



Reliability Analysis Update

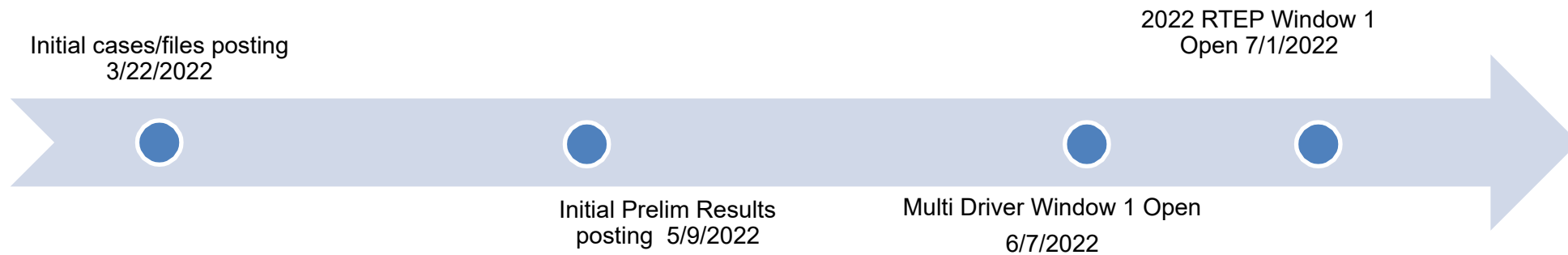
Sami Abdulsalam, Senior Manager

Transmission Expansion Advisory Committee

July 12, 2022



2022 RTEP

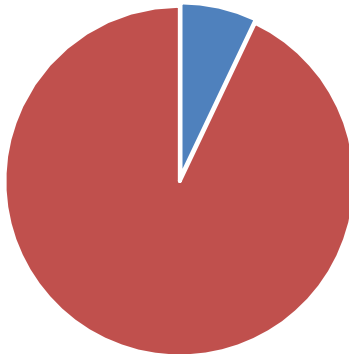


Overview of 2027 Results

Total of **852** flowgates identified at this point (239 flowgates are N-1-1 Voltage drop issues at Black Oak 500KV bus)

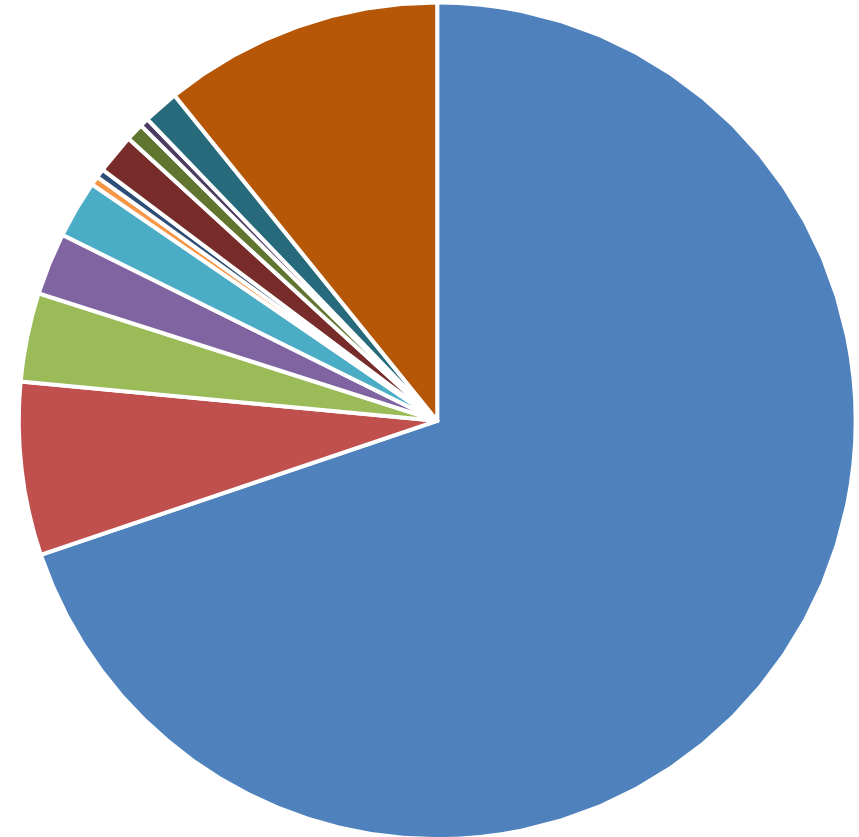
269 Competitive FGs

- 19 in the PJM Mid-Atlantic Region
- 250 in the PJM Western Region (239 are VD at Black Oak)



