



**ERCOT Extra-High Voltage (EHV)
Infrastructure Initiative
*Update***

ERCOT Regional Transmission Planning

November 12, 2024

Agenda

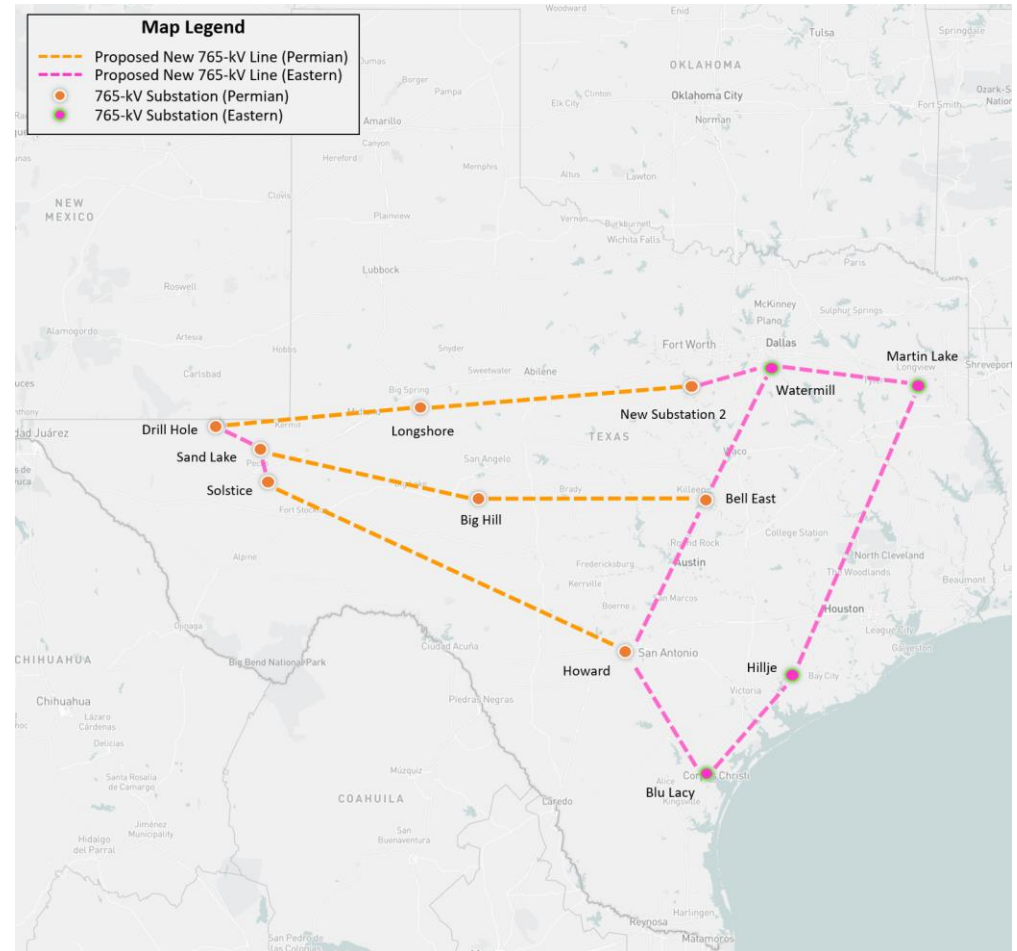
- Recap
- Core Plan Update
- Analysis – Progress Update
- Analysis – Lines Comparison

Recap

- June RPG (<https://www.ercot.com/calendar/06112024-RPG-Meeting>)
 - ERCOT introduced the EHV Infrastructure Initiative
- September RPG (<https://www.ercot.com/calendar/09252024-RPG-Meeting>)
 - ERCOT presented the initial holistic 765-kV plan considered in the 2024 RTP
 - Phase I represented potential maximum benefits considering 2030 load level
 - Phase II represented additional benefits beyond 2030 load level
 - Capital costs not yet considered
- October RPG (<https://www.ercot.com/calendar/10162024-RPG-Meeting>)
 - ERCOT presented EHV study scope
 - Announced effort to develop “Core” plan to address 2030 RTP reliability needs

