



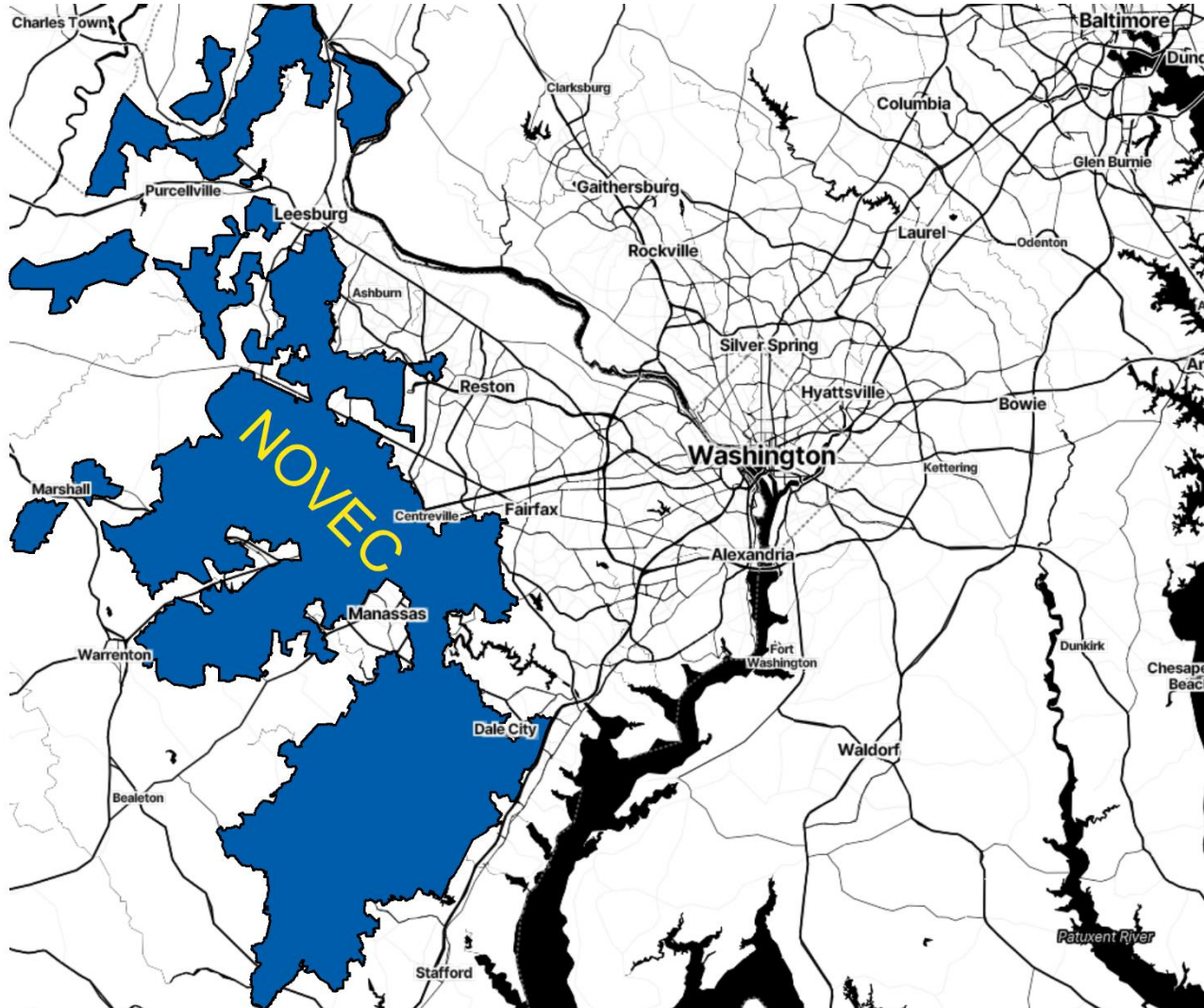
# NOVEC Data Center Load Forecast

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PJM Load Analysis Subcommittee

