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# 2018 Transco Winter Operations Meetings

*Houston  
Charlotte  
Newark  
Atlanta*



**ATLANTIC SUNRISE CONSTRUCTION**  
*Transco Pipeline, Pennsylvania*



**ATLANTIC SUNRISE POST CONSTRUCTION**  
*Transco Pipeline, Pennsylvania*

# Forward-looking Statements

- > **The reports, filings, and other public announcements of The Williams Companies, Inc. (Williams) and Williams Partners L.P. (WPZ) may contain or incorporate by reference statements that do not directly or exclusively relate to historical facts. Such statements are “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These forward-looking statements relate to anticipated financial performance, management’s plans and objectives for future operations, business prospects, outcome of regulatory proceedings, market conditions, and other matters. We make these forward-looking statements in reliance on the safe harbor protections provided under the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical fact, included in this document that address activities, events or developments that we expect, believe or anticipate will exist or may occur in the future, are forward-looking statements. Forward-looking statements can be identified by various forms of words such as “anticipates,” “believes,” “seeks,” “could,” “may,” “should,” “continues,” “estimates,” “expects,” “forecasts,” “intends,” “might,” “goals,” “objectives,” “targets,” “planned,” “potential,” “projects,” “scheduled,” “will,” “assumes,” “guidance,” “outlook,” “in-service date” and other similar expressions. These forward-looking statements are based on management’s beliefs and assumptions and on information currently available to management and include, among others, statements regarding:**
  - Levels of cash distributions by WPZ with respect to limited partner interests;
  - Levels of dividends to Williams stockholders;
  - Future credit ratings of Williams, WPZ, and their affiliates;
  - Amounts and nature of future capital expenditures;
  - Expansion and growth of our business and operations;
  - Expected in-service dates for capital projects;
  - Financial condition and liquidity;
  - Business strategy;
  - Cash flow from operations or results of operations;
  - Seasonality of certain business components;
  - Natural gas and natural gas liquids prices, supply, and demand;
  - Demand for our services.
  
- > **Forward-looking statements are based on numerous assumptions, uncertainties and risks that could cause future events or results to be materially different from those stated or implied in this document. Many of the factors that will determine these results are beyond our ability to control or predict. Specific factors that could cause actual results to differ from results contemplated by the forward-looking statements include, among others, the following:**
  - Whether WPZ will produce sufficient cash flows to provide expected levels of cash distributions;
  - Whether Williams is able to pay current and expected levels of dividends;
  - Whether WPZ elects to pay expected levels of cash distributions and Williams elects to pay expected levels of dividends;
  - Whether we will be able to effectively execute our financing plan;
  - Availability of supplies, including lower than anticipated volumes from third parties served by our business, and market demand;
  - Volatility of pricing including the effect of lower than anticipated energy commodity prices and margins;
  - Inflation, interest rates, and general economic conditions (including future disruptions and volatility in the global credit markets and the impact of these events on customers and suppliers);
  - The strength and financial resources of our competitors and the effects of competition;
  - Whether we are able to successfully identify, evaluate and timely execute capital projects and other investment opportunities in accordance with our forecasted capital expenditures budget;
  - Our ability to successfully expand our facilities and operations;
  - Development and rate of adoption of alternative energy sources;

# Forward-looking Statements

- The impact of operational and developmental hazards, unforeseen interruptions, and the availability of adequate insurance coverage;
  - The impact of existing and future laws (including, but not limited to, the Tax Cuts and Jobs Act of 2017), regulations (including, but not limited to, the FERC’s “*Revised Policy Statement on Treatment of Income Taxes*” in Docket No. PL17-1-000), the regulatory environment, environmental liabilities, and litigation, as well as our ability to obtain necessary permits and approvals, and achieve favorable rate proceeding outcomes;
  - Williams’ costs and funding obligations for defined benefit pension plans and other postretirement benefit plans;
  - WPZ’s costs for defined benefit pension plans and other postretirement benefit plans sponsored by its affiliates;
  - Changes in maintenance and construction costs;
  - Changes in the current geopolitical situation;
  - Our exposure to the credit risk of our customers and counterparties;
  - Risks related to financing, including restrictions stemming from debt agreements, future changes in credit ratings as determined by nationally-recognized credit rating agencies and the availability and cost of capital;
  - The amount of cash distributions from and capital requirements of our investments and joint ventures in which we participate;
  - Risks associated with weather and natural phenomena, including climate conditions and physical damage to our facilities;
  - Acts of terrorism, including cybersecurity threats, and related disruptions;
  - Additional risks described in our filings with the Securities and Exchange Commission (SEC).
- > **Given the uncertainties and risk factors that could cause our actual results to differ materially from those contained in any forward-looking statement, we caution investors not to unduly rely on our forward-looking statements. We disclaim any obligations to and do not intend to update the above list or announce publicly the result of any revisions to any of the forward-looking statements to reflect future events or developments.**
- > **In addition to causing our actual results to differ, the factors listed above may cause our intentions to change from those statements of intention set forth in this document. Such changes in our intentions may also cause our results to differ. We may change our intentions, at any time and without notice, based upon changes in such factors, our assumptions, or otherwise.**
- > **Because forward-looking statements involve risks and uncertainties, we caution that there are important factors, in addition to those listed above, that may cause actual results to differ materially from those contained in the forward-looking statements. For a detailed discussion of those factors, see Part I, Item 1A. Risk Factors in Williams’ and WPZ’s Annual Reports on Form 10-K filed with the SEC on February 22, 2018.**



# Introduction

## Agenda

- > **Introduction - Safety Moment**
  - Cyber Security
- > **Pipeline Control**
  - Operations and System Update
  - 2019 Planned Construction and Maintenance
- > **Transportation Services**
  - Imbalance Management / E-Contracting / Tariff Filings
- > **Break**
- > **Customer Services**
  - System Growth / SUD Changes / System Supplies / Rate Case
- > **Business Development**
  - Supply & Demand / Project Updates
- > **Customer Service & Pipeline Control**
  - Future State System Flow Projections



