

2018 RTP Update

November 2018 RPG Meeting



□ Status update

□ Preliminary reliability projects of 2018 RTP

□ Next steps



2018 RTP Status Update

- Initial start cases for EC, NNC and SSC were posted on MIS Secure on May 4, 2018. Initial start cases for WFW were posted on MIS Secure July 11, 2018.
- Single-event (N-1) secure cases for EC, NNC and SSC were posted on MIS Secure on July 5, 2018. Single-event (N-1) secure cases for WFW and MIN were posted on MIS Secure on September 4, 2018.
- Economic analysis start cases were posted on MIS Secure on September 24, 2018.
- Preliminary final reliability cases posted on MIS Secure on October 1, 2018.



2018 RTP Status Update cont'd

Currently in progress

- TSP review of No Wind and No Hydro sensitivity projects
- WFW higher load sensitivity analysis
- TSP/RE review of short circuit study results
- Multiple elements outage and cascading analysis
- Economic analysis



Noteworthy 2018 RTP Projects (Preliminary Findings)

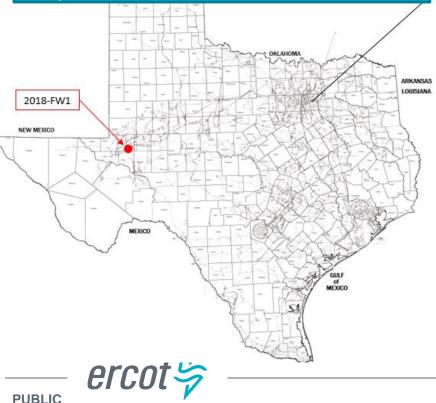
- New 345/138-kV transformer (second transformer) at McCree Station in Dallas County (Project Index: 2018-NC18)
- New 345/138-kV transformer at Saginaw Station in Tarrant County, and new 345-kV lines from Saginaw Station (Project Index: 2018-NC2)
- New 345/138-kV transformer (second transformer) at Forney Station in Kaufman County (Project Index: 2018-NC14)
- New 345/138-kV transformer (second transformer) at Moss Station in Ector County (Project Index: 2018-FW1)
- Upgrade of the Norwood to Cedar Hill 345-kV line in Dallas County (Project Index: 2018-NC8)
- Upgrade of the Venus to Navarro 345-kV line in Ellis County (Project Index: 2018-NC12)

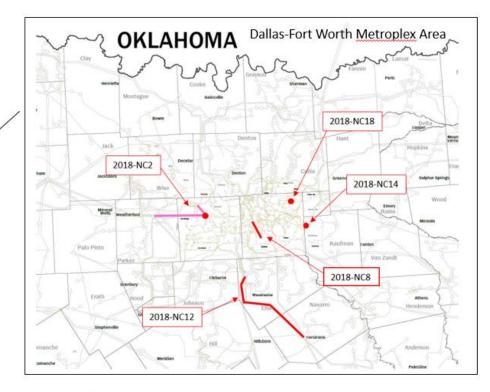


Noteworthy 2018 RTP Projects Location

2018-NC18 : 345/138-kV auto at McCree Station in Dallas County 2018-NC2: 345/138-kV auto at Saginaw Station in Tarrant County, and new 345-kV lines from Saginaw Station 2018-NC14: 345/138-kV auto at Forney Station in Kaufman County 2018-FW1: 345/138-kV auto at Moss Station in Ector County 2018-NC8: Upgrade of the Norwood to Cedar Hill 345-kV line in Dallas County

2018-NC12: Upgrade of the Venus to Navarro 345-kV line in Ellis County

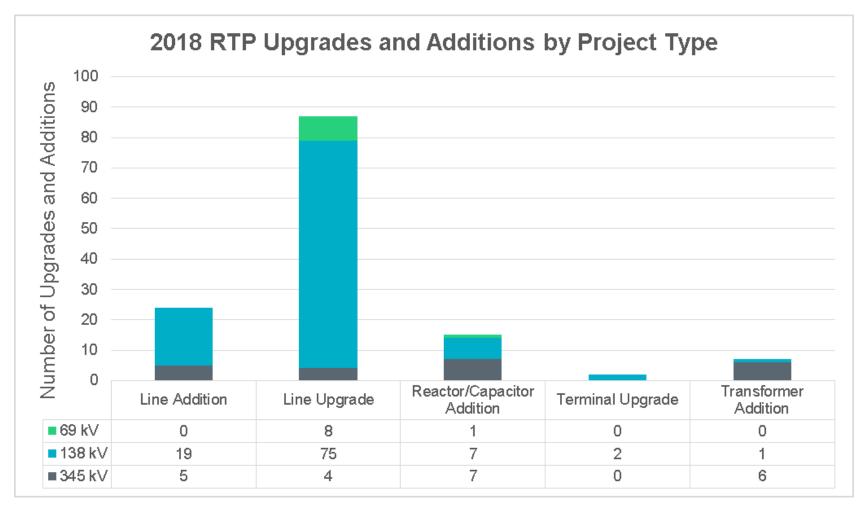






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2018 RTP Upgrades Summary by Project Type (Preliminary Findings)





