

# ONCOR WEST TEXAS PLANNING UPDATE

**Presentation to ERCOT Regional Planning Group  
at January 19, 2016 Meeting  
Austin, TX – MET Center**

**Kenneth A. Donohoo, PE  
Director, System Planning  
Distribution and Transmission**

**Assets Planning  
Business and Operations Support  
Oncor Electric Delivery Co LLC  
*kenneth.donohoo@oncor.com***

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Plans are subject to change due to factors including, but not limited to, load, generation, engineering, system protection and system topology. Clearance availability and weather can impact proposed in-service timeline.

WE DELIVER.



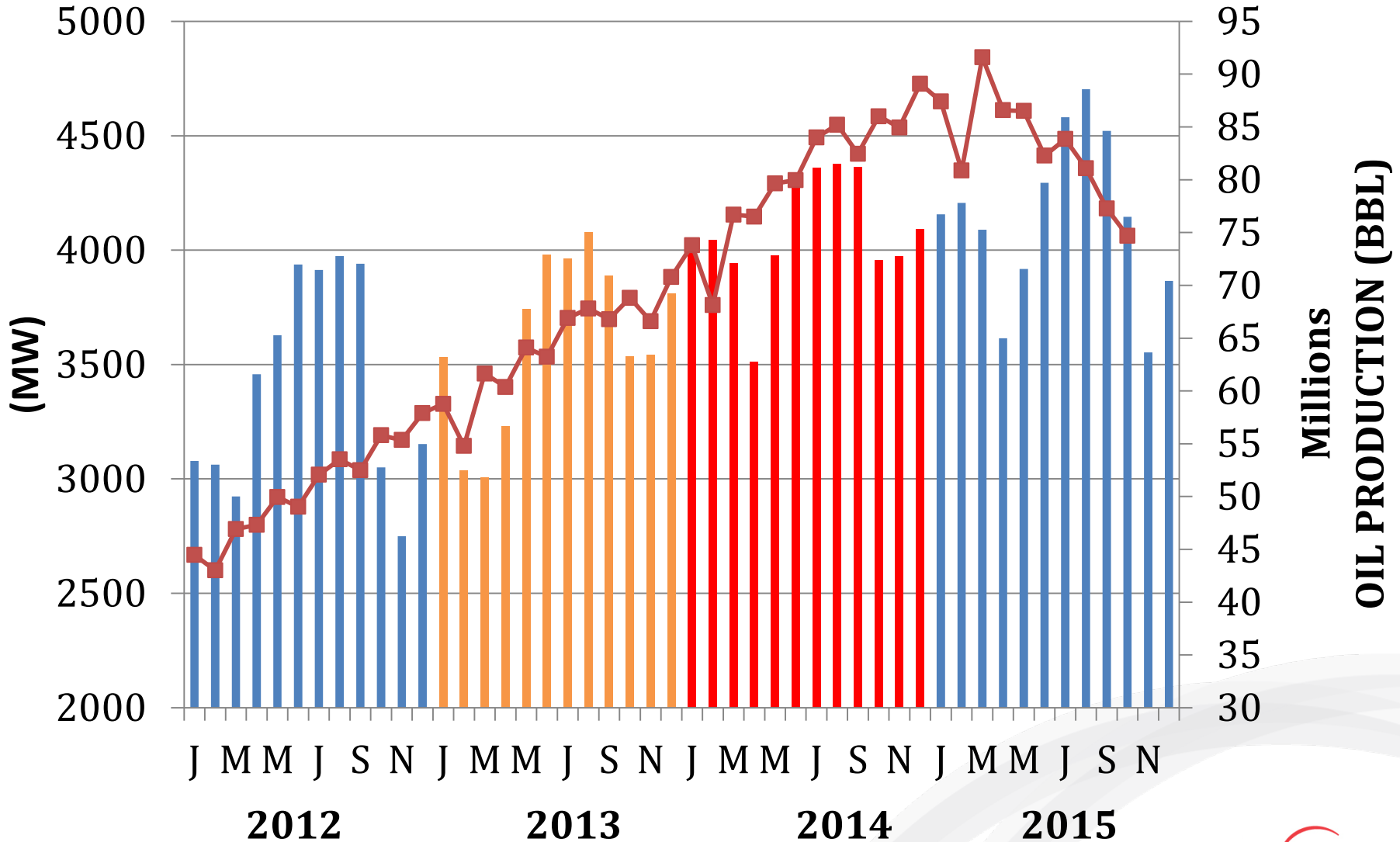
# WEST TEXAS PLAN KEY ELEMENTS

- **Convert 69 kV system to 138 kV**
  - Rebuild 69 kV Lines with double-circuit 138 kV construction, one circuit at 69 kV
  - Gradually migrate loads from 69 kV to 138 kV service
- **New 138 kV transmission lines**
  - Create 138 kV loops to enable clearances and improve system reliability
  - Work closely with oil & gas customers to provide expedited service to large single point loads
- **Upgrade and add switching stations**
  - Increase capacity, modern configurations facilitate greater clearance availability
  - Improved system protection and communications
  - Provisions for future expansion and physical security requirements (CIP)
- **Upgrade and add autotransformers with Load Tap Changing (LTCs)**
  - Increase capacity and voltage support; operational flexibility for clearances
- **Upgrade and add substations with LTCs**
  - Increase load serving substation capacity to meet growth plans
  - Increase distribution voltage control capability
- **345 kV Infrastructure**
  - Provide backbone support
  - Reach out to areas where there is extreme load and generation growth, but there is a lack of adequate transmission grid infrastructure

# WEST & FAR WEST WEATHER ZONES AGGREGATE LOAD COMPARED TO OIL PRODUCTION

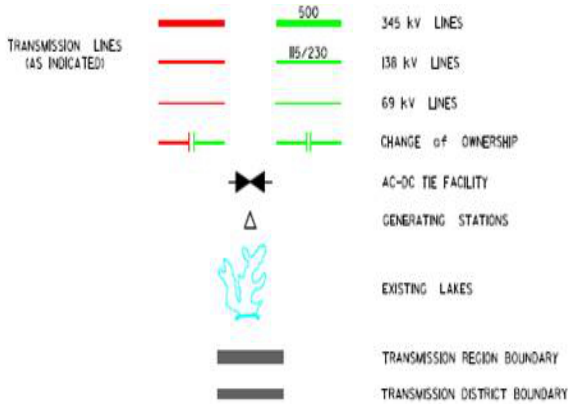
AGGREGATE LOAD OIL PRODUCTION (BBL)