# Introduction

## Cyber Security is Everyone's Business

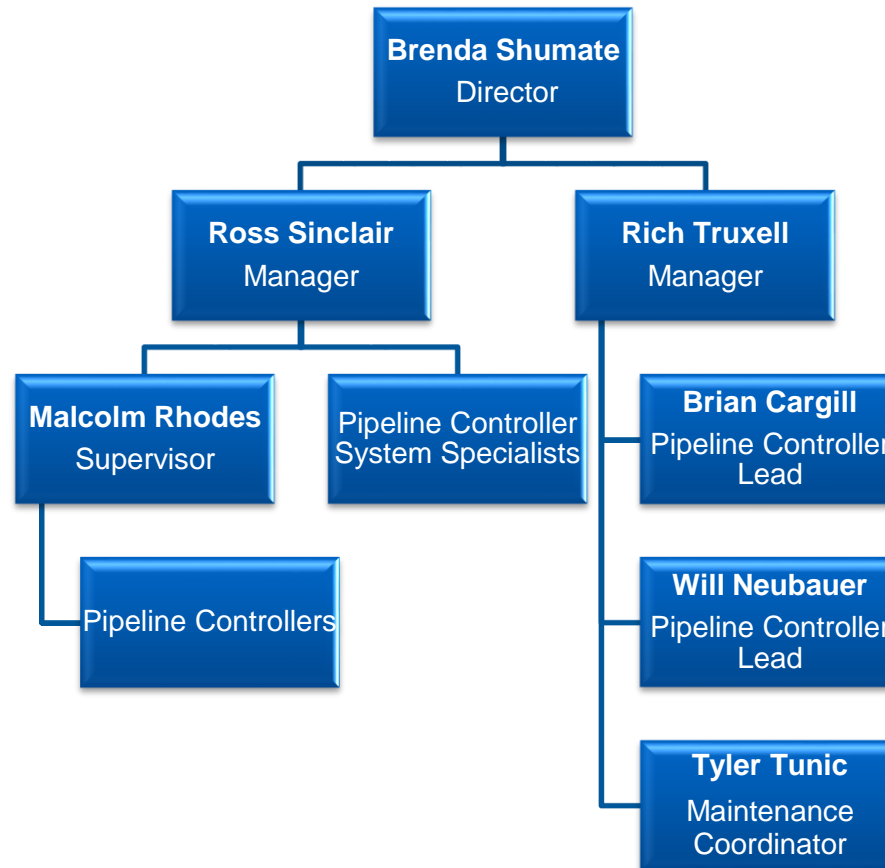
- > Each year, it's typical for large companies to experience incidents of stolen laptops, on and off, Company premises
- > Vehicles with visible briefcases, backpacks, and laptops are prime targets
- > Thieves are not discriminating between field vehicles, personal vehicles, or the location of the vehicle
- > **Tips for protecting your laptops:**
  - Treat it like cash
  - Get it out of the car ... don't ever leave it behind
  - Be vigilant when traveling, in particular at hotels
  - Avoid keeping sensitive customer data on it
  - Pay close attention in airports ... especially at security
  - Tether it, even if just stepping away for a brief moment