*The chart is by line segments, and may be part of longer breaker-to-breaker circuit.

Top Congested Elements Seen in Economic Analysis (update)

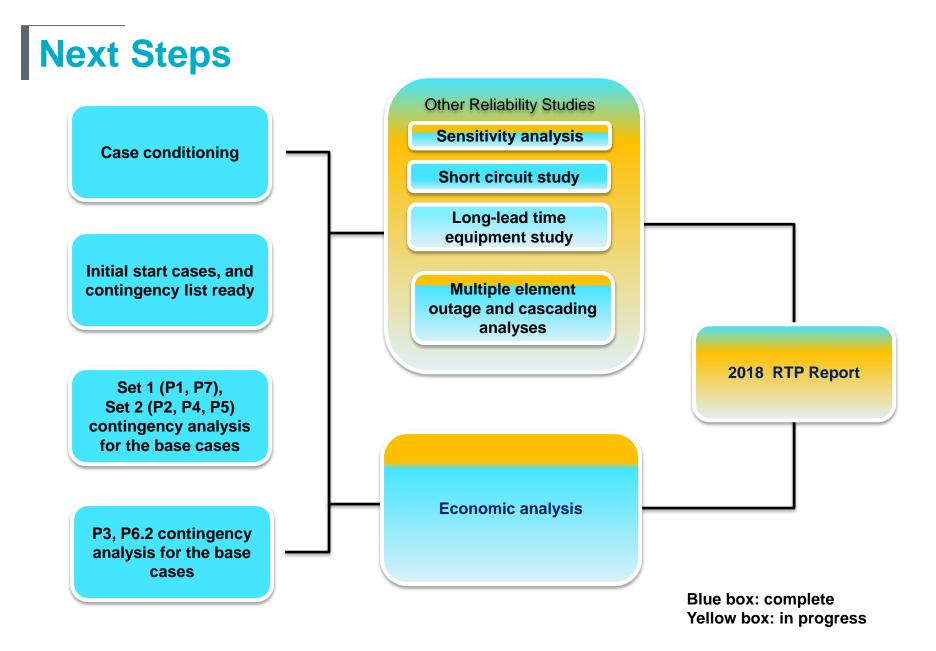
Map Index	Projected Constraining Element	2020 Co	ngestion	2023 Congesti	ion
1	South Texas Project - Jones Creek 345 kV Line			-	
2	Kendall-Bergheim 345 kV Line				
3	Panhandle Export Limit				
4	Oasis - W A Parish 345 kV Line			-	
5	South Texas Project - Hillje 345 kV line		-		
6	Jones Street-Lakepointe 138 kV Line				
7	Big Brown - Jewett 345 kV Line				
8	Lewisville Switch-Jones Street 138 kV Line				
9	Cagnon - Kendall 345 kV Line				
10	Carterville-Eisl Tap 138 kV Line			-	
11	Rogershill - Bosque Switch 138 kV Line				
12	Bergheim 345/138 kV XFMR				
13	Dupont Switch - Dupont PP1 138 kV Line				
14	General Tire Switch - SW Portland Tap 138 kV Line			-	
15	Champlin - Weil Trac 138 kV Line				
16	Tilden Sub - Fowlerton 138 kV Line				
17	Milo - Laredo VFT North 138 kV line				
	Legend		M	ed Hi	gh



Economic Projects Studied and Savings

Upgrades	2020 Savings (M\$)	2023 Savings (M\$)
Kendall - Bergheim 345 kV line upgrade Build new Kendall - Hill Country 345 kV line Add a new 345/138 kV Bergheim XFMR Upgrade Bergheim - Devil Hill 138 kV line	19.3	22.34
Upgrade Lewisville - Jones Street - Lakepointe TNP 138 kV line	13.3	0.96
Upgrade Champlin - Weil Trac 138 kV line	14.23	3.11





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