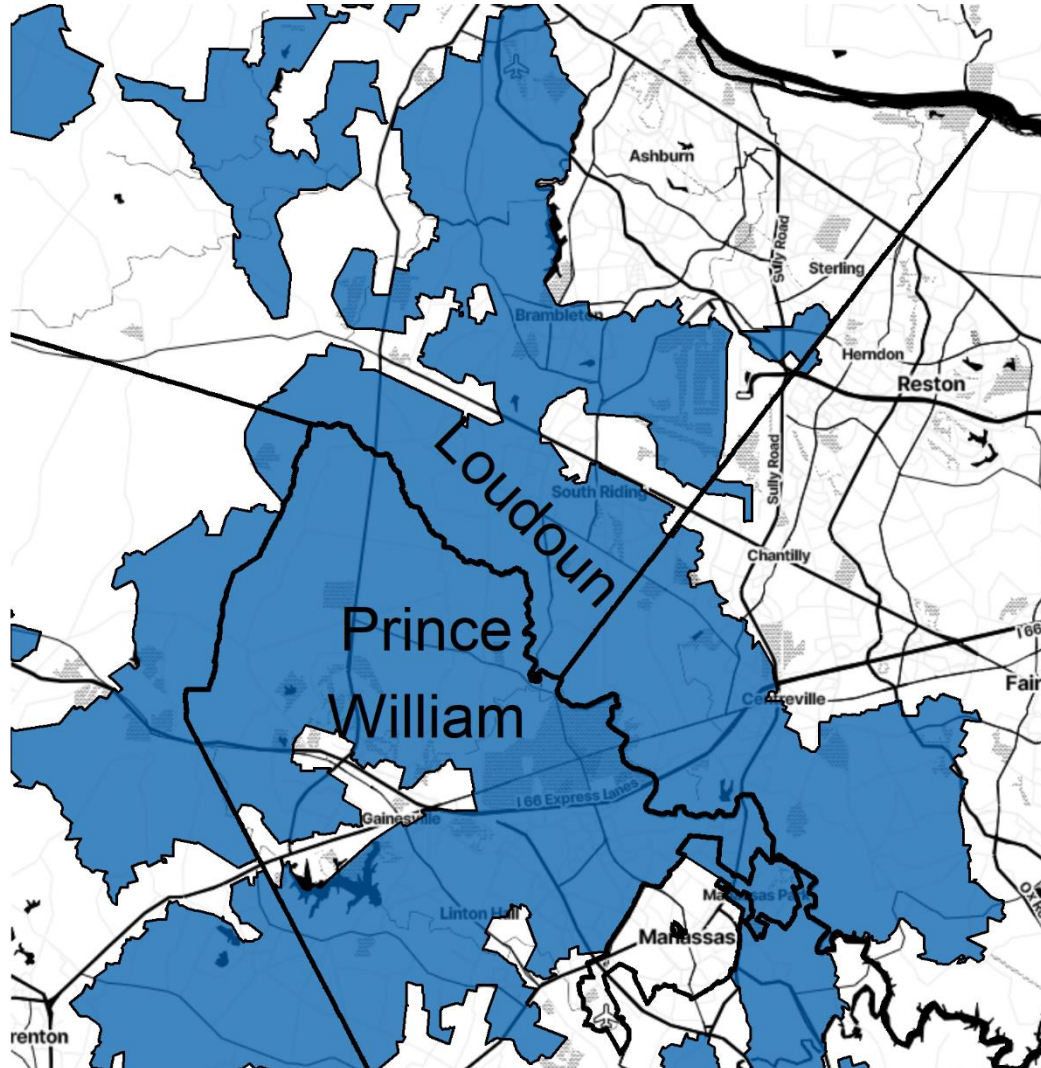
October 18, 2023

- NOVEC continues to engage in the PJM load forecasting process to ensure that all our customers have sufficient capacity to meet their energy and reliability needs
- NOVEC has requested an adjustment to the 2024 PJM Load Forecast, submitted September 2023
- PJM requested that all utilities requesting load forecast adjustments to the PJM integrated load forecast for 2024 present on their methodology and findings at the PJM Load Analysis Subcommittee (LAS)
- NOVEC performs data center load forecasting through a structured, systematic process that incorporates in-depth information on upcoming data center projects together with fine-scale data on historical load behavior



- NOVEC: Northern Virginia Electric Cooperative
- Service Territory: 651 square miles of primarily suburban/exurban
- Customer Mix: residential, small commercial, critical government facilities, data centers
- Meters: Approx. 180,000 (~275 per square mile)

# NOVEC Data Centers



- NOVEC serves 50+ data centers with approx. load of 825 MW
- 2023 Jan-Jul: Data centers account for 59% of energy and 45% of peak load
- Key hotspots: Loudoun and Prince William

- **Contracted Capacity**
  - Defined in the electric service agreement (ESA)
  - Size metric
- **Metered Demand**
  - What is actually flowing through the meter
  - Usage metric
- **Utilization Rate**
  - Metered demand as a % of contracted capacity

- NOVEC utilizes a bottom-up forecasting approach for data centers
  - Forecast load on individual buildings
  - Aggregate building loads to campus, substation, region, system
- Phase one: identify all data centers in NOVEC service territory
- Phase two: produce metered load forecast for each building



# Phase one: Planning

- NOVEC identifies all current and upcoming data center projects within our service territory
- Includes: active, under construction, or planned projects highly likely to be successfully developed
- NOVEC's analysis includes:
  - Collecting a detailed site plan
  - Identifying the electric infrastructure that will serve each project