Core Plan Update

- No changes to 765-kV option in Permian Basin study
- # of Substations
 - Permian Basin = 8
 - Eastern = 4
- New ROW Line Miles*
 - Permian Basin = 1,255
 - Eastern = 1,213
- # of Transformers
 - Each station = 2
 - Watermill = 3
 - Hillje = 3



[*] All mileage numbers include 20% routing adder on top of point-to-point distance

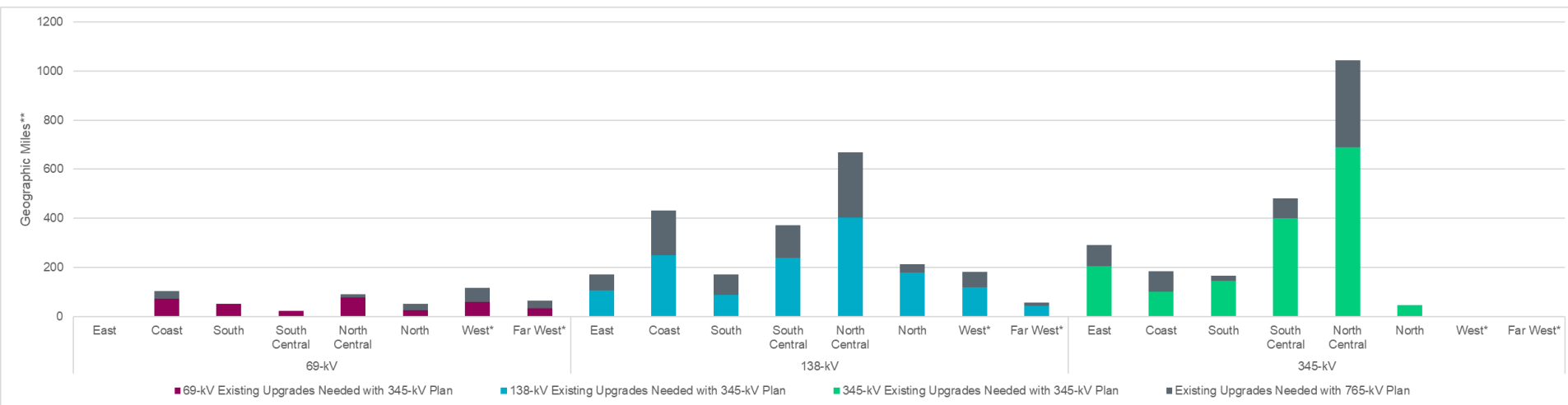
2024 RTP – Analysis – Progress Update

- Two RTP assessments will be performed
 - Standard RTP assessment (without 765-kV Core plan)
 - 345-kV Plan
 - Corrective Action Plans (CAPs) will be developed for
 - N-1, G-1+N-1, X-1+N-1
 - » Will include 69-kV, 138-kV, and 345-kV
 - N-1-1 maintenance outage scenario
 - » Will include 69-kV, 138-kV, and 345-kV
 - EHV RTP assessment (with 765-kV Core plan)
 - 765-kV Plan
 - CAPs will be developed for
 - N-1, G-1+N-1, X-1+N-1
 - » Will include 69-kV, 138-kV, and 345-kV
 - N-1-1 maintenance outage scenario
 - » Will include 765-kV and 345-kV only