WEST & FAR WEST AGGREGATE LOAD

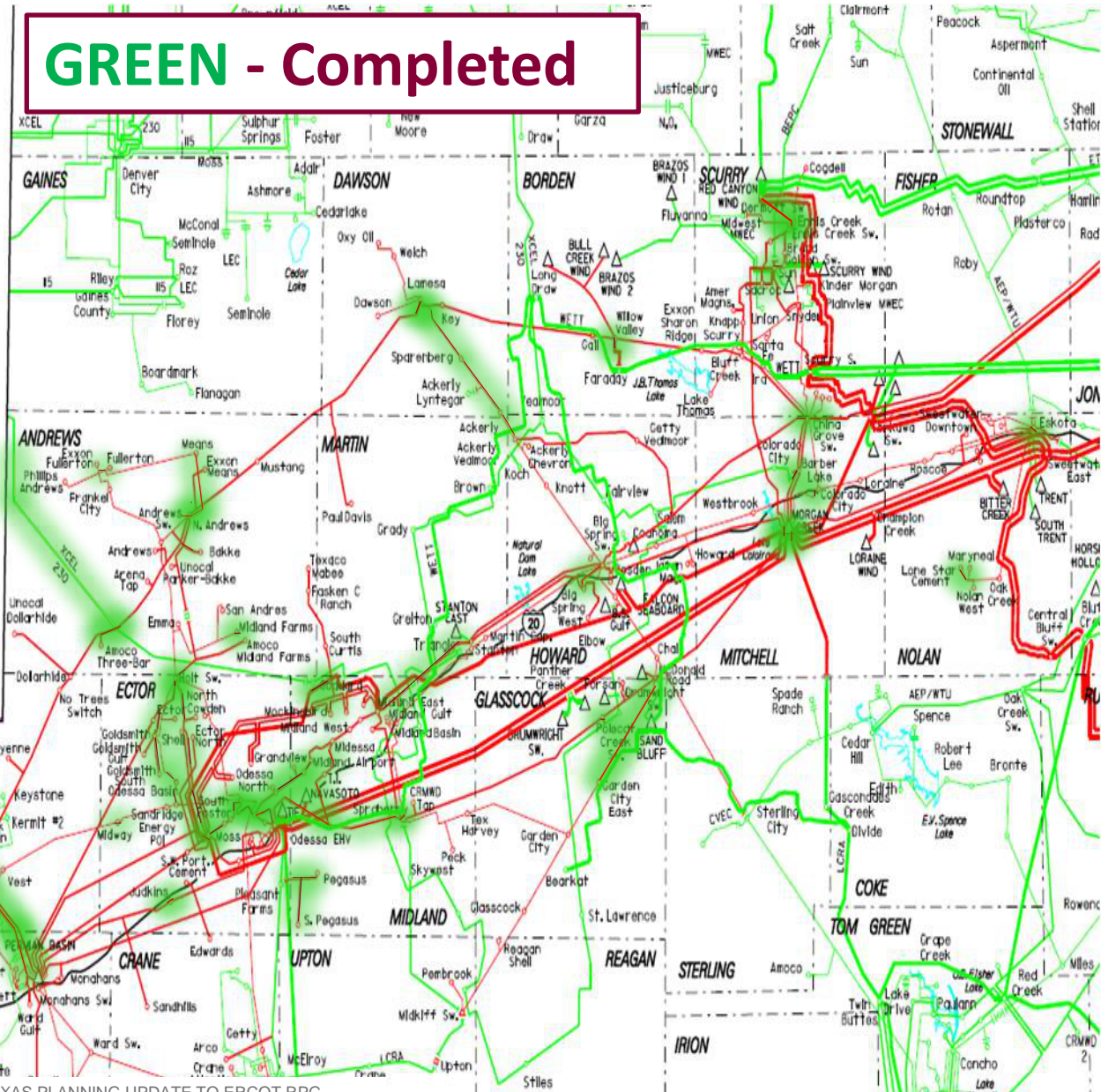


# 2011-2015 IMPROVEMENTS

**GREEN - Completed**



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# 2015 IMPROVEMENTS COMPLETED & IN-SERVICE

Construct New Midland County NW 345/138 kV Switching Station June 2015 RTP

Construct New Andrews County SO 345/138 kV Switching Station June 2015 RTP

Construct New Dermott Sw. Sta. – Ennis Creek Tap 138 kV Line May 2015 RTP

Upgrade Big Spring Switch – Big Spring West 138 kV Lines May 2015

Install McDonald Road Sw. Sta. – Garden City East 138 kV Line May 2015

Upgrade Midland Airport – Glenhaven 138 kV Line April 2015 RTP

Replace Morgan Creek 138/69 kV Autotransformer June 2015 RTP

Upgrade North Andrews – Means 69 kV Line June 2015

Replace North Andrews 138/69 kV Autotransformers June 2015

Upgrade Odessa North – Amoco South Foster – Westover 138 kV Line May 2015  
RTP

