Low Wind and No Solar Scenario Overview (Preliminary)



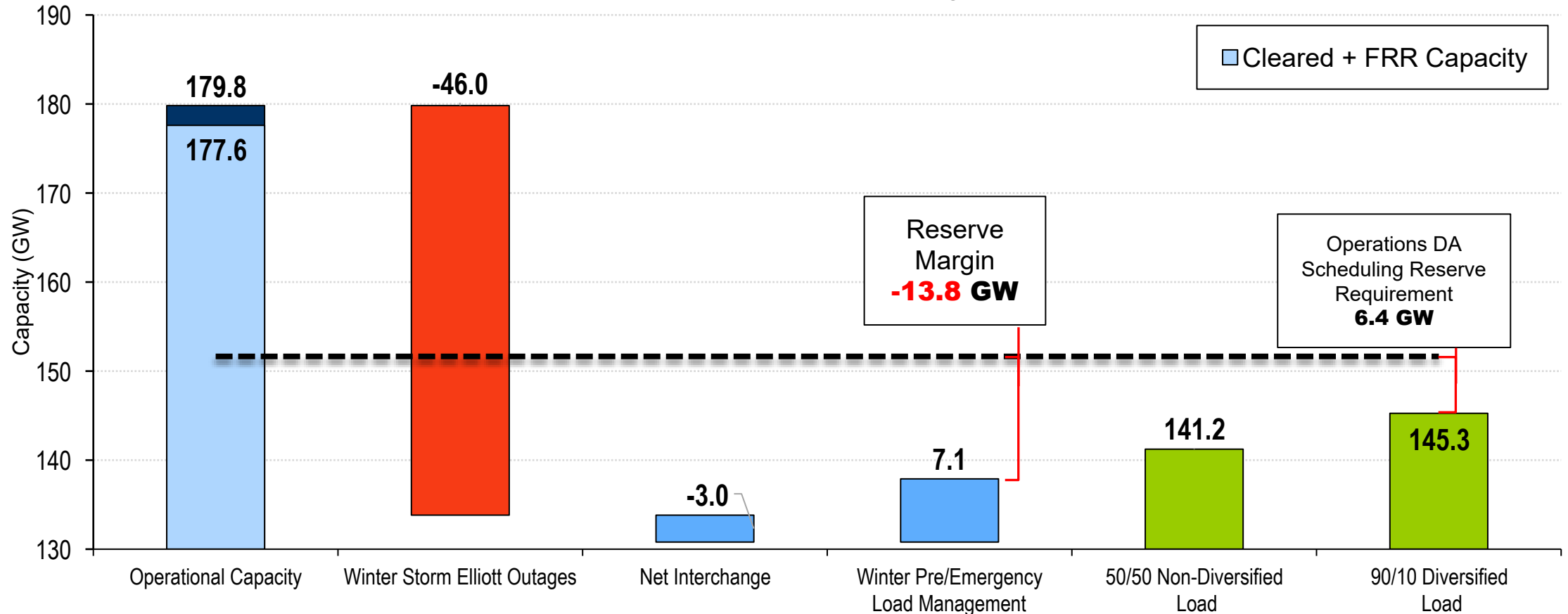
* 3,025MW of **Net Interchange** (5,500MW) is **Firm Interchange** which cannot be recalled

Winter 2024-25 Gas Electric Contingency Scenario Overview (Preliminary)