# Pipeline Control

# Pipeline Control

## Pipeline Control Houston Organization





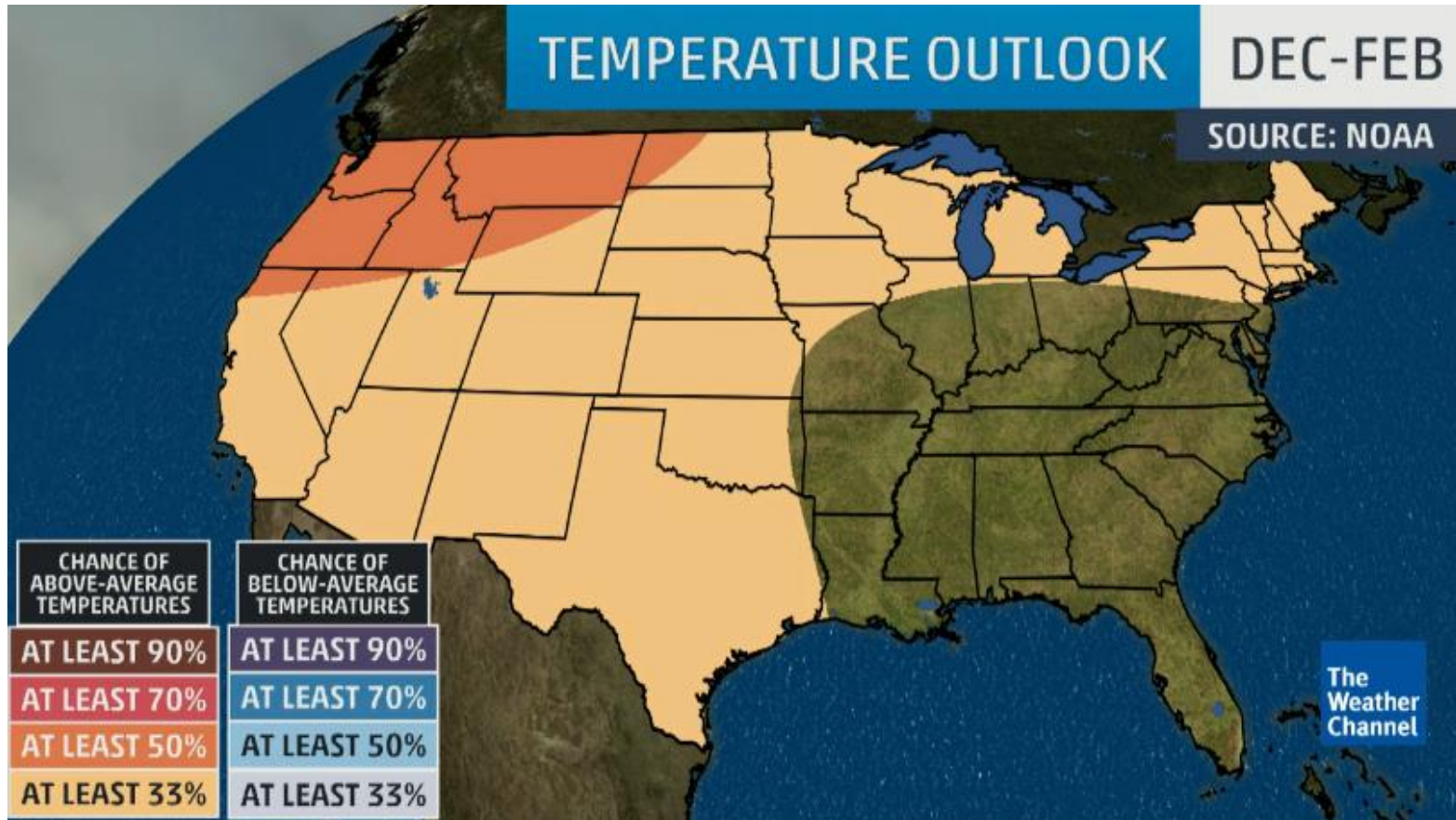
# Pipeline Control

## Winter Weather Outlook



# Pipeline Control

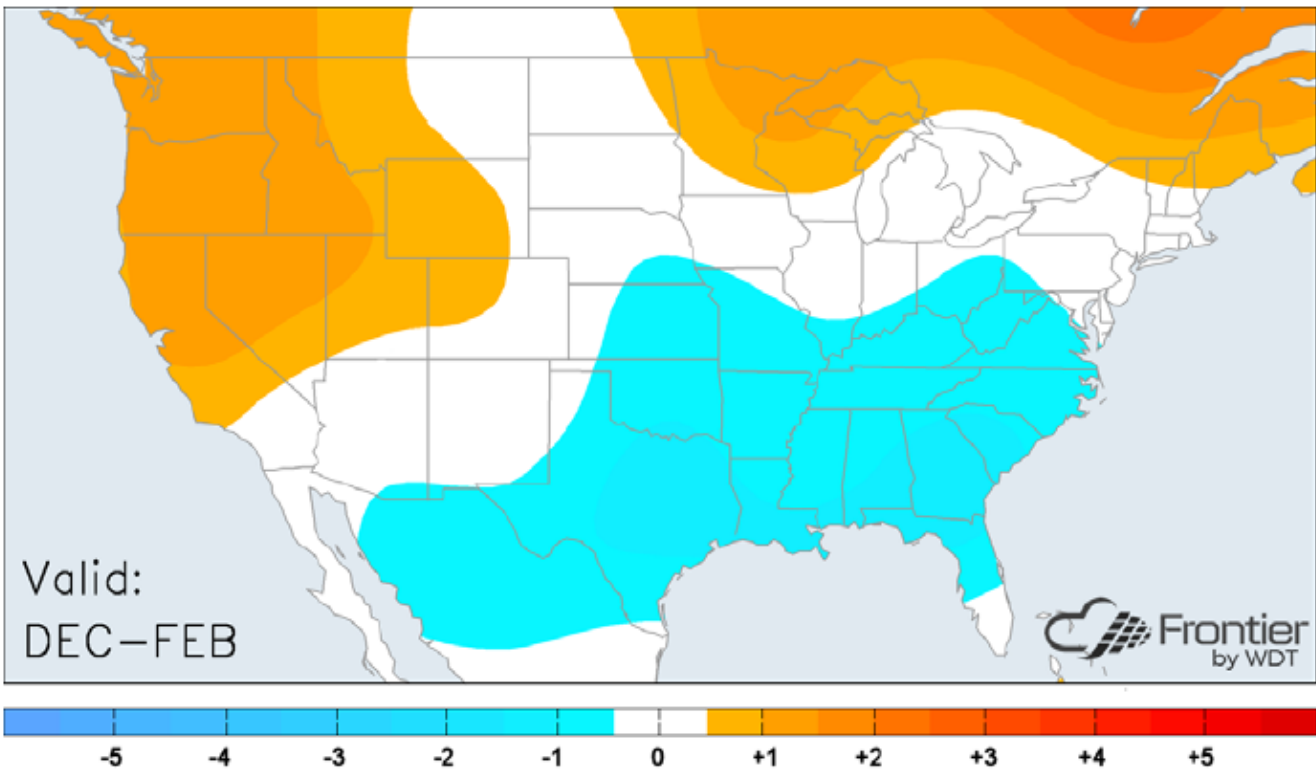
## Winter Weather Outlook



# Pipeline Control

## Winter Weather Outlook

### Winter 2018-2019 Forecast

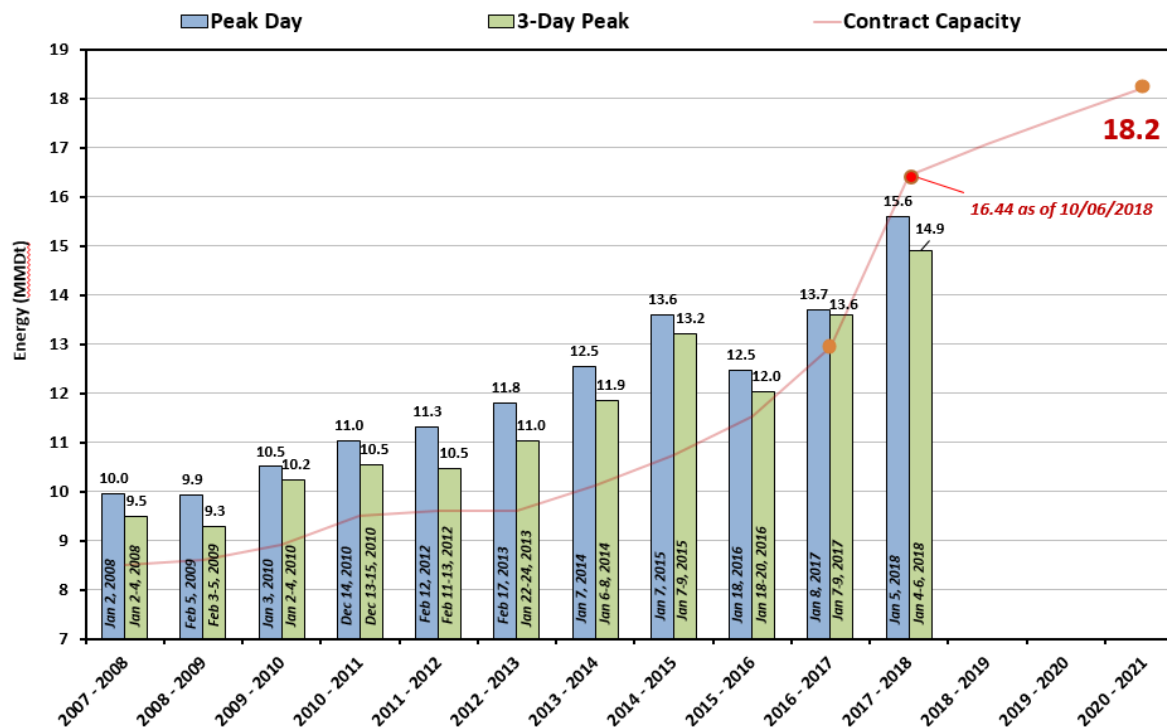




# Pipeline Control

## Transco Peak Day Deliveries and System Capacity

Note: Includes all system deliveries and all Zones.



# Pipeline Control

## Transco Operations Update – ASR Day 1 Impact

- > Day 1 of full ASR in service (October 6th) saw nearly full utilization of the 1.7 Mmdts of capacity.
- > Receipts upstream and corresponding flow at Station 90 experienced the single largest change (1,000 Mdts).
- > With the increased southbound mainline capacity, the null point between Station 90 and Station 200 shifted further south into South Carolina.
- > Continued high utilization of ASR capacity, including Zone 6 take away capacity.

# Construction and Maintenance



# Types of Construction and Maintenance Jobs

- > **Pipeline Inspection**
- > **Anomaly Investigation**
- > **Pipe Replacement**
- > **Hydrotest**
- > **Facility Modification**
- > **Facility Maintenance**
  
- > **Check 1Line EBB for latest updates**
  - If a nominatable location will be impacted:
    - The 1Line Location ID is listed on posted Maintenance Schedule (“N/A” if not)
    - A separate 1Line individual posting is sent out prior to start of work
      - The posting number will be referenced in the Anticipated Impact column of the Maintenance Schedule

# Pipeline Inspection

- > **Pipeline pigging for cleaning purposes and to check for anomalies**
  - Corrosion
  - Coating Damage
  - Dents
  - Cracks (EMAT)
  
- > **Anticipated impacts**
  - Controlled flow during tool runs
  - Minimal impact during tool passage



# Pipeline Inspection

## > 2018 Job Examples with Meters Listed

Job Number	Location	Zone	Maintenance Activity	Anticipated Impact	Meter No.	Meter Name	1Line Nominatable Location ID
10	Mainline A (Station 30 to Station 35)	1	Pipeline Inspection	Minimal meter impact during tool passage	3607/4607, 3641, 1724	Tres Palacios WID & INJ, Glen Flora, Koonce #1	N/A
339	Bayonne Lateral 20" (J779 to J883)	6	Pipeline Inspection	Controlled flow needed during pipeline inspection	6323	BEC	N/A
341	Trenton Lateral (J794 to J21)	6	Pipeline Inspection	Controlled flow needed during pipeline inspection and minimal meter impact during tool passage	6027, 6019	Hydrocarbon Research, Trenton	N/A

# Anomaly Investigation

## > What is an anomaly dig?

- A pipeline excavation for means of direct assessment and repairs or replacement if necessary.

## > What prompts anomaly digs?

- Data received from smart pigs shows an irregularity in wall thickness that warrants examination.

## > Types of digs

- Immediate dig – If smart pig data shows severe wall loss, we will immediately reduce line pressure in that segment and perform anomaly dig. There will be limited advanced notice.
- Scheduled dig – the smart pig data shows potential wall loss, but not to an extent that pipeline integrity is compromised. The anomaly dig may be scheduled during a low-load season where impacts to flow are minimized.