Upgrade McDonald Road 138 kV Switching Station May 2015



## 2015 IMPROVEMENTS COMPLETED & IN-SERVICE

Rebuild Holt 138 kV Switching Station as Double-Bus **May 2015**

Upgrade China Grove Switching Station Terminal Equipment **April 2015 RTP**

Install Sweetwater Creek 69 kV Capacitors **Aug 2015**

Upgrade Mason – Screwbean 138 kV Line **Dec 2015 RTP**

Construct New Midessa South 138 kV Switching Station **Nov 2015**

Re-arrange connections for combustion turbines at Morgan Creek **Dec 2015**

Rebuild Lamesa 69 kV Switching Station as Ring Bus **Dec 2015**

Install Odessa – Midessa South 138 kV Line **Dec 2015**

Install Eskota Switch 138/69 kV Autotransformer #2 **Dec 2015**

Upgrade Spraberry 138 KV Switching Station **Dec 2015**

Rebuild Odessa 138 kV Switching Station as Ring Bus **Dec 2015**

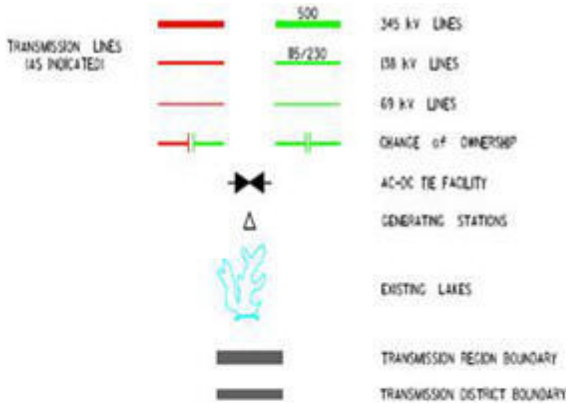
Upgrade Permian Basin – Ward Gulf Tap – Wink 138 kV Line **Dec 2015**

