



2014 / 2015 Winter Readiness

Pennsylvania Public Utility Commission
October 31, 2014



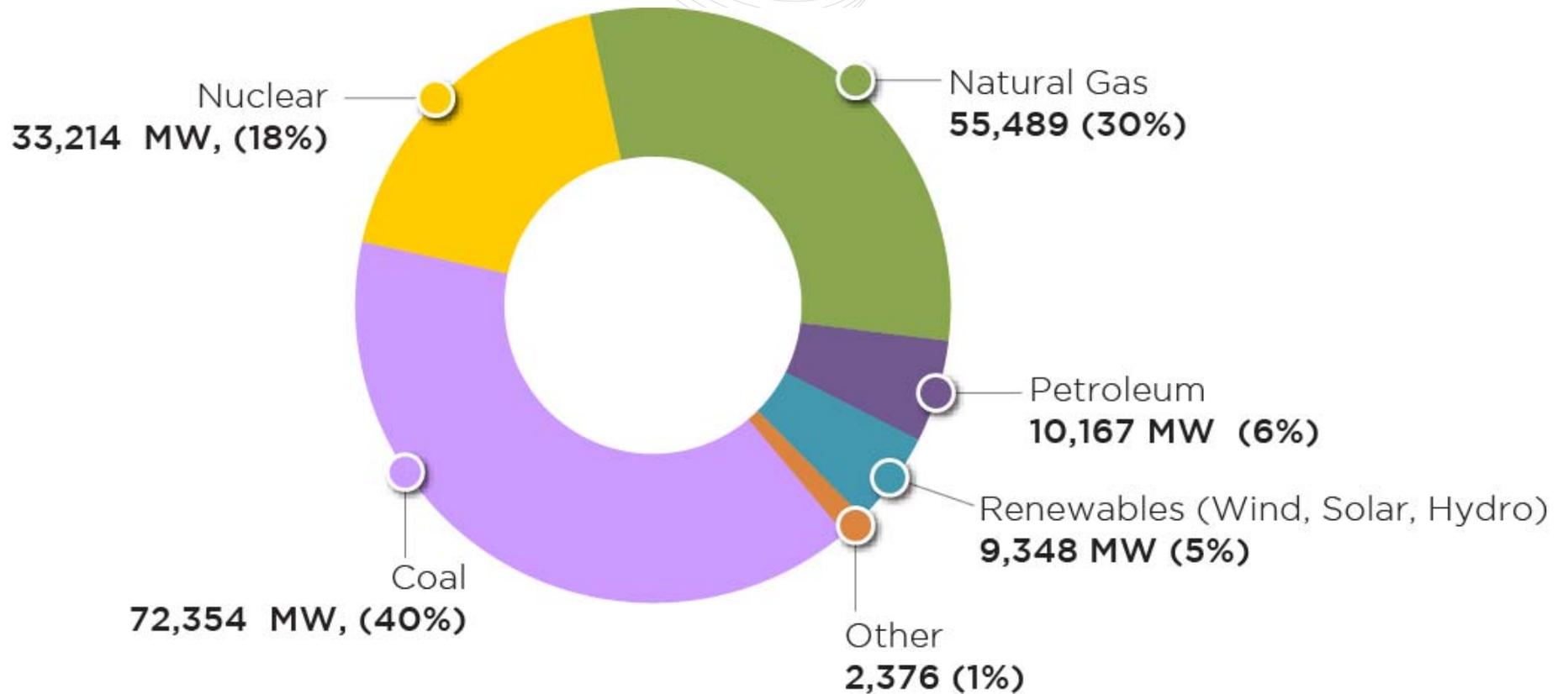
2014 / 2015 Projected Capacity and Peak Load

RTO	MW
2014 / 2015 Unrestricted Load Forecast*	133,510
2014 Total Installed Capacity (ICAP)**	183,013