# Anomaly Investigation

## > Anomaly dig progression on maintenance schedule

- Anomaly investigation placeholder
- Anomaly investigation
- Anomaly cutout

## > Anticipated impacts

- Possible line outage
  - Single tap meter
  - Meter on a single line
- Meter outage
  - Reduced pressure dig
  - Anomaly cutout

# Anomaly Investigation

## > 2018 job examples with meters listed

Job Number	Location	Zone	Maintenance Activity	Anticipated Impact	Meter No.	Meter Name	1Line Nominatable Location ID
150	Mainline D (100D0 to 110D0)	4	Anomaly Investigation Placeholder	Possible line outage	7373	City of Sylacauga	N/A
27	SW Louisiana Lateral A (Ballard Plant to LW8)	2	Anomaly Investigation	Possible line outage	2667	Ballard Exploration	N/A
401	Hamilton Mercer Lateral (J898 to J900)	6	Anomaly Cutout	Meter outage	6119, 6121	Hamilton, Hamilton Mercer	N/A
541	Central Louisiana Lat "B" (LC81 to LC148)	2	Anomaly Cutout	Refer to 1Line posting notice #9055519; Meter outage	4151, 4234, 2060, 3599, 4599, 3580, 4535, 2428, 4640, 2852, 2202, 2278, 2843, 2516, 2766	Gueydan SE BB M4151, Gueydan SE BB M4234, Gueydan M2060, PSI Plt Outlet, PSI Plt Inlet, Verm 76 Flash, Verm 76 Fuel, VR 16, VR 39 BB, VR 39, VR 76/67, VR 22, VR 87, VR 131, VR 66/78	1006113,1003855, 1000162,9003222

# Pipe Replacement

## > What situation might lead to a pipe replacement?

- Anomaly or physical damage.
- DOT class location change.
- Increased line pressure through a section.

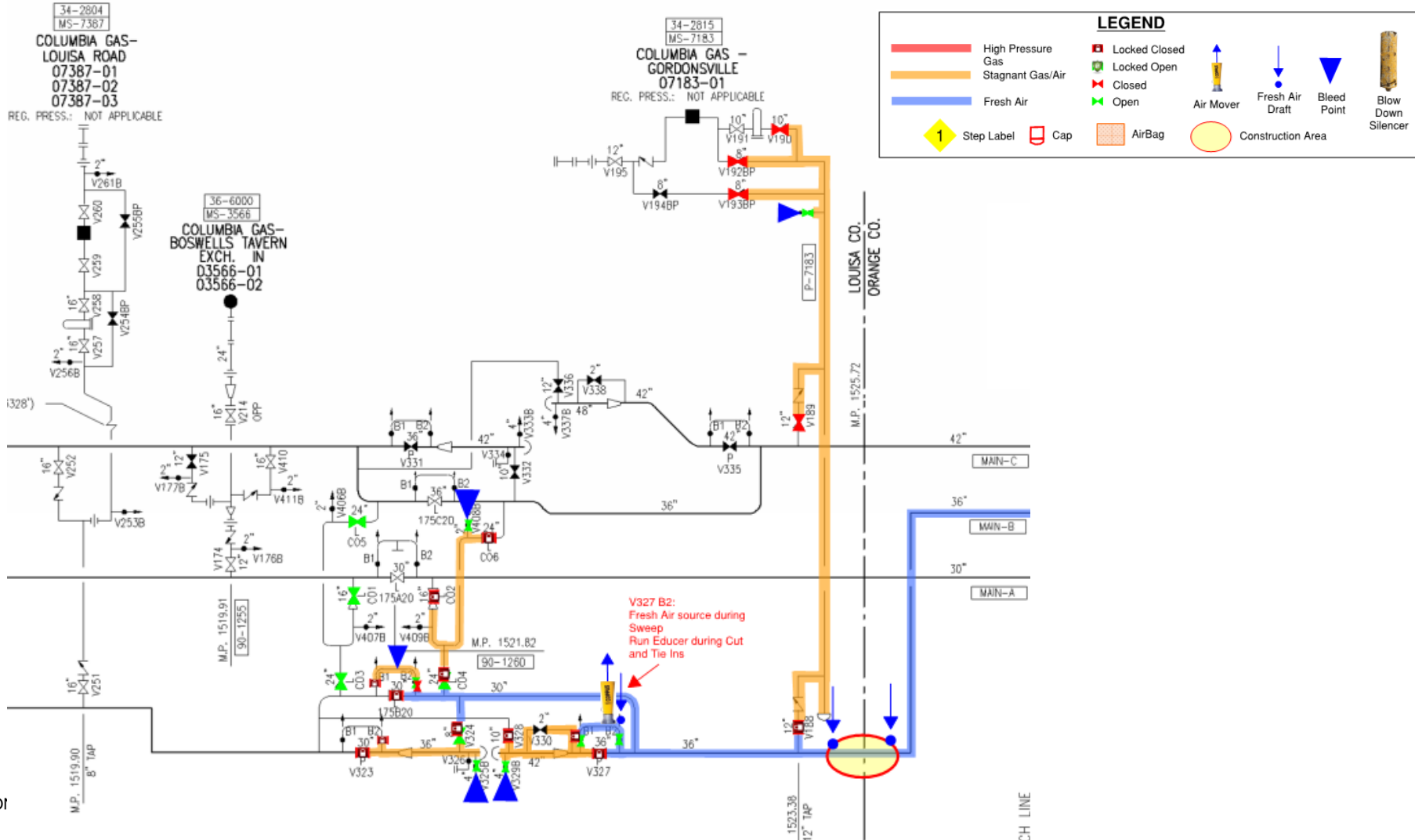
## > Anticipated impacts

- Meter outage
  - Single tap meter
  - Multi-tap meter in close proximity to pipe being replaced





# Pipe Replacement



# Hydrotest

## > Hydrotesting is required for:

- New pipeline segments
- DOT class location change
- Integrity Management Plan (as opposed to pipeline inspection)

## > Anticipated impacts

- Meter outage
  - Duration of hydrotest
  - 1-2 days at beginning and end
    - Multi-tap within section being tested