Acquire existing Xcel 230 kV Line **Dec 2015**

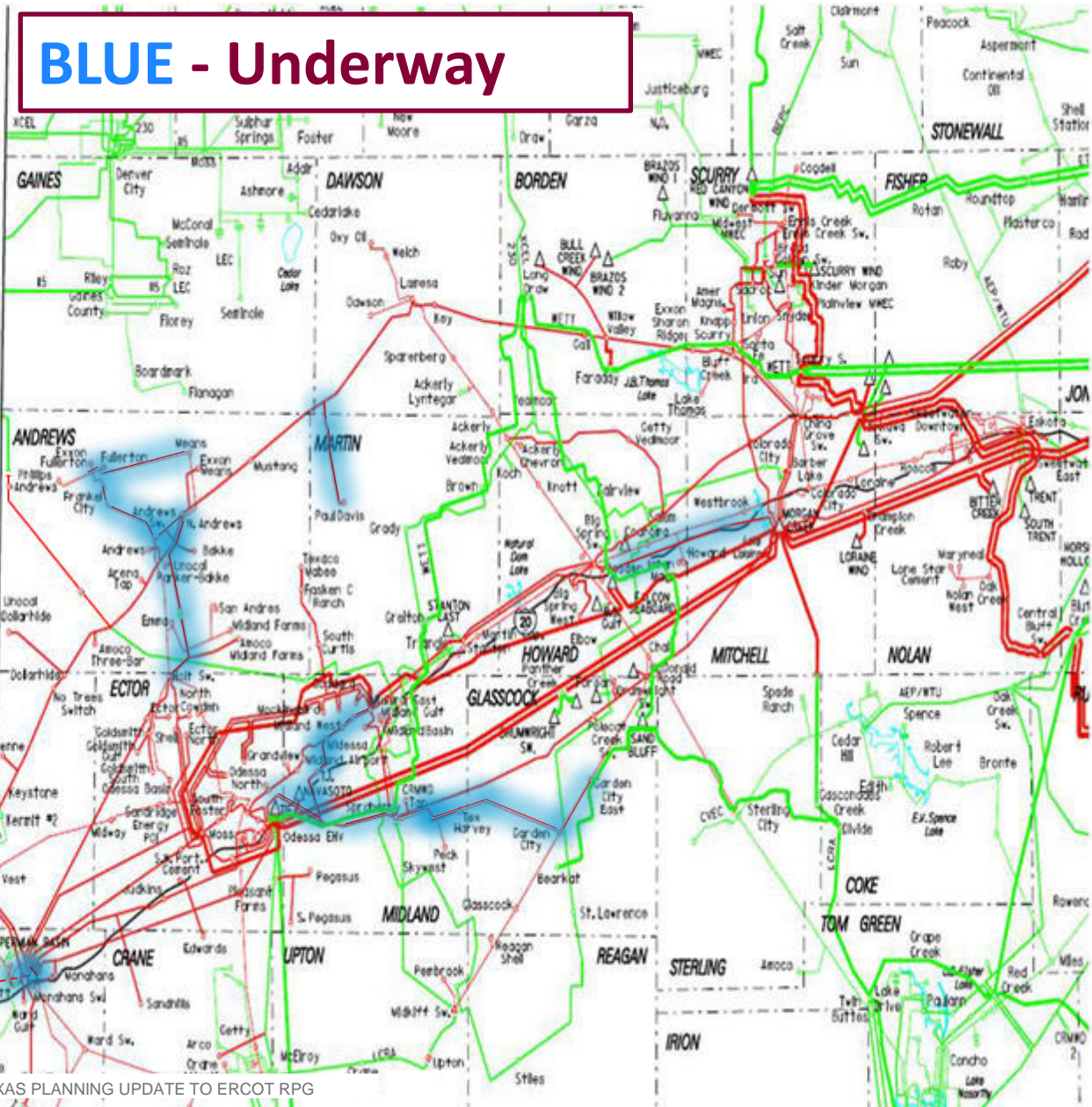


# 2016 PLANNED IMPROVEMENTS

**BLUE - Underway**



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# PLANNED 2016 IMPROVEMENTS & ESTIMATED IN-SERVICE

Rebuild Wink Switching Sta and Install 138/69 kV autotransformer #2 **Winter 2016**