- NOVEC generates a metered load forecast for each building identified in the planning phase
- Econometric models were developed and are used by NOVEC staff to predict building-level utilization rates (metered demand/contracted capacity) conditional on:
  - Calendar factors (day of week/day of year)
  - Weather factors (cooling degree days)
  - Past behavior at the customer, campus, and/or building-level when available
- Building-level forecasts are aggregated to campus/substation/region/system as needed





# NOVEC Data Center Forecast August 2023 Forecast Vintage

- Forecast generated August 2023
  - Incorporates projects identified and vetted through 2023-07-31
  - Econometric models estimated with metered load data through 2023-07-31
- Includes both system and delivery point forecasts
- **NOVEC requests PJM incorporate this forecast as an adjustment to the upcoming 2024 PJM Load Forecast**



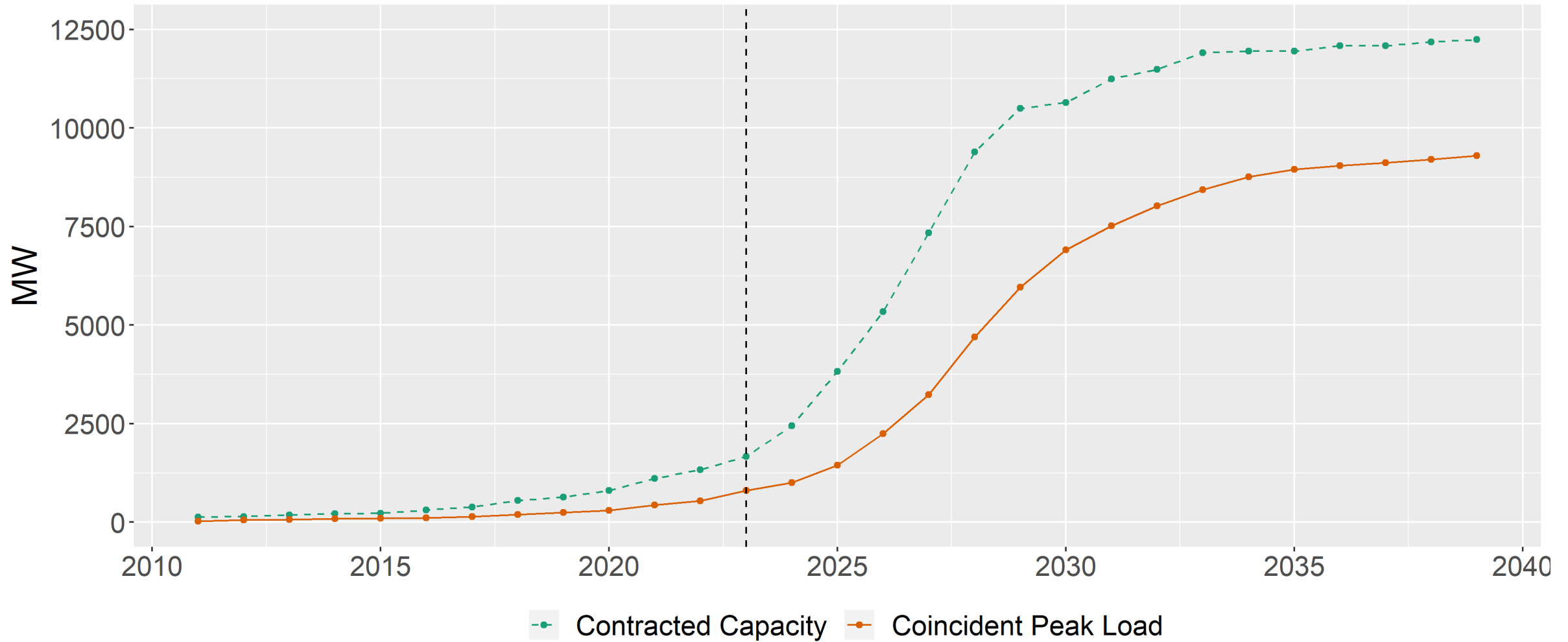
# Near-term Forecast

## August 2023 Forecast Vintage

	Actual					Forecast				
	Jul 2019	Jul 2020	Jul 2021	Jul 2022	Jul 2023	Jul 2024	Jul 2025	Jul 2026	Jul 2027	Jul 2028
Data Centers (#)	24	29	34	38	47	63	84	106	130	159
Yr-Yr Change	3	5	5	4	9	16	21	22	24	29
Contracted Capacity (MVA)	636	799	1,114	1,333	1,675	2,456	3,830	5,348	7,345	9,399
Yr-Yr Change	88	163	315	219	342	781	1,374	1,518	1,997	2,054
<b>Coincident Peak Load (MW)</b>	<b>243</b>	<b>298</b>	<b>432</b>	<b>545</b>	<b>808</b>	<b>1,000</b>	<b>1,449</b>	<b>2,247</b>	<b>3,239</b>	<b>4,696</b>
Yr-Yr Change	54	55	134	113	263	192	449	798	992	1,457



# Long-term Forecast August 2023 Forecast Vintage



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