# Facility Modification

## > Reverse flow modifications

- Trap and valve replacements
- Station reversals

## > Interconnects

- Tie-ins
- Removals
- Bi-directional flow

## > Anticipated Impacts

- Meter outage
- Station outage
- Possible pressure reduction



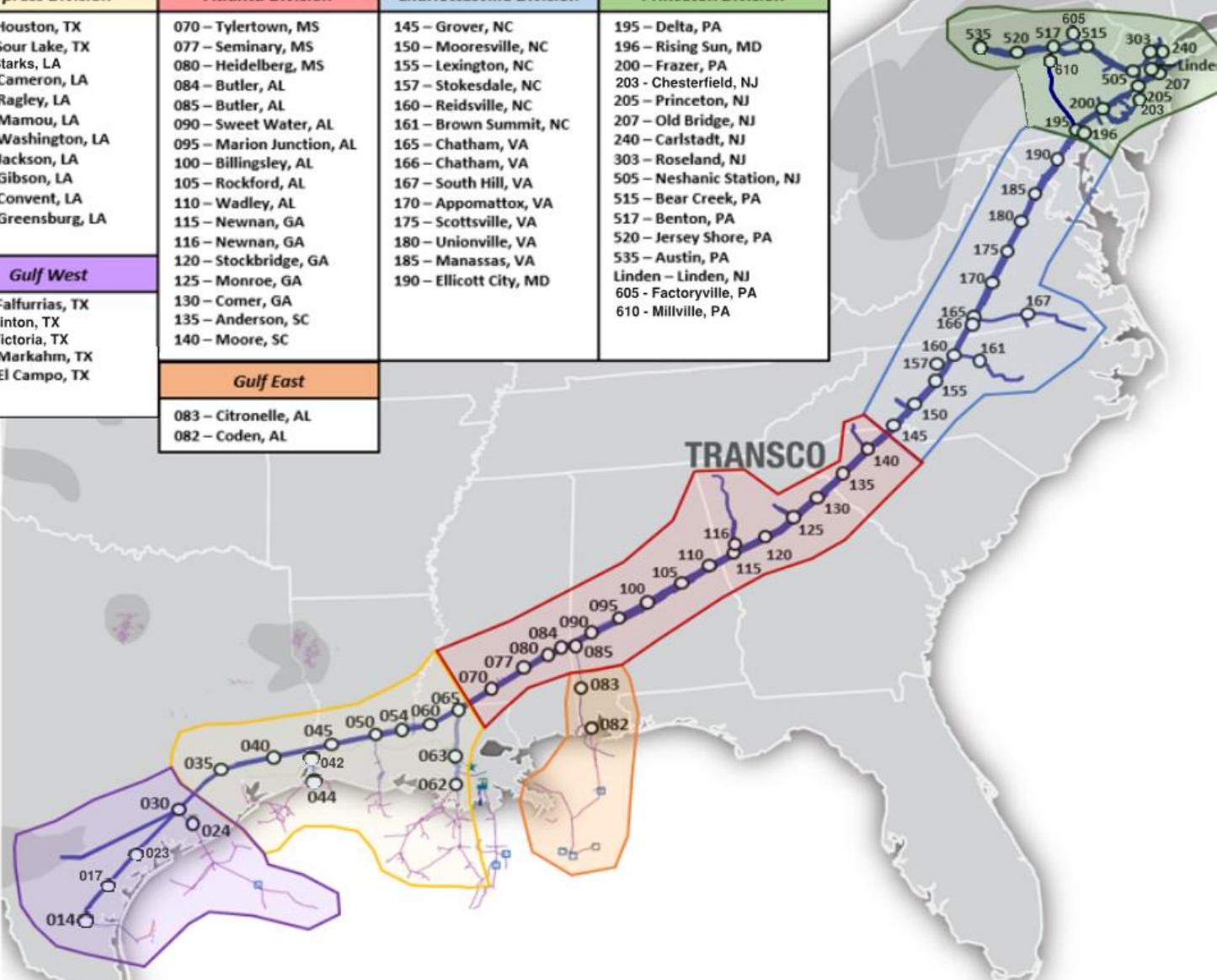
## Facility Maintenance

- > Annual operations planned maintenance
- > Non-project related station modifications
- > Anticipated impact
  - Station outages over 24hrs