Upgrade Morgan Creek – Cosden 138 kV Line **Winter 2016 RTP**

Install Midessa – Midessa South 138 kV Line **Winter 2016**

Install Aruba – Spraberry 138 kV Line **Spring 2016 RTP, RPG Approved**

Rebuild Means – Fullerton 69 kV Line **Spring 2016**

Install Garden City East – Aruba 138 kV Line **Spring 2016 RTP, RPG Approved**

Install Andrews – North Andrews 138 kV Line **Spring 2016**

Rebuild Midessa South – Midland East 138 kV Line **Summer 2016 RTP**

Rebuild Paul Davis – Paul Davis Tap 138 kV Line **Summer 2016**

Install Castile Hill 138 kV Capacitors **Summer 2016**



# PLANNED 2016 IMPROVEMENTS & ESTIMATED IN-SERVICE

Construct New Midessa South 345 kV Switching Station **Fall 2016**

Install Midessa South – Spraberry 138 kV Line **Fall 2016**

Rebuild Odessa EHV – Spraberry 138 kV Line **Fall 2016**

Construct New Yucca Drive (Permian Basin) 138 kV Switching Station **Fall 2016**

Construct New Yucca Dr – Barstow NW 138 kV Line **Winter 2016-17 RPG and CCN Approved**, (Portion of Permian Basin – Culberson 138 kV Line)