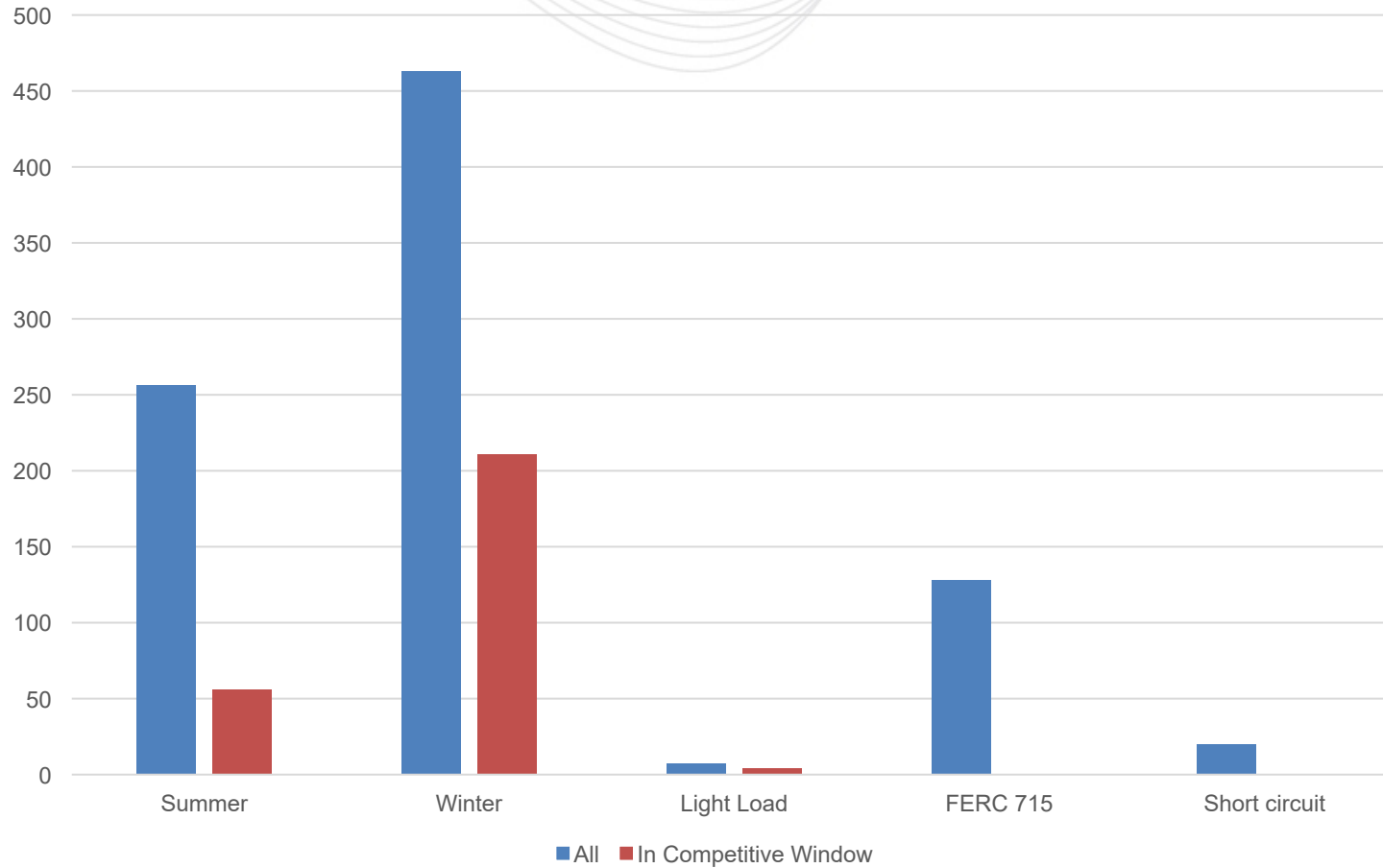
583 Non-competitive FGs

- 407 due to the below 200kv exclusion
- 39 due to Substation Equipment Exclusion
- 20 due to Immediate Need Exclusion
- 14 existing baseline fixes
- 13 addressed in multi driver window 1
- 2 Non PJM Facility
- 2 pending on queue studies
- 9 due to suspended queue
- 4 will be addressed by re-scope of existing baseline project
- 2 not an issue with recent withdrawn queue
- 8 will be addressed in Generation Deactivation
- 63 in DOM are Delayed, pending on immediate need solution study