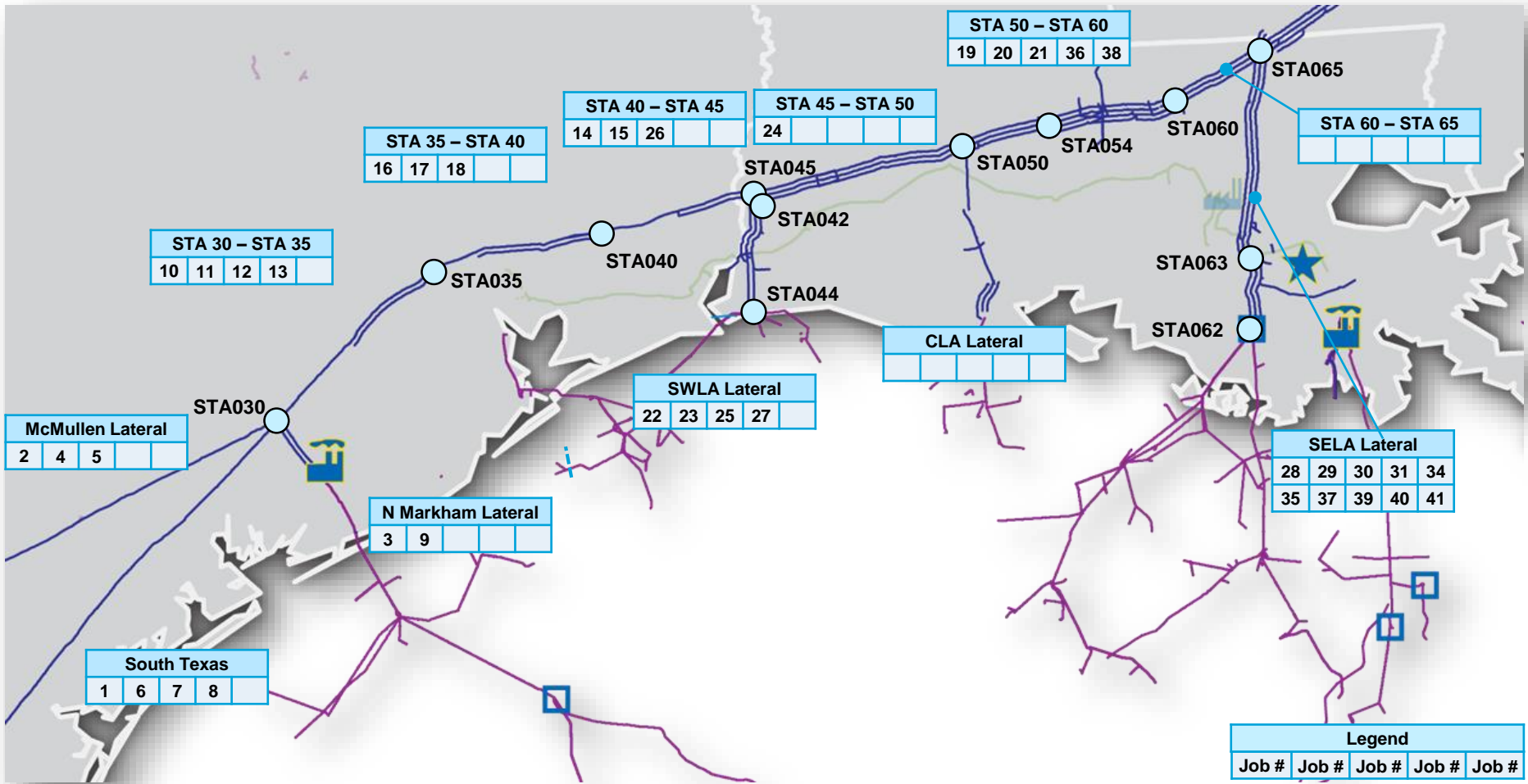
# Transco System Overview

Cypress Division	Atlanta Division	Charlottesville Division	Princeton Division
035 – Houston, TX 040 – Sour Lake, TX 042 – Starks, LA 044 – Cameron, LA 045 – Ragley, LA 050 – Mamou, LA 054 – Washington, LA 060 – Jackson, LA 062 – Gibson, LA 063 – Convent, LA 065 – Greensburg, LA	070 – Tyertown, MS 077 – Seminary, MS 080 – Heidelberg, MS 084 – Butler, AL 085 – Butler, AL 090 – Sweet Water, AL 095 – Marion Junction, AL 100 – Billingsley, AL 105 – Rockford, AL 110 – Wadley, AL 115 – Newnan, GA 116 – Newnan, GA 120 – Stockbridge, GA 125 – Monroe, GA 130 – Comer, GA 135 – Anderson, SC 140 – Moore, SC	145 – Grover, NC 150 – Mooresville, NC 155 – Lexington, NC 157 – Stokesdale, NC 160 – Reidsville, NC 161 – Brown Summit, NC 165 – Chatham, VA 166 – Chatham, VA 167 – South Hill, VA 170 – Appomattox, VA 175 – Scottsville, VA 180 – Unionville, VA 185 – Manassas, VA 190 – Ellicott City, MD	195 – Delta, PA 196 – Rising Sun, MD 200 – Frazer, PA 203 – Chesterfield, NJ 205 – Princeton, NJ 207 – Old Bridge, NJ 240 – Carlstadt, NJ 303 – Roseland, NJ 505 – Neshanic Station, NJ 515 – Bear Creek, PA 517 – Benton, PA 520 – Jersey Shore, PA 535 – Austin, PA Linden – Linden, NJ 605 – Factoryville, PA 610 – Millville, PA
<b>Gulf West</b>			
014 – Falfurrias, TX 017 – Sinton, TX 023 – Victoria, TX 024 – Markahm, TX 030 – El Campo, TX			
<b>Gulf East</b>			
083 – Citronelle, AL 082 – Coden, AL			





# Texas & Louisiana Construction & Maintenance



# Texas & Louisiana Construction & Maintenance



Job Number	Status	Start	Finish	Location	Maintenance Activity	Anticipated Impact	Meter No.	Meter Name	1Line Nominatable Location ID
1		1/1/2019	TBD	North Padre Island Lateral (STN14 S1 to 10A120)	Facility Modifications	Meter outage	1695, 1659, 1760, 1707, 1637	Risken #5, Kennedy Ranch #3, John Kennedy #1, Wright #3, King Ranch	9000083, 1003019, 9004622, 9000900, 1008773
2		8/17/2019	9/2/2019	McMullen Lateral A (TM818 to TM520)	Anomaly Investigation	Possible line outage	1644, 3643, 4636, 1593, 1748, 1744, 4576, 1652	Hollimon Earl, Eagle Plant, Sunshine, Meyers #1, Whitehead #1, Mission Valley #1, South Texas Cooperative, Mission Valley	N/A
3		5/7/2019	5/15/2019	N Markham Lateral B (Station 24 to Station 30)	Pipeline Inspection	Controlled flow needed during pipeline inspection and minimal impact during tool passage	1462, 4626, 3640, 3606, 4606, 4473	Mrk #1 Tail, Markham Inlet, Markham Outlet, Tres Mat WD, Tres Mat Inj, Wharton-DOW	N/A
4		4/2/2019	4/10/2019	McMullen Lateral A (Tilden to TM562)	Pipeline Inspection	Controlled flow needed during pipeline inspection and minimal impact during tool passage	1345, 4652, 4605, 4612, 3628, 3578, 4537	Live Oak Karon, Karon Plant BB, Jacobs BB, Lasalle Tilden, Tilden Tail, Tilden WFS BB	N/A
5		4/16/2019	4/24/2019	McMullen Lateral A (TM550 to Marshall Field)	Pipeline Inspection	Controlled flow needed during pipeline inspection and minimal impact during tool passage	3644, 4644, 1704, 3649, 4649, 1693, 1303	Silver Oak, Silver Oak BB, Johnston #1, Pettus Outlet, Petus Plt BB, Charco #2, Fuller-Newton #1	N/A
6		11/5/2019	11/18/2019	Mainline A (MLV 10A60 to Station 17)	Pipeline Inspection	Controlled flow needed during pipeline inspection and minimal impact during tool passage	4515, 1637, 1004	Banquete XO, King Ranch, La Gloria	N/A
7		3/5/2019	3/15/2019	Mainline A (Station 17 to MLV 20A5)	Pipeline Inspection	Controlled flow needed during pipeline inspection	4669	Sinton	N/A
8		10/1/2019	10/11/2019	Mainline A (MLV 20A5 to Station 30)	Pipeline Inspection	Controlled flow needed during pipeline inspection and minimal impact during tool passage	4400, 4648, 3648, 1660, 1767, 4669	Victoria Invst, Sherrill Fuel, Sherrill Road, Titan Taylor, Pratkan #1, Sinton	N/A
9		6/11/2019	6/21/2019	N Markham Lateral B (TCB45 to Station 24)	Pipeline Inspection	Controlled flow needed during pipeline inspection	1462	Mrk #1 Tail	N/A
10		7/22/2019	8/15/2019	Mainline A (T41 to 35B0)	Anomaly Investigation	Possible line outage	3607, 4607, 3641, 1724, 3559, 3545	Tres Palacios Wharton Withdrawal, Tres Palacios Wharton Injection, Glen Flora, N/A Koonce #1, Katy-Atmos, White Oak Bayou	
11		8/19/2019	8/26/2019	Mainline B (T958 to 30B30)	Facility Modification	Meter Outage			
12		8/27/2019	9/3/2019	Mainline B (30B40 to T948)	Facility Modification	No impact anticipated at this time			
13		9/23/2019	10/3/2019	Mainline A (30A35 to 35A5)	Facility Modification	Meter Outage	3545	White Oak Bayou	1001036
14		10/17/2019	10/31/2019	Mainline A (40A40 to Station 45)	Facility Modification	No impact anticipated at this time			
15		9/2/2019	9/16/2019	Mainline C (LW811 to Station 45)	Facility Modification	Meter Outage	3596	Golden Pass	9004343