Rebuild Fullerton – Andrews 69 kV Line **Winter 2016-17**

Rebuild Screwbean – Culberson 138 kV Line **Winter 2016-17 RTP**

Rebuild Holt – North Andrews 138 kV Line **Winter 2016-17 RTP**

Construct New Fullerton Switching Station **Winter 2016-17**

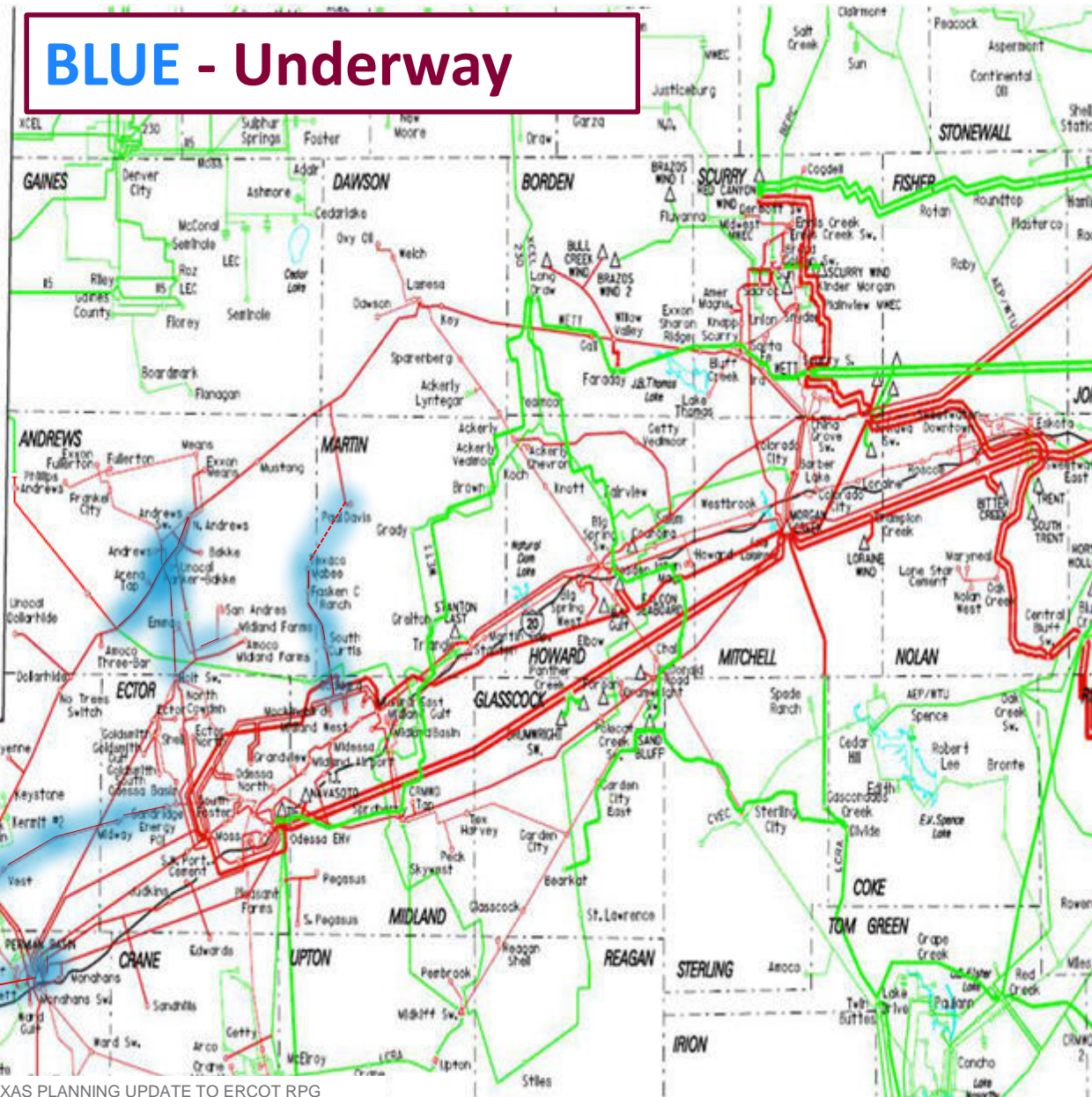


# 2017 PLANNED IMPROVEMENTS

**BLUE - Underway**

- TRANSMISSION LINES (AS INDICATED)
- 500
  - 345 KV LINES
  - 151/230
  - 138 KV LINES
  - 69 KV LINES
  - CHANGE OF OWNERSHIP
  - AC-DC TIE FACILITY
  - GENERATING STATIONS
  - EXISTING LAKES
  - TRANSMISSION REGION BOUNDARY
  - TRANSMISSION DISTRICT BOUNDARY

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# PLANNED 2017 IMPROVEMENTS & ESTIMATED IN-SERVICE

Construct New McKenzie Draw 138 kV Switching Station **Spring 2017**

Construct New McKenzie Draw – Texaco Mabee 138 kV Line **Spring 2017** RPG  
Approved, CCN under PUCT review

Rebuild Amoco Midland Farms – XTO 138 kV line section **Spring 2017**

Rebuild Andrews County South – North Andrews 138 kV Line **Spring 2017** RTP,  
RPG upcoming

Construct New Wolf (formerly Monahans) 138 kV Switching Station **Spring 2017**

Install Holt – Andrews County South/North Andrews 138 kV Line **Fall 2017** RTP,  
RPG Upcoming

Rebuild Holt 138 kV Switching Station **Fall 2017**

Construct New Yukon 138 kV Switching Station **Fall 2017** RTP, RPG Approved

Install Wink – Yukon 138 kV Line **Fall 2017** RTP, RPG Approved

# PLANNED 2017 IMPROVEMENTS & ESTIMATED IN-SERVICE

Construct New Culberson 138 kV Switching Station **Fall 2017**

Install second circuit on Wink – Culberson 138 kV Line **Fall 2017**

Construct New Barstow NW – Culberson 138 kV Line **Fall 2017** **RPG and CCN Approved** (Portion of Permian Basin – Culberson 138 kV Line)

Install second circuit on Yucca Dr (Permian Basin) – Culberson 138 kV Line **Fall 2017**