Overview of 2027 Results: By Type

Number of FGs identified in 2027 RTEP



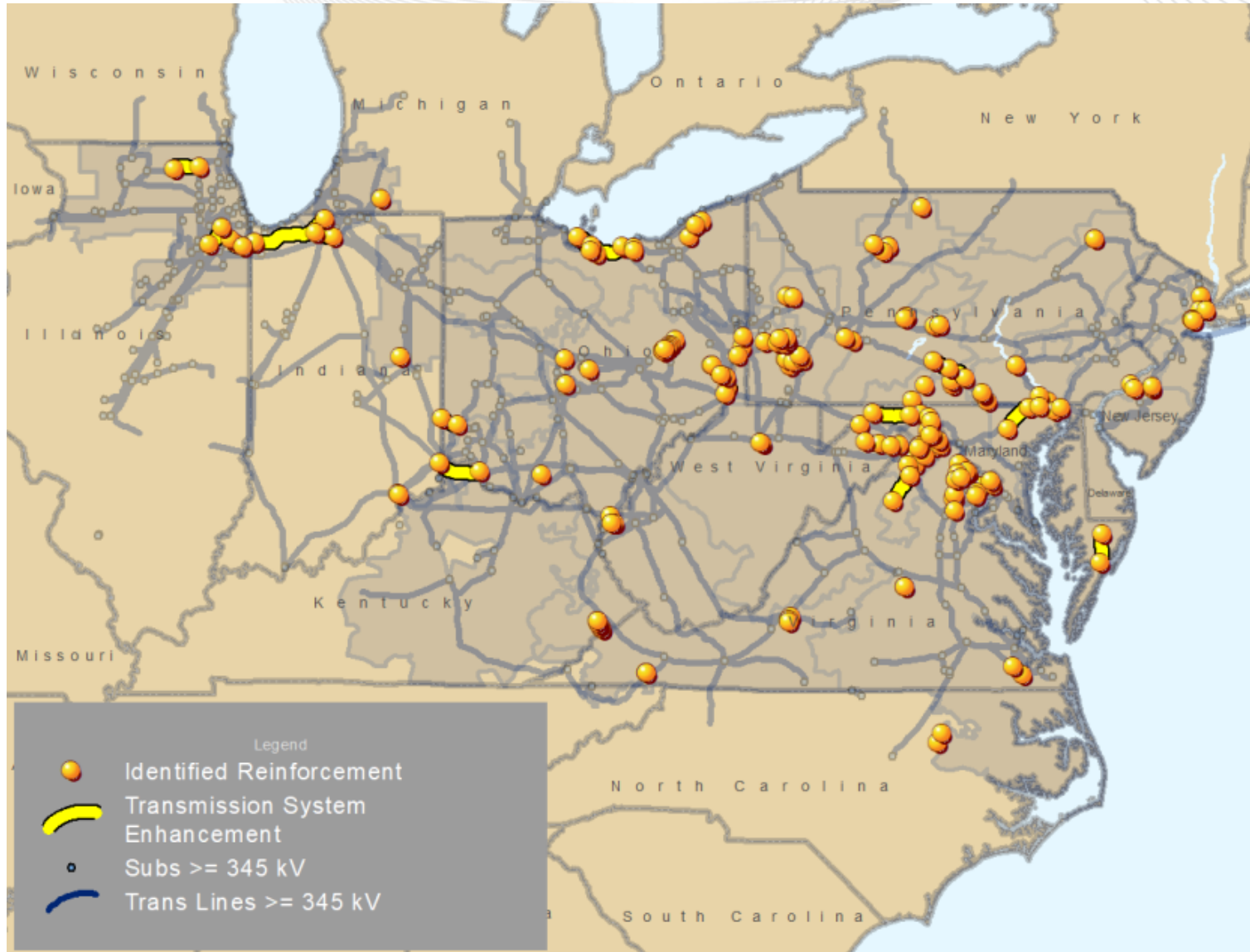


Overview of 2027 Results: By Voltage Level

# of FGs	Thermal			Voltage		Short Circuit	
KV Level	Comp	Non-Comp	Delayed	Comp	Non-Comp	Comp	Non-Comp
34.5	0	0	0	0	37	0	0
40	0	0	0	0	0	0	1
46	0	1	0	0	44	0	0
69	0	11	0	0	32	0	0
115	8	121	4	0	0	0	0
138	6	69	0	0	158	0	12
230	7	3	49	0	0	0	0
345	1+13	5	0	4	0	0	8
500	4	5	2	239	0	0	0

# of facilities	Thermal			Voltage		Short Circuit	
KV Level	Comp	Non-Comp	Delayed	Comp	Non-Comp	Comp	Non-Comp
34.5	0	0	0	0	10	0	0
40	0	0	0	0	0	0	1
46	0	1	0	0	9	0	0
69	0	6	0	0	14	0	0
115	2	7	1	0	0	0	0
138	2	30	0	0	24	0	12
230	3	2	11	0	0	0	0
345	1+4	3	0	2	0	0	8
500	2	1	1	1	0	0	0