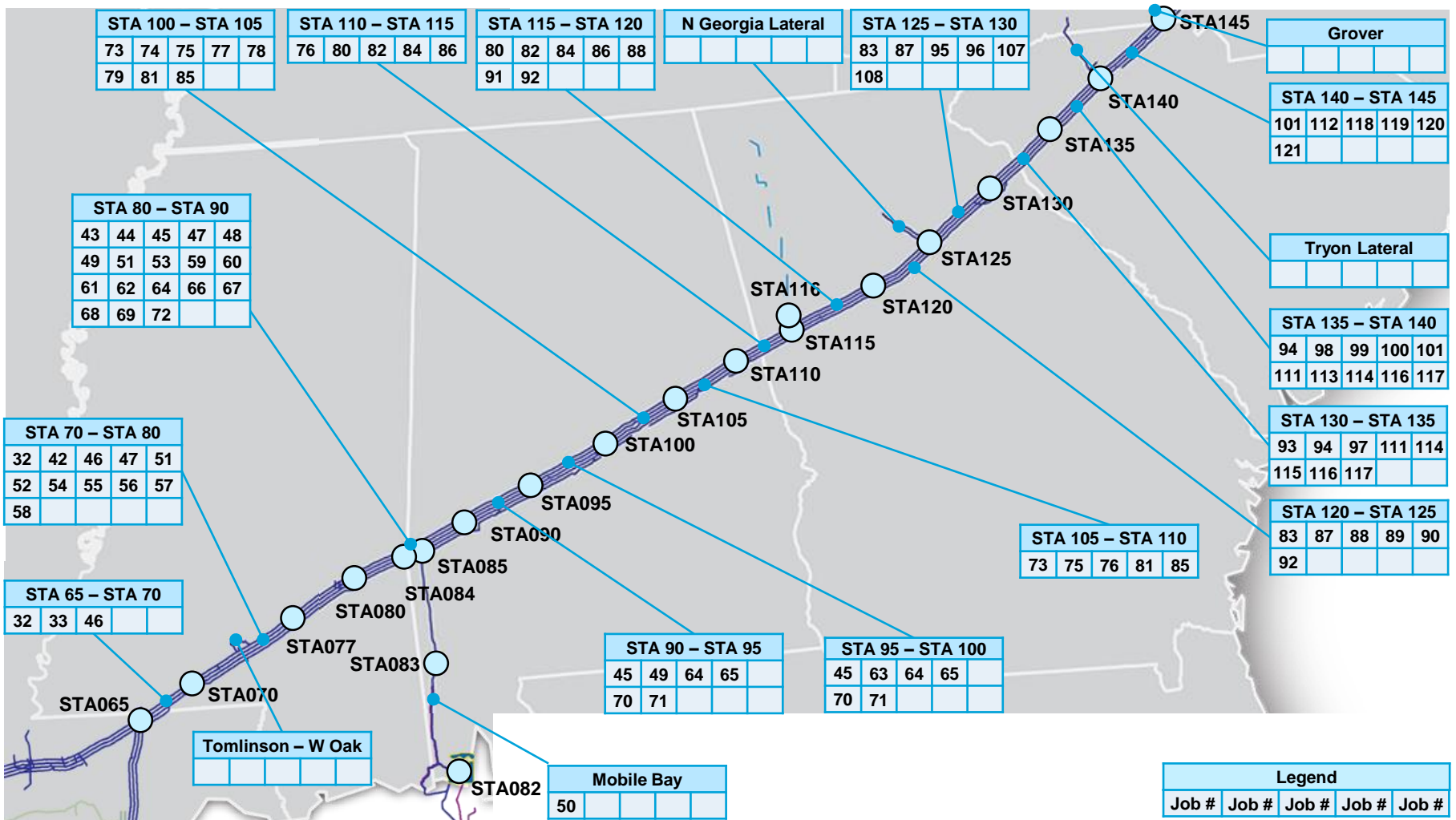


# Texas & Louisiana Construction & Maintenance



Job Number	Status	Start	Finish	Location	Maintenance Activity	Anticipated Impact	Meter No.	Meter Name	1Line Nominatable Location ID
16	Dates TBD			Mainline A (35A40 to 40A20)	Facility Modification	Meter outage	1715, 1638, 1765, 1738	Humphreys, Fee Sour Lk #1, Village Creek, Texoma	9001660, 1008748, 9006402, 9002640
17		3/12/2019	4/3/2019	Mainline A (35A15 to 35A40)	Pipe Replacement	No impact anticipated at this time			
18		4/4/2019	4/25/2019	Mainline B (35B15 to 35B40)	Facility Modification	No impact anticipated at this time			
19		8/13/2019	8/23/2019	Mainline B (Station 50 to MLV 50B20)	Pipeline Inspection	No impact anticipated at this time			
20		5/13/2019	6/17/2019	Mainline A (50A70 to Station 60)	Facility Modification	No impact anticipated at this time			
21		6/26/2019	7/31/2019	Mainline B (50B70 to Station 60)	Facility Modification	No impact anticipated at this time			
22		4/30/2019	5/28/2019	N High Island B (LW223 to Station 44)	Anomaly Investigation	No impact anticipated at this time			
23		1/22/2019	2/5/2019	N High Island C (Sabine to 6 Mile)	Anomaly Investigation	No impact anticipated at this time			
24		2/28/2019	4/6/2019	Mainline A (Station 45 to 45A10)	Anomaly Investigation	No impact anticipated at this time			
25		5/29/2019	6/20/2019	Cameron Purch A (Station 44 to LW197)	Anomaly Investigation	Possible line outage	2353	South Black Bayou #35-1	N/A
26		7/1/2019	7/21/2019	Mainline B (40B20 to Station 45)	Anomaly Investigation	Possible line outage	3554	Vidor	N/A
27		9/5/2019	10/15/2019	SW Louisiana Lateral B (Mecom-Texas Gas Junction to LW14)	Anomaly Investigation	No impact anticipated at this time			
28		6/18/2019	7/3/2019	SE Louisiana Lateral A (Station 62 to MLV 62A11)	Pipeline Inspection	No impact anticipated at this time			
29		9/10/2019	9/18/2019	SE Louisiana Lateral B (Station 62 to Station 63)	Pipeline Inspection	No impact anticipated at this time			
30		4/2/2019	4/12/2019	SE Louisiana Lateral C (Station 62 to Station 63)	Pipeline Inspection	No impact anticipated at this time			
31		4/15/2019	4/25/2019	SE Louisiana Lateral A (MLV 62A12 to Mississippi River)	Pipeline Inspection	Controlled flow needed during pipeline inspection and minimal impact during tool passage	3328/4362, 3590	LRC St James, Larose	N/A
34		5/29/2019	6/19/2019	SE Louisiana Lateral B (Station 62 to 63B41)	Anomaly Investigation	Possible line outage	4398	Livingston	N/A
35		6/20/2019	6/28/2019	SE Louisiana Lateral C (LE565 to LE3141)	Anomaly Investigation	Possible line outage	3235	Terrebonne Exch	N/A
36		10/15/2019	11/10/2019	Mainline D (50D50 to 50D60)	Anomaly Investigation	No impact anticipated at this time			
37		7/9/2019	7/11/2019	SE Mississippi River X-ing (LE462 to LE477)	Pipeline Inspection	No impact anticipated at this time			
38		9/17/2019	9/19/2019	Atchafalaya River X-ing (LC1269 to LC1276)	Pipeline Inspection	No impact anticipated at this time			
39		2/11/2019	3/11/2019	SE Louisiana Lateral B (62B31 to 62B10)	Hydrotest	No impact anticipated at this time			
40		7/15/2019	7/30/2019	Station 63	Facility Modification	Station 63 outage			
41		6/15/2019	6/30/2019	Station 62	Facility Modification	Station 62 outage			

