



Sharyland Utilities South Plains Transmission Project – ERCOT Independent Review Update

RPG Meeting
October 19, 2017

Status of South Plains Transmission Project RPG Review

- ❑ ERCOT presented the study scope in the March RPG.
http://www.ercot.com/content/wcm/key_documents_lists/108860/SU_South_Plains_Transmission_Project_ERCOT_Independent_Review_Scope.pdf

- ❑ ERCOT presented updates to the study assumptions in the August RPG.
http://www.ercot.com/content/wcm/key_documents_lists/108880/Sharyland_Utilities_South_Plains_Transmission_Project_ERCOT_Update.pdf

Project Options

Option	Description	Capital Cost (M\$)
<p>A (SLU Option 3)</p>	<p>175MVA Synchronous Condenser at Windmill (1606A) Ogallala - Abernathy 345 kV line (SCK on DCKT tower) Abernathy - Grassland 345 kV line (SCK on DCKT tower)</p>	<p>251</p>
<p>B (SLU Option 3 w/ DCKT to Long Draw)</p>	<p>175MVA Synchronous Condenser at Windmill (1606A) Ogallala - Abernathy 345 kV line DCKT Abernathy - Grassland 345 kV line DCKT Grassland – Longdraw 345 kV second circuit</p>	<p>314</p>
<p>C (AEP Alternative 2 Phase 1)</p>	<p>175MVA Synchronous Condenser at Windmill (1606A) Ogallala - Abernathy 345 kV line (SCK on DCKT tower) New 345 kV BOLD line from a new substation (NSUB on Cottonwood to Edith Clarke) to Tesla</p>	<p>237</p>
<p>D (SLU Option 1)</p>	<p>Two 175MVA Synchronous Condenser at Windmill (1606A)</p>	<p>69</p>
<p>E (AEP Alternative 1 Phase 1)</p>	<p>175MVA Synchronous Condenser at Windmill (1606A) Ogallala - Abernathy 345 kV line (SCK on DCKT tower) New 345 kV BOLD line from a new substation (NSUB on Alibates to Tule Canyon) to Tesla</p>	<p>381</p>

Preliminary Panhandle Export Limits

Option	Panhandle Export Limits (MW)	Capital Cost (M\$)
Base Case	3813	N/A
A (SLU Option 3)	4582	251
B (SLU Option 3 w/ DCKT to Long Draw)	4792	314
C (AEP Alternative 2 Phase 1)	4549	237
D (SLU Option 1)	4204*	69
E (AEP Alternative 1 Phase 1)	4372	381

* Panhandle Export limited by dynamic stability

Preliminary Economic Analysis Results (2009 Weather Year)

Option	Panhandle Interface Export Limit		Capital Cost (M\$)	Annual Production Cost Savings (M\$)	Benefit/Cost Ratio	% of time Panhandle Interface Congested
	Interface Limit	90% of Interface Limit				
Base Case	3813	3432	N/A	N/A	N/A	27.8%
A	4582	4124	251	37.28	14.9%	15.4%
B	4792	4313	314	43.42	13.8%	12.4%
C	4549	4094	237	30.54	12.9%	15.8%
D	4204	3784	69	17.93	26.0%	21.7%

Preliminary Economic Analysis Results (Weather Scenarios)

Option	Weather Year	Benefit/Cost Ratio	Average Benefit/Cost Ratio
A	2007 Weather Year	11.5%	14.0%
	2009 Weather Year	14.9%	
	2010 Weather Year	15.8%	
B	2007 Weather Year	11.2%	13.3%
	2009 Weather Year	13.8%	
	2010 Weather Year	14.8%	
C	2007 Weather Year	11.5%	13.1%
	2009 Weather Year	12.9%	
	2010 Weather Year	15.0%	
D	2007 Weather Year	20.6%	26.2%
	2009 Weather Year	26.0%	
	2010 Weather Year	31.9%	

Transmission Outage Assumptions

- ❑ Methodology consistent with 2017 RTP will be used
- ❑ The “Texas Panhandle Stability Study Report” published by ERCOT Operations Support on June 22, 2017 will be used as a reference to select outages to be studied
- ❑ Only single-circuit outages will be studied
- ❑ Transmission outage probability to be used is consistent with 2017 RTP, which is based on ERCOT system wide 345 kV line outage statistics for each season

Equipment type	Fall	Spring	Summer	Winter
Circuits (345-kV)	0.021	0.035	0.012	0.024

Next Steps

- ❑ Complete the Transmission outage probability analysis
- ❑ Tentative Timeline
 - ❑ Final EIR update to RPG – November



Questions?