- ❖ Green for Multi Driver window
- ❖ Not include 8 FGs for load loss in DOM

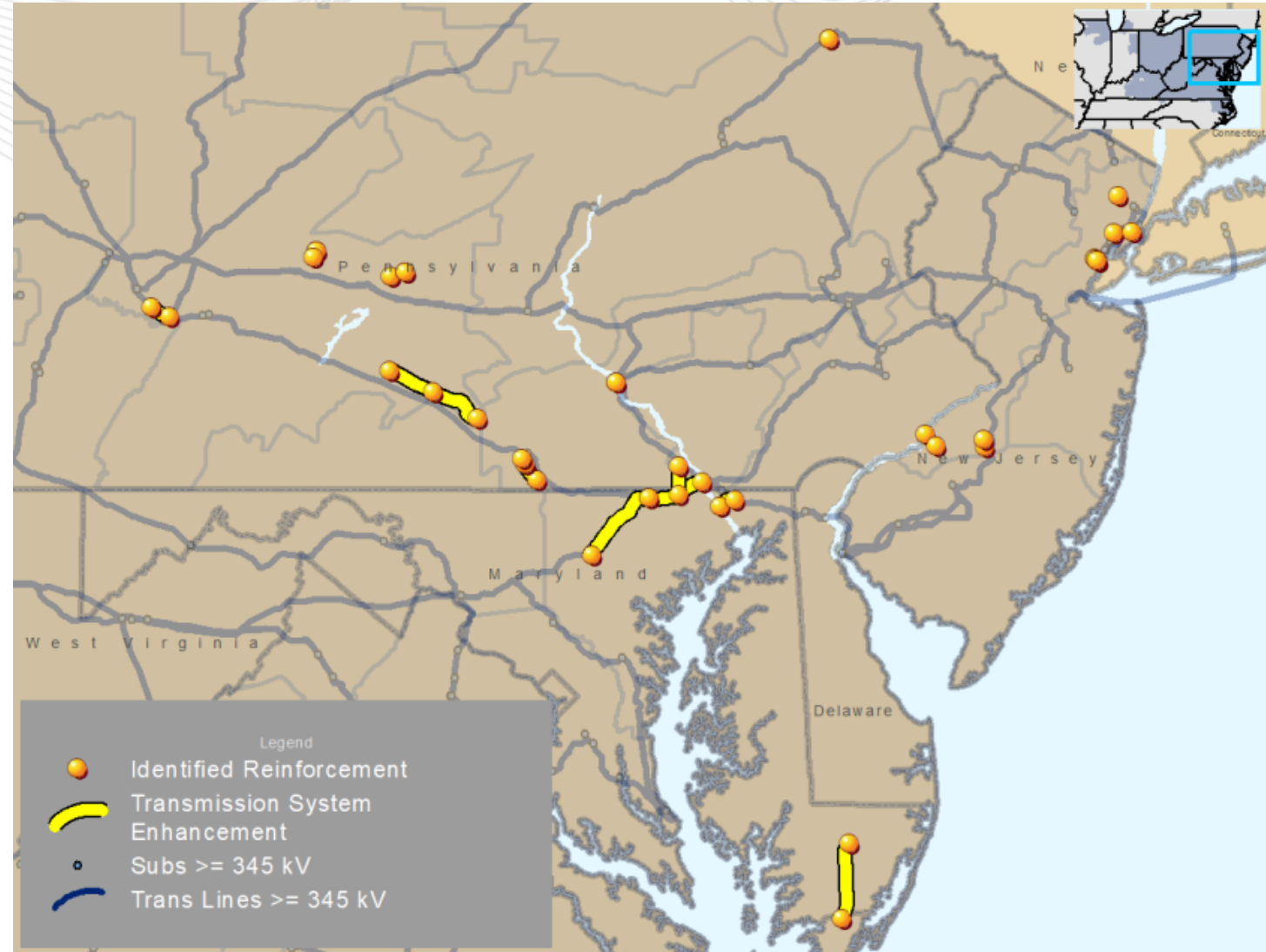


19 Eligible Flowgates

- 10 Summer Generation Deliverability
- 9 Winter Generation Deliverability

161 Excluded from the Window

- 2 FERC 715 Thermal
- 7 FERC 715 Voltage Magnitude
- 20 FERC 715 Voltage Drop
- 1 Light Load Generation Deliverability
- 22 Summer Generation Deliverability
- 11 Summer N-1 Thermal
- 2 Summer N-1-1 Thermal
- 20 Winter Generation Deliverability
- 76 Winter N-1 Thermal