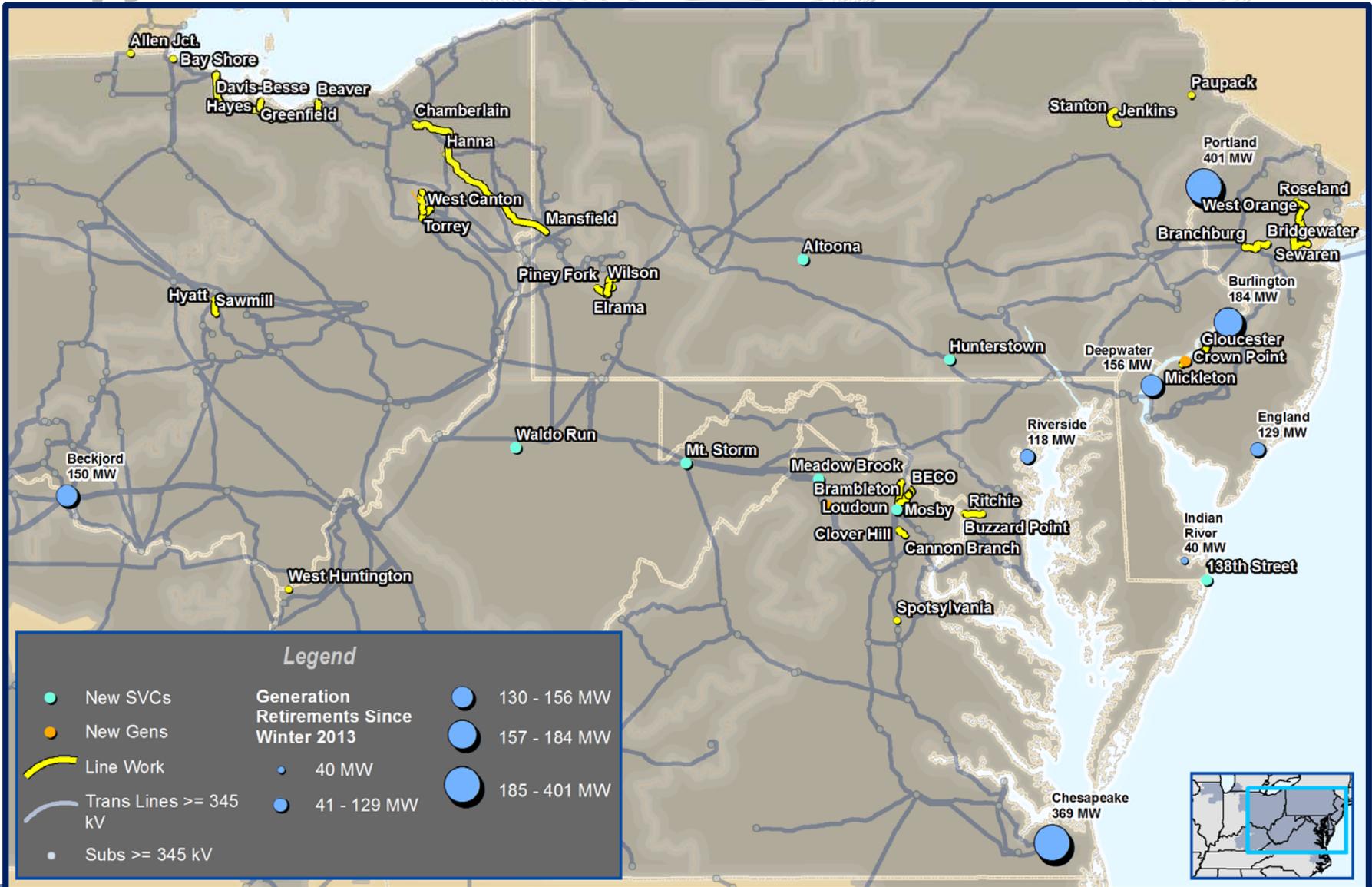
*50/50 PJM Coincident Peak Load. Unrestricted means Demand Response was not subtracted

**ICAP, includes generation internal to PJM (internal RPM / FRR and other internal iron in the ground), external imports to PJM, and Annual DR as of 12/01/2014)

Existing Installed Capacity (MW) by Fuel Type (12/01/ 2014)