# Mississippi, Alabama, Georgia, & South Carolina Construction & Maintenance



# Mississippi, Alabama, Georgia, & South Carolina Construction & Maintenance



Job Number	Status	Start	Finish	Location	Maintenance Activity	Anticipated Impact	Meter No.	Meter Name	1Line Nominatable Location ID
32		3/16/2019	4/7/2019	Mainline C (Station 65 to Station 80)	Anomaly Investigation Placeholder	Possible line outage	3544	Centerville Dome	N/A
33		5/7/2019	5/28/2019	Mainline B (Station 65 to Station 70)	Anomaly Investigation Placeholder	No impact anticipated at this time			
42		9/17/2019	10/4/2019	Mainline B (Station 70 to Station 80)	Pipeline Inspection	No impact anticipated at this time			
43		1/22/2019	2/1/2019	Mainline A (Station 80 to Station 90)	Pipeline Inspection	No impact anticipated at this time			
44		11/21/2019	12/13/2019	Mainline A (Station 80 to Station 90)	Pipeline Inspection	No impact anticipated at this time			
45		2/12/2019	2/22/2019	Mainline C (Station 80 to Station 100)	Pipeline Inspection	Minimal impact during tool passage	7406, 7332	Chickasawhay, Alagasco International Paper	N/A
46		5/31/2019	7/25/2019	Mainline B (65B20 to 70B30)	Facility Modification	No impact anticipated at this time			
47		9/9/2019	9/19/2019	Mainline A (70A40 to Station 84)	Facility Modification	No impact anticipated at this time			
48		8/21/2019	9/4/2019	Mainline B (Station 80 to Station 84)	Hydrotest	No impact anticipated at this time			
49		9/20/2019	10/25/2019	Mainline A (Station 84 to 90A10)	Facility Modification	No impact anticipated at this time			
50		10/8/2019	10/28/2019	Mobil Bay Lat (AS84/AS81 to AS21)	Hydrotest	No impact anticipated at this time			
51		4/5/2019	5/30/2019	Mainline B (70B20 to 80B10)	Facility Modification	Station 80 outage (4/5 - 4/25)			
52		7/26/2019	8/10/2019	Mainline D (70D40 to 80D0)	Hydrotest	No impact anticipated at this time			
53		5/10/2019	5/13/2019	Mainline B (Station 80 to MLV 80B40)	Anomaly Investigation Placeholder	No impact anticipated at this time			
54		3/21/2019	4/4/2019	Mainline A (70A40 to 80A0)	Facility Modification	No impact anticipated at this time			
55		4/11/2019	4/23/2019	Mainline B (70B30 to Station 80)	Anomaly Investigation	No impact anticipated at this time			
56		4/24/2019	5/6/2019	Mainline C (70C30 to Station 80)	Anomaly Investigation	Possible line outage	3544	Centerville Dome	N/A
57		5/7/2019	5/9/2019	Mainline D (70D30 to Station 80)	Anomaly Investigation	Possible line outage	3466, 3467, 3595	Collins East, Sun Speed #1, Hoy Road	N/A
58		10/2/2019	10/14/2019	Mainline A (Station 70 to Station 80)	Anomaly Investigation	No impact anticipated at this time			
59		10/15/2019	10/19/2019	Mainline D (Station 80 to 80D10)	Anomaly Investigation	No impact anticipated at this time			
60		10/22/2019	10/26/2019	Mainline D (80D10 to 80D20)	Anomaly Investigation	Possible line outage	7406	Chickasawhay	N/A
61		10/27/2019	11/7/2019	Mainline B (Station 80 to 84B21)	Anomaly Investigation	No impact anticipated at this time			
62		11/8/2019	11/20/2019	Mainline B (84B21 to Station 90)	Anomaly Investigation	No impact anticipated at this time			

# Mississippi, Alabama, Georgia, & South Carolina Construction & Maintenance



Job Number	Status	Start	Finish	Location	Maintenance Activity	Anticipated Impact	Meter No.	Meter Name	1Line Nominatable Location ID
63		11/29/2019	11/30/2019	Mainline D (95D10 to 95D20)	Anomaly Investigation	No impact anticipated at this time			
64		12/2/2019	12/13/2019	Mainline C (Station 80 to Station 100)	Anomaly Investigation Placeholder	No impact anticipated at this time			
65		2/26/2019	3/8/2019	Mainline A (Station 90 to Station 100)	Pipeline Inspection	No impact anticipated at this time			
66		4/1/2019	4/19/2019	Mainline E (Station 84 to 84E20)	Facility Modification	Meter Outage	3601	Scott Mountain	9003962
67		4/26/2019	5/13/2019	Mainline A (Station 84 to 84A20)	Facility Modification	No impact anticipated at this time			
68		5/17/2019	5/27/2019	Mainline D (Station 84 to 84D20)	Facility Modification	No impact anticipated at this time			
69		6/7/2019	6/21/2019	Mainline B (Station 84 to 84B20)	Hydrotest	No impact anticipated at this time			
70		5/27/2019	6/19/2019	Mainline B (Station 90 to Station 100)	Anomaly Investigation Placeholder	No impact anticipated at this time			
71		6/20/2019	7/2/2019	Mainline A (Station 90 to Station 100)	Anomaly Investigation Placeholder	No impact anticipated at this time			
72		11/21/2019	11/28/2019	Mainline E (80E17 to Station 90)	Anomaly Investigation	No impact anticipated at this time			
73		3/4/2019	3/15/2019	Mainline D (Station 100 to Station 110)	Pipeline Inspection	Minimal impact during tool passage	7373	Sylacauga	N/A
74		9/5/2019	9/13/2019	Mainline A (Station 100 to Coosa River)	Pipeline Inspection	No impact anticipated at this time			
75		9/24/2019	10/4/2019	Mainline A (Coosa River to Station 110)	Pipeline Inspection	No impact anticipated at this time			
76		5/21/2019	5/30/2019	Mainline A (105A100 to 110A10)	Facility Modification	No impact anticipated at this time			
77		5/3/2019	5/13/2019	Mainline C (100C10 to 100C20)	Facility Modification	No impact anticipated at this time			
78		5/17/2019	5/27/2019	Mainline D (100D10 to 100D20)	Facility Modification	No impact anticipated at this time			
79		10/18/2019	10/30/2019	Mainline E (Station 100 to 100E10)	Facility Modification	No impact anticipated at this time			
80		2/15/2019	3/11/2019	Mainline C (Station 110 to Station 120)	Anomaly Investigation Placeholder	No impact anticipated at this time			
81		3/12/2019	4/10/2019	Mainline C (Station 100 to Station 110)	Anomaly Investigation Placeholder	No impact anticipated at this time			
82		8/22/2019	9/3/2019	Mainline D (Station 110 to Station 120)	Anomaly Investigation Placeholder	No impact anticipated at this time			
83		9/4/2019	10/1/2019	Mainline C (Station 120 to Station 130)	Anomaly Investigation Placeholder	No impact anticipated at this time			

# Mississippi, Alabama, Georgia, & South Carolina Construction & Maintenance



Job Number	Status	Start	Finish	Location	Maintenance Activity	Anticipated Impact	Meter No.	Meter Name	1Line Nominatable Location ID
84		12/2/2019	12/23/2019	Mainline A (Station 110 to Station 120)	Anomaly Investigation Placeholder	No impact anticipated at this time			
85		5/31/2019	8/2/2019	Mainline A (100A20 to 110A0)	Hydrotest	No impact anticipated at this time			
86		11/18/2019	12/10/2019	Mainline A (Station 110 to Station 120)	Pipeline Inspection	No impact anticipated at this time			
87		10/29/2019	11/15/2019	Mainline A (Station 120 to Station 130)	Pipeline Inspection	No impact anticipated at this time			
88		7/9/2019	8/21/2019	Mainline A (115A20 to 120A10)	Facility Modification	No impact anticipated at this time			
89		4/2/2019	5/23/2019	Mainline B (Station 120 to Station 125)	Facility Modification	No impact anticipated at this time			
90		3/12/2019	4/1/2019	Mainline C (Station 120 to Station 125)	Facility Modification	No impact anticipated at this time			
91		5/28/2019	7/8/2019	Mainline D (Station 115 to Station 120)	Facility Modification	No impact anticipated at this time			
92		1/28/2019	2/10/2019	Station 120	Facility Modification	Station 120 outage			
93		9/5/2019	9/24/2019	Mainline A (Station 130 to Savannah River)	Pipeline Inspection	No impact anticipated at this time			
94		8/27/2019	9/13/2019	Mainline C (Station 130 to Station 140)	Pipeline Inspection	No impact anticipated at this time			
95		6/3/2019	8/11/2019	Mainline A (125A18 to Station 130)	Facility Modification	No impact anticipated at this time