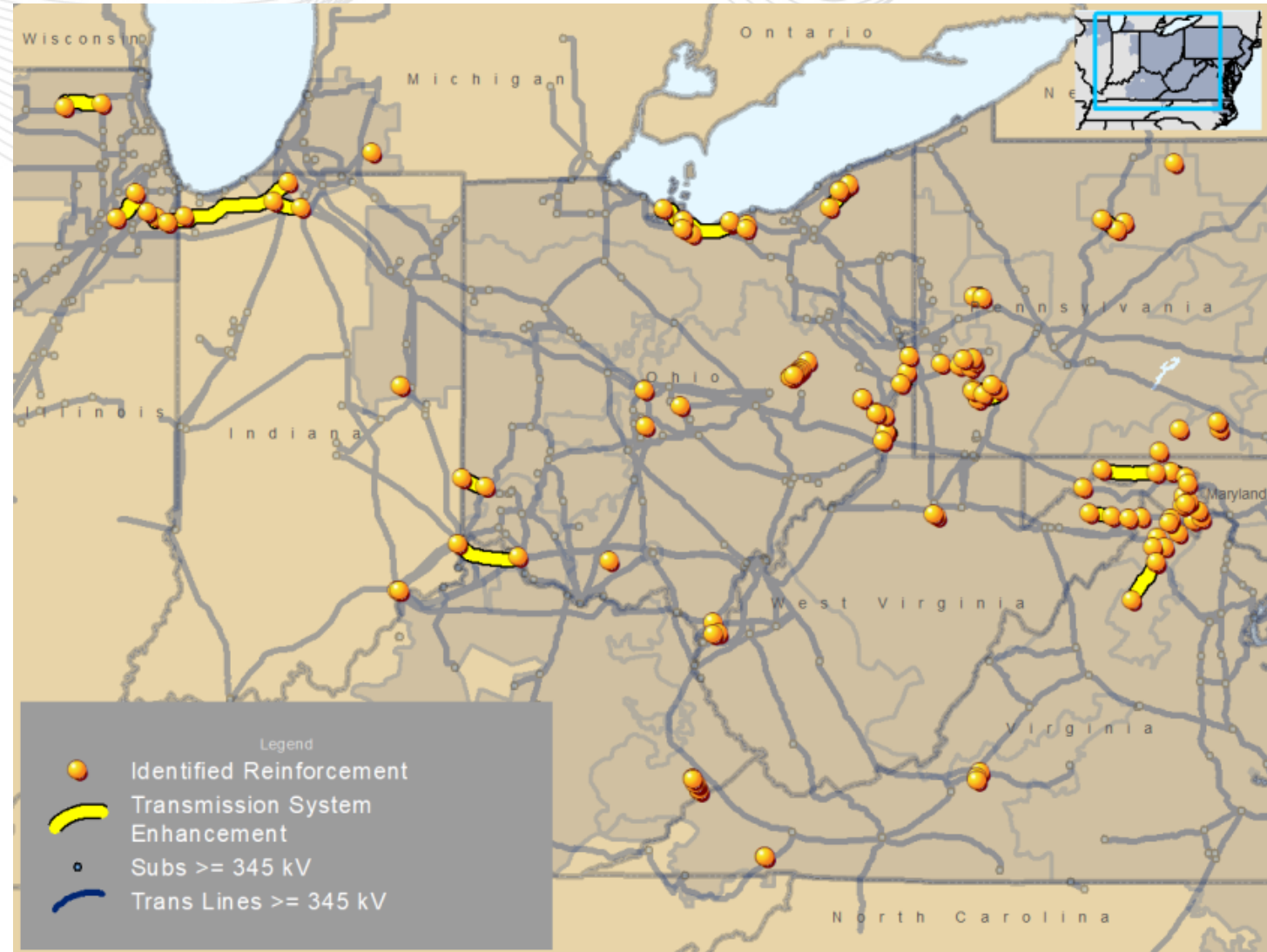


250 Eligible Flowgates

- 2 Light Load Baseline Generation Deliverability
- 2 Light Load N-1 Voltage Magnitude
- 5 Summer Generation Deliverability
- 41 Summer N-1-1 Voltage Drop
- 2 Winter Generation Deliverability
- 198 Winter N-1-1 Voltage Drop