Source: PJM



Peak Load Base Case Study Results

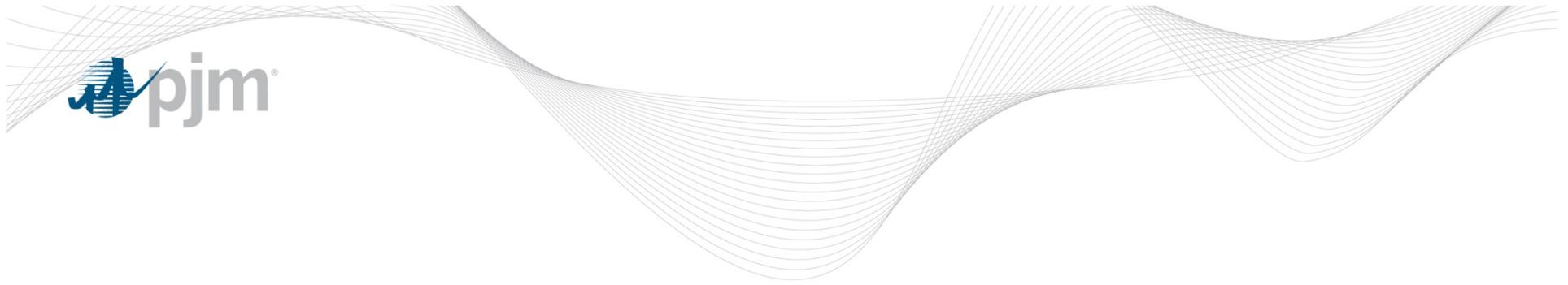
- No reliability problems identified
- Off-cost and switching used to control local thermal and voltage violations in some TO zones

Peak Load Base Case	
Case Load	137,095 MW
RTO Net Interchange	4,061 MW (Importing)
PJM RTO Installed Capacity	183,012 MW
Discrete Outages	23,105 MW

In addition to the base case winter analysis (OATF study) the following sensitivities will be run:

- 90/10 Load Forecast (142,550 MW)
- Higher outage amounts (41,000 MW)
- Gas pipeline contingencies based on EIPC studies

Sensitivity study results should be finalized by November 2014.



Cold Weather Recommendations from Winter 2014

Pre-Winter 2014 / 2015 Considerations

Cold Weather Resource Capability Testing and Preparation Checklist

Gas Unit Commitment coordination in real-time operations to include: clarity in dispatcher communications, sharing and validation of existing and new unit parameters (e.g. notification times, dual fuel capability and availability, fuel inventories, resource limitations), commitment of long lead-time units (should reduce uplift) , intraday cost schedule changes.

Improved data sharing and coordination with the gas industry.

Energy and Reserve pricing improvements to more appropriately reflect real-time operations. Benefit should be a reduction in uplift.

Tool and Process improvements to address Interchange Volatility.

Improvements in interregional coordination to improve situational awareness during emergencies.

Improvements in emergency procedures – Voltage Reduction data and procedures and Emergency Energy bid procedures

PJM Studies, Data Requests, Drills & Training

- PJM Operations Assessment Task Force (OATF) Winter Operating Study (Nov. 2014)
- PJM Emergency Procedures Drill (Nov. 17, 2014)
- Fuel Inventory Survey (Nov. 2014)
- Pre-winter dispatch training webinar covering changes since last winter & review of Emergency Procedures (Dec. 2014)

Reliability Coordinator Meetings

- Reliability *First* Winter Assessment (Nov. 2014)
- Joint MISO/PJM/NPCC Operations Coordination Meeting (Nov. 12, 2014)
- SERC Operating Committee / VACAR Pre-winter coordination Meetings (Oct. 2014)
- NYISO / PJM Winter Coordination meeting (October 23, 2014)

Gas / Electric Coordination

- Joint INGAA – Inter-RTO Council Meeting (Sept. 3, 2014)
- Pennsylvania Independent Oil & Gas Association (PIOGA) Pipeline and Gas Market Development Committee (Sept. 8, 2014)
- PJM Winter gas preparation meeting (October 2014)

Post Winter 2014 / 2015 Considerations

Improved Cold Weather Resource Capability Drills and Requirements based on 2014 / 2015 performance

Improved Capacity Performance with new Capacity Product designed to improve unit performance, operational flexibility, and incent fuel security – transitional steps

Improved Market Uplift cost allocation

Improved harmonization of gas and electric operating days via FERC order.

Improved interchange volatility