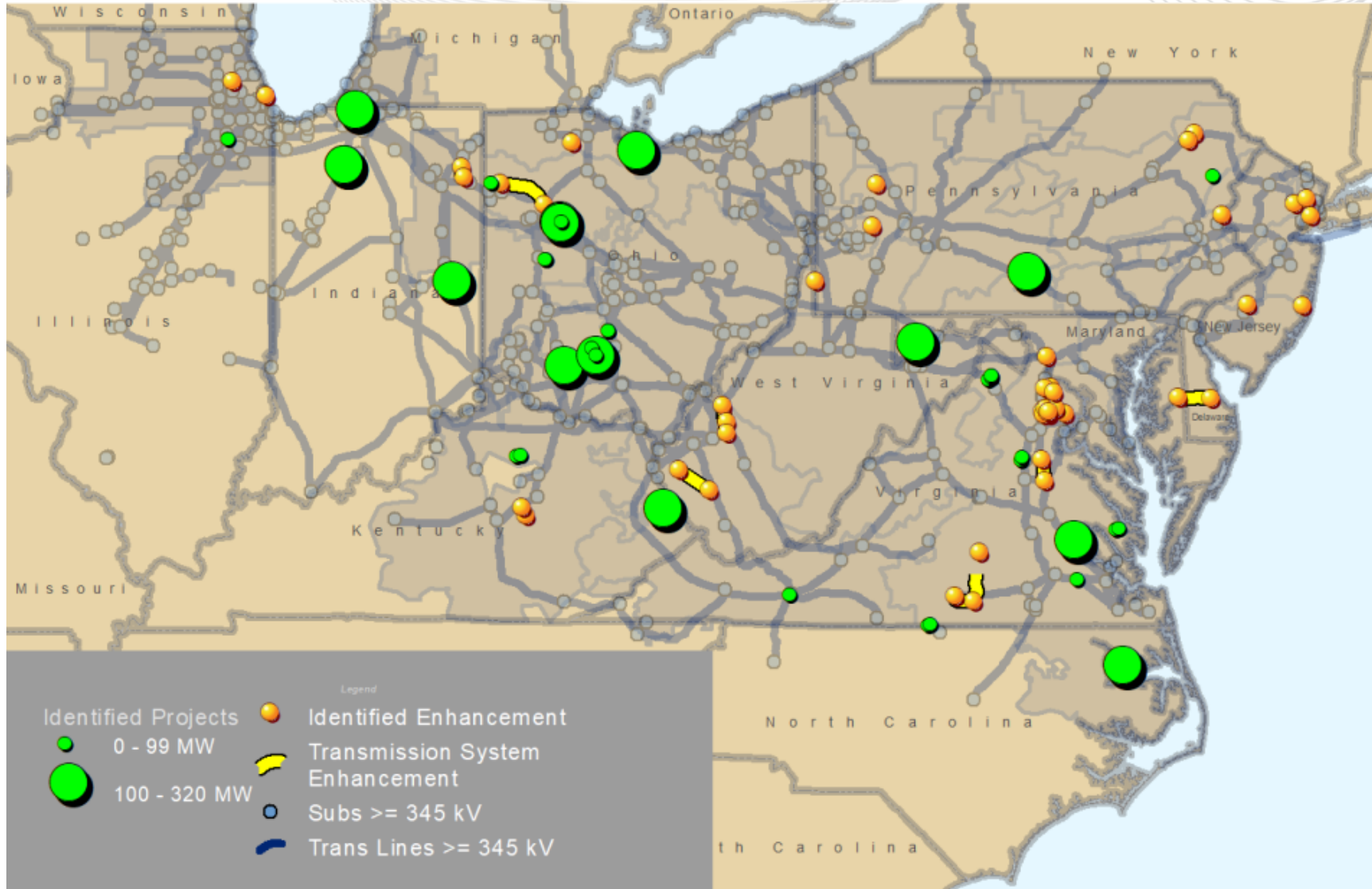
* 3,025MW of Net Interchange (5,500MW) is Firm Interchange which cannot be recalled

Winter 2024-25 Winter Storm Generation Outages Scenario Overview (Preliminary)



* 3,025MW of **Net Interchange** (5,500MW) is **Firm Interchange** which cannot be recalled

Upcoming Generation and Transmission Projects



50/50 Non-diversified Peak Load Base Case

LAS Load Forecast	141,233 MW
RTO Case Interchange	4,462 MW** (Exporting)
PJM RTO Installed Capacity	179,821 MW (Preliminary)
Discrete Generator Outages	17,955 MW

**OATF Case Interchange (-4,462 MW) = Forecasted Net Interchange(-5,500 MW) + Pseudo-Tie Adjustment (1,076 MW)

- No reliability issues identified for base case and N-1 analysis.
- Re-dispatch and switching required to control local thermal or voltage violations in some areas.
- All networked transmission voltage violations were controlled by shunt and tap adjustments

Sensitivity Studies	Results
External contingencies impactful to PJM reliability	No Reliability Concerns
N-1-1 Relay trip conditions	No Reliability Concerns
Max-Cred Contingency Analysis	No Reliability Concerns
90/10 Load Forecast study (145,259 MW diversified peak load forecast)	No Reliability Concerns
Gas Pipeline Study	No Reliability Concerns
Solar and Wind Generation Sensitivity Study	No Reliability Concerns
Transfer Interface Analysis	No Reliability Concerns
BGE/PEPCO Import Capability	No Reliability Concerns

- Study was run to determine impact on PJM facilities caused by the contingent loss of external facilities
 - Studies show no reliability concerns

- N-1-1 relay study is performed to analyze potential impacts on PJM facilities in the event of cascading outages
 - All networked transmission overloads were controlled pre-contingency
 - No cascading outage concerns

- Study was run to identify situations where a reasonable possibility of occurring contingencies that are beyond the normal N-1 contingency criteria.
 - Studies show no reliability concerns

- N-1 study was run at an elevated load levels (145,259 MW diversified load forecast) to look for any thermal and voltage violations.
 - Studies show no reliability concerns
 - Re-dispatch, PAR adjustment and switching required to control local thermal or voltage violations in some areas.
 - All networked transmission voltage violations were controlled by shunt and tap adjustments

- **Loss of each Local Distribution Company (LDC)**
 - 19 contingencies
 - No issues observed.
- **EMS Gas Contingencies**
 - Analysis based on more specific segment and compressor station contingencies with definitions in PJM EMS.
 - 43 contingencies
 - No issues observed.

- Study was run to determine impact of low wind generation with no solar generation online
 - Studies show no reliability concerns



Preliminary Reactive Interface Transfer Analysis

Interface	Projected Limit for Winter 2024-25 (MW)	Typical Back-off (MW)
Eastern	9664	300
Central	3495	200
Western	4796	200
Bed-Blackoak	1977	50
AP South	4822	100
AEP-DOM	4466	100
Cleveland	3593	200
CE-EAST	1740	200
5004/5005	3713	50

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**Operations Assessment Task Force
2024-25 Winter Study**



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