357 Flowgates Excluded from the Window

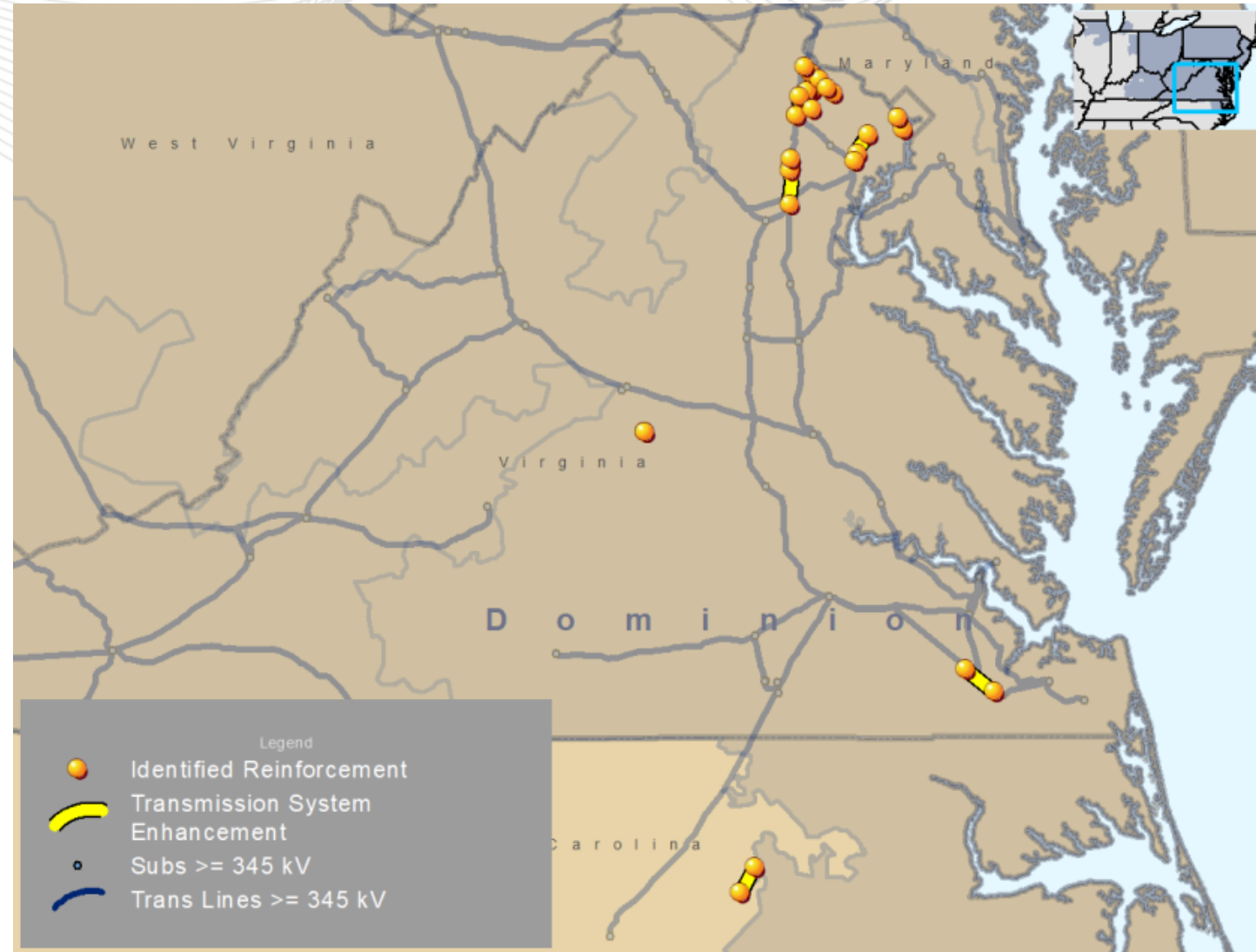
- 11 FERC 715 Thermal
- 39 FERC 715 Voltage Magnitude
- 48 FERC 715 Voltage Drop
- 1 FERC 715 Short Circuit
- 20 Short Circuit
- 34 Summer Generation Deliverability
- 7 Summer N-1 Thermal
- 20 Summer N-1 Voltage Drop
- 16 Summer N-1 Voltage Magnitude
- 9 Summer N-1-1 Thermal
- 18 Winter Generation Deliverability
- 13 Winter N-1 Thermal
- 46 Winter N-1 Voltage Drop
- 40 Winter N-1 Voltage Magnitude
- 35 Winter N-1-1 Voltage Magnitude



65 Flowgates Excluded from the Window

- 1 Light Load Generation Deliverability
- 1 Light Load N-1 Thermal
- 10 Summer Generation Deliverability
- 5 Summer N-1 Thermal
- 4 Summer N-1-1 Load Drop
- 40 Summer N-1-1 Thermal
- 4 Winter N-1-1 Load Drop

* At this time, PJM will not be accepting proposals for resolving reliability violations in the Dominion, northern Virginia Data Center Alley area. The near term needs (2025 and earlier) are currently being addressed via an immediate need due to nature and level of identified reliability violations as well operational constraints in the area. Once the immediate need solution is finalized, the remaining needs will be evaluated and posted in a standalone competitive window.



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Reliability Analysis Update



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1	7/8/2022	<ul style="list-style-type: none">• Original slides posted

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