Construct New Sand Lake 138 kV Switching Station **Fall 2017**

Rebuild Texaco Mabee – Texaco Mabee Tap 138 kV Line **Fall 2017**

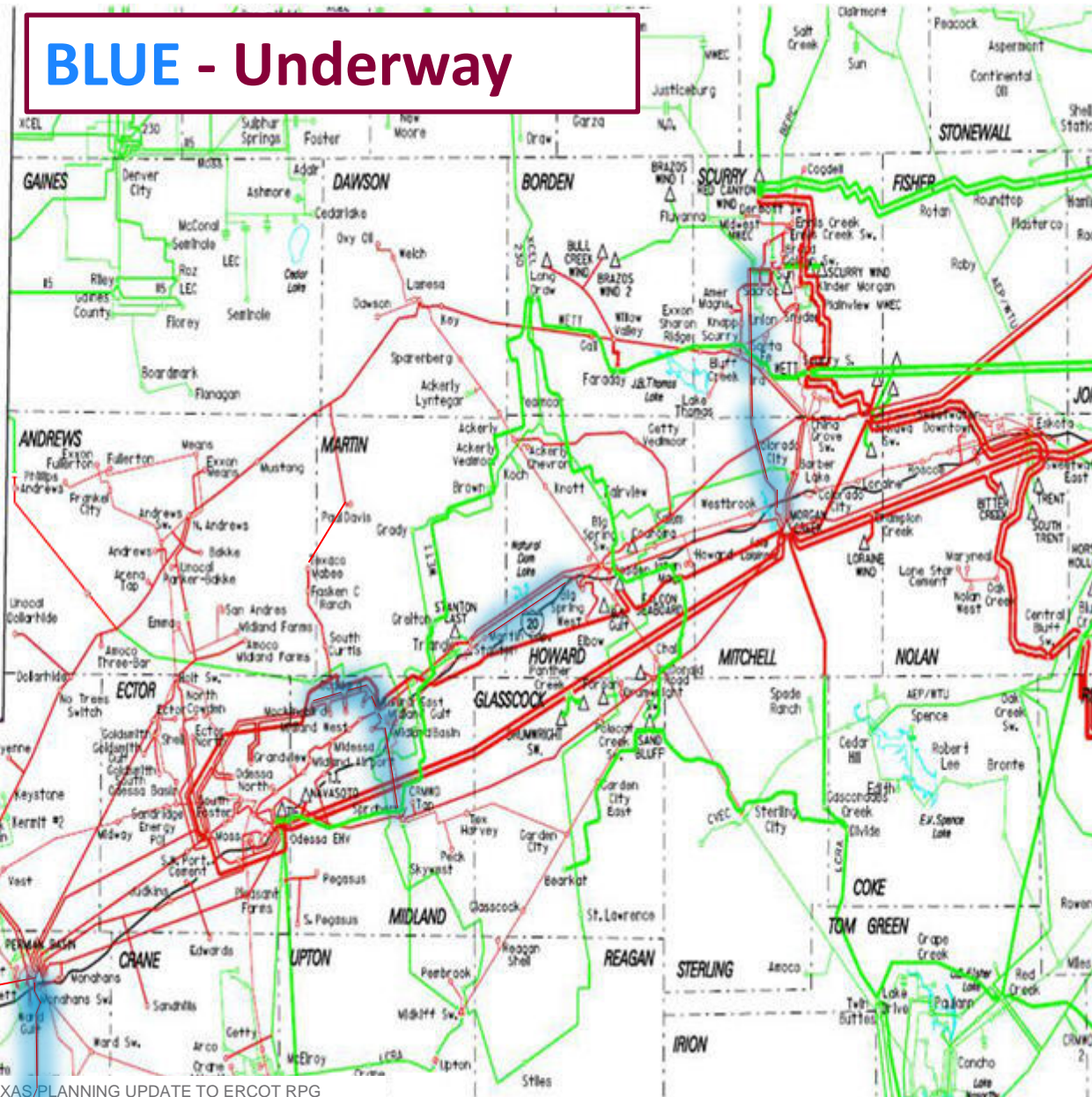


# 2018 PLANNED IMPROVEMENTS

**BLUE - Underway**

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# PLANNED 2018 IMPROVEMENTS

Rebuild Yucca Dr (Permian Basin) – Barilla Junction 138 kV Line (Joint with AEP)  
RPG under review

Construct New Mason 138 kV Switching Station

Construct New Mason – Sand Lake 138 kV Double-Circuit Line Future RPG & CCN

Install Delaware Basin Reactive Support Project RTP

Rebuild Midland County NW – Midland East Double-Circuit 138 kV Line

Rebuild Big Spring West – Stanton East 138 kV Line

Rebuild Morgan Creek – Sun Switch 138 kV Line

Rebuild Midland East – Spraberry 138 kV Line

# QUESTIONS/DISCUSSION

