

CREZ: An Overview

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What is CREZ?

**Competitive
Renewable
Energy Zones**

Wind Power

**Legislative
Mandate**



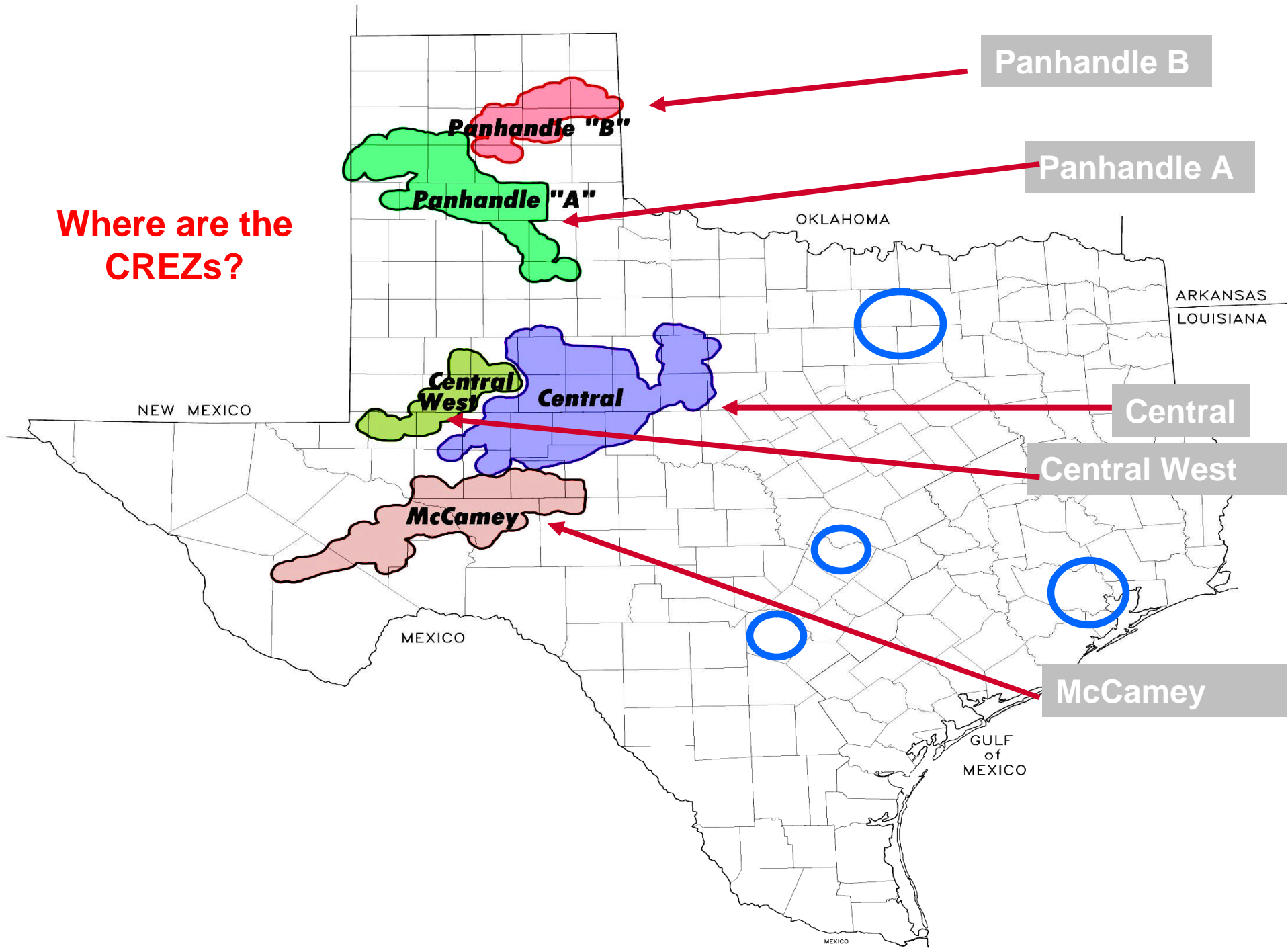
Electric Transmission Lines vs. Wind Power

Regulations

Schedules



Where are the CREZs?