Completed
In progress

2024 RTP – Analysis – Lines Comparison

Existing Upgrades



[*] Only non-Permian Basin WFW projects are included

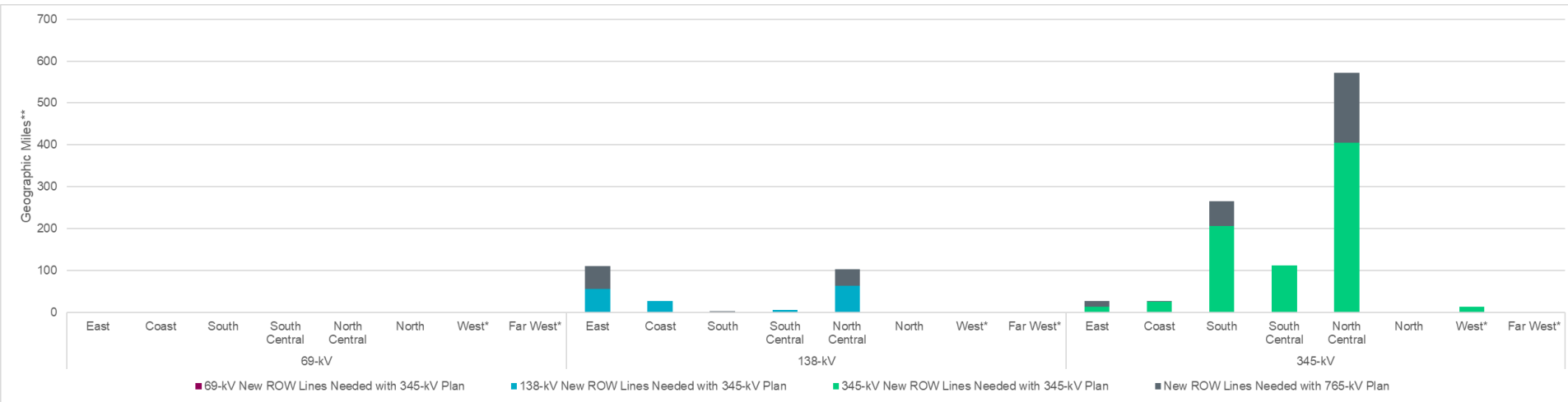
[**] All miles are geographic miles

[**] Ex: 100 miles of single-circuit line = 100 miles, and 100 miles of double-circuit lines = 100 miles



2024 RTP – Analysis – Lines Comparison

New ROW Lines



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[**] All miles are geographic miles

[**] Ex: 100 miles of single-circuit line = 100 miles, and 100 miles of double-circuit lines = 100 miles



2024 RTP – 345-kV Lines Comparison

	Existing Upgrades (miles ^{**})		New ROW Lines (miles)	
	345-kV Plan	765-kV Plan	345-kV Plan	765-kV Plan
East	206	86	13	13
Coast	102	83	25	2
Southern	145	21	206	59
South Central	402	80	112	0
North Central	689	355	405	167
North	46	0	0	0
West*	0	0	13	0
Far West*	0	0	0	0
TOTALS	1,590	625	774	241
		-965		-533
	765-kV Plan upgrades 965 fewer existing miles		765-kV Plan adds 533 fewer new ROW miles	

[*] Only non-Permian Basin WFW projects are included

[**] All miles are geographic miles

[**] Ex: 100 miles of single-circuit line = 100 miles, and 100 miles of double-circuit lines = 100 miles



2024 RTP – 138-kV Lines Comparison

	Existing Upgrades (miles ^{**})		New ROW Lines (miles)	
	345-kV Plan	765-kV Plan	345-kV Plan	765-kV Plan
East	107	65	55	55
Coast	249	184	26	0
Southern	88	84	1	1
South Central	239	133	6	0
North Central	404	265	63	40
North	179	33	0	0
West*	119	64	0	0
Far West*	43	15	0	0
TOTALS	1,428	843	151	96
		-585		-55
	765-kV Plan upgrades 585 fewer existing miles		765-kV Plan adds 55 fewer new ROW miles	

[*] Only non-Permian Basin WFW projects are included

[**] All miles are geographic miles

[**] Ex: 100 miles of single-circuit line = 100 miles, and 100 miles of double-circuit lines = 100 miles



2024 RTP – 69-kV Lines Comparison

	Existing Upgrades (miles ^{**})		New ROW Lines (miles)	
	345-kV Plan	765-kV Plan	345-kV Plan	765-kV Plan
East	0	0	0	0
Coast	74	31	0	0
Southern	53	0	0	0
South Central	22	0	0	0
North Central	78	12	0	0
North	26	26	0	0
West*	59	59	0	0
Far West*	33	33	0	0
TOTALS	345	161	0	0
		-184		0
	765-kV Plan upgrades 170 fewer existing miles		No new ROW miles added	

[*] Only non-Permian Basin WFW projects are included

[**] All miles are geographic miles

[**] Ex: 100 miles of single-circuit line = 100 miles, and 100 miles of double-circuit lines = 100 miles



Questions/Comments

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