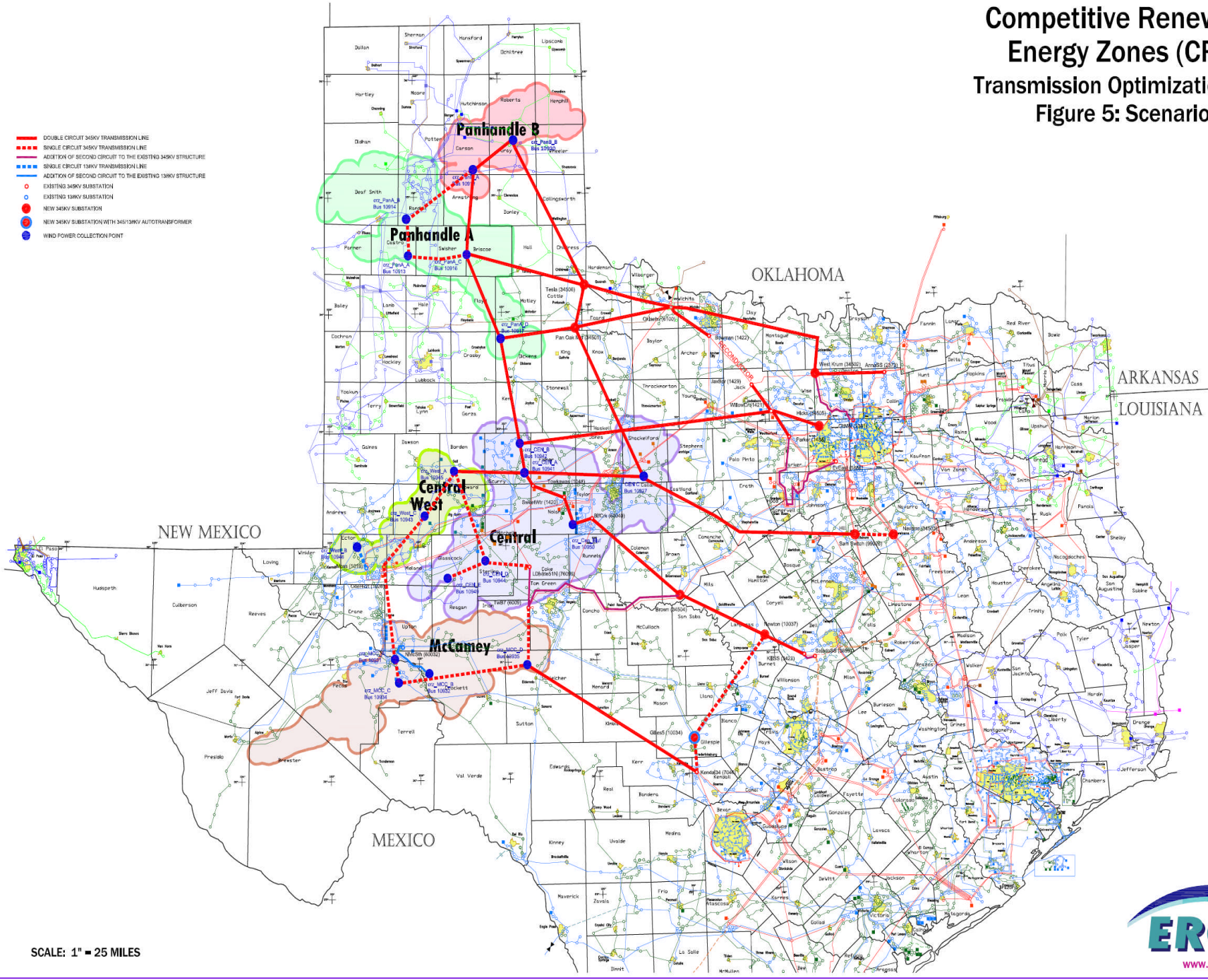
Getting the Wind into the Grid



- Constrained generation
- New transmission required
- Transmission Optimization Study

Competitive Renewable Energy Zones (CREZ) Transmission Optimization Study Figure 5: Scenario 2

- DOUBLE CIRCUIT 345KV TRANSMISSION LINE
- - - SINGLE CIRCUIT 345KV TRANSMISSION LINE
- - - ADDITION OF SECOND CIRCUIT TO THE EXISTING 345KV STRUCTURE
- - - SINGLE CIRCUIT 138KV TRANSMISSION LINE
- - - ADDITION OF SECOND CIRCUIT TO THE EXISTING 138KV STRUCTURE
- EXISTING 345KV SUBSTATION
- EXISTING 138KV SUBSTATION
- NEW 345KV SUBSTATION
- NEW 345KV SUBSTATION WITH 345/138KV AUTOTRANSFORMER
- WIND POWER COLLECTION POINT



SCALE: 1" = 25 MILES

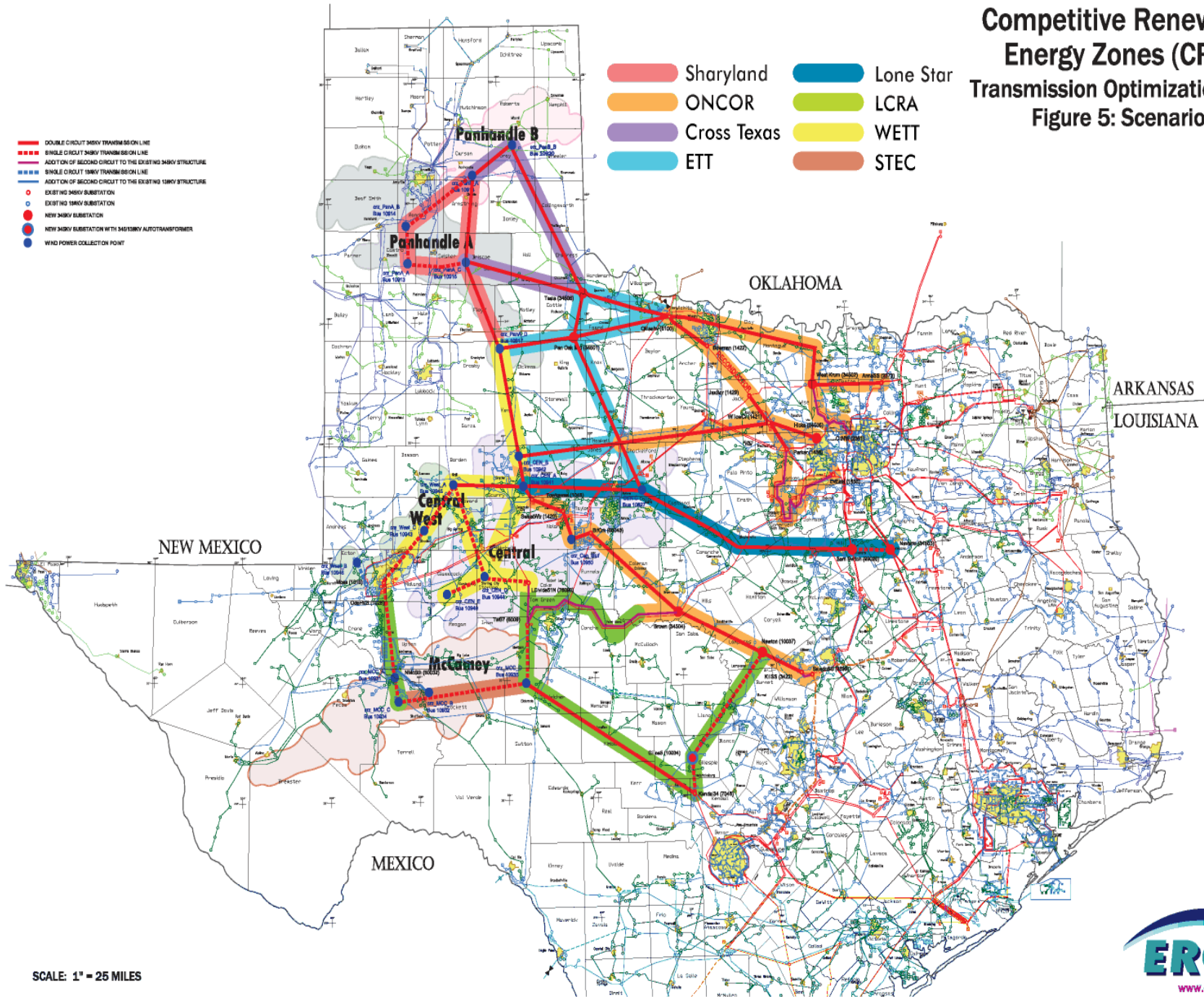


Competitive Renewable Energy Zones (CREZ) Transmission Optimization Study

Figure 5: Scenario 2

- DOUBLE CIRCUIT 345KV TRANSMISSION LINE
- SINGLE CIRCUIT 345KV TRANSMISSION LINE
- ADDITION OF SECOND CIRCUIT TO THE EXISTING 345KV STRUCTURE
- ADDITION OF SECOND CIRCUIT TO THE EXISTING 138KV STRUCTURE
- ADDITION OF SECOND CIRCUIT TO THE EXISTING 138KV SUBSTATION
- EXISTING 138KV SUBSTATION
- EXISTING 138KV SUBSTATION WITH 345/138KV AUTOTRANSFORMER
- NEW 138KV SUBSTATION
- NEW 138KV SUBSTATION WITH 345/138KV AUTOTRANSFORMER
- WIND POWER COLLECTION POINT

- Sharyland
- ONCOR
- Cross Texas
- ETT
- Lone Star
- LCRA
- WETT
- STEC



Routing Process

Study Area

Constraints

**Prelim.
Routes**

**Public
Meetings**

Refine Routes

Study Routes

**CCN
Application**



TABLE 6-1

ENVIRONMENTAL DATA FOR ALTERNATIVE ROUTE EVALUATION
TWIN BUTTES - BIG LAKE/SAPS CUT-IN 138-KV PROJECT

	ALTERNATIVE ROUTES								
	1	2	3	4	5	6	7	8	9
Land Use									
1. Length of alternative route	32,200	26,525	28,200	29,325	23,150	24,275	25,875	29,725	29,800
2. Number of habitable structures ¹ within 200 ft of ROW centerline	0	0	0	0	0	0	0	0	0
3. Number of habitable structures between 200 and 500 ft from ROW centerline	0	0	0	0	1	1	1	1	3
4. Length of ROW utilizing existing (uncleared) transmission line ROW	4,500	2,000	2,000	2,000	0	0	2,300	2,300	2,300
5. Length of ROW paralleling existing transmission line ROW	0	0	0	0	0	0	0	0	0
6. Length of ROW paralleling property lines ²	21,050	16,600	19,225	22,400	5,200	8,375	25,875	29,725	29,800
7. Length of ROW paralleling other existing ROW (highway, pipeline, roads, etc.)	13,040	10,400	13,025	16,200	0	3,175	14,500	9,600	1,000
8. Length of ROW through public recreational areas	0	0	0	0	0	0	0	0	0
9. Number of parks and/or public recreational areas within 1,000 ft of ROW centerline	0	0	0	0	0	0	0	0	0
10. Length of ROW through cropland	2,450	0	0	1,425	7,100	8,525	6,600	8,450	2,100
11. Length of ROW through grazingland/rangeland	29,600	26,525	28,200	27,900	15,900	15,600	19,175	21,075	27,500
12. Length of ROW through mechanically irrigated pasture or cropland	0	0	0	0	0	0	0	0	0
13. Length of ROW across gravel pits, mines, or quarries	0	0	0	0	0	0	0	0	0
14. Number of pipeline crossings	1	1	1	1	1	1	1	1	1
15. Number of U.S. and State highway crossings	0	0	0	0	0	0	0	0	0
16. Number of FM and county road crossings	1	1	3	3	2	2	1	1	1
17. Number of FAA-listed airfields within 10,000 ft of ROW centerline	0	0	0	0	0	0	0	0	0
18. Number of commercial AM radio transmitters within 10,000 ft of ROW centerline	0	0	0	0	0	0	0	0	0
19. Number of FM radio transmitters, microwave towers, etc. within 2,000 ft of ROW centerline	0	0	0	0	0	0	0	0	2
Aesthetics									
20. Estimated length of ROW within foreground visual zone ² of U.S. and State highways	0	0	0	0	0	0	0	500	500
21. Estimated length of ROW within foreground visual zone ² of FM roads	8,880	6,240	6,240	6,240	5,280	5,280	5,280	5,280	6,280
22. Estimated length of ROW within foreground visual zone ² of recreational or park areas	0	0	0	0	0	0	0	400	400
23. Estimated length of ROW within foreground visual zone ² of churches, schools, and hospitals	0	0	0	0	0	0	0	0	0
Ecology									
24. Length of ROW through upland woodland	700	0	0	0	0	0	675	1,875	0
25. Length of ROW through riparian woodland	0	0	0	0	0	0	75	75	0
26. Length of ROW across potential wetlands	0	0	0	0	0	0	0	0	0
27. Length of ROW across known habitat of endangered/threatened species	0	0	0	0	0	0	0	0	0
28. Length of ROW across open water (lakes, ponds)	0	0	0	0	0	0	0	0	125
29. Number of stream crossings	4	4	4	4	1	1	2	2	2
30. Length of ROW parallel (within 100 ft) to streams	375	275	275	275	3,000	3,000	300	300	475
31. Length of ROW across 100-year floodplains	2,625	3,125	3,225	3,225	3,000	3,000	700	700	1,100
Cultural Resources									
32. Number of recorded historic or prehistoric sites crossed	0	0	0	0	0	0	0	0	0
33. Number of recorded historic or prehistoric sites within 1,000 ft of ROW centerline	0	0	0	0	0	0	2	2	2
34. Number of National Register listed or determined-eligible sites crossed	0	0	0	0	0	0	0	0	0
35. Number of National Register listed or determined-eligible sites within 1,000 ft of ROW centerline	0	0	0	0	0	0	0	0	0
36. Length of ROW through areas of high archaeological/historic site potential	18,185	20,500	20,125	20,125	6,705	6,705	6,030	6,715	5,085

¹ Residences, businesses, schools, churches, cemeteries, hospitals, nursing homes, etc.

² One-half mile, unobstructed

PUC Certification Process

Intervention

Testimony

Discovery

Hearing

Decision



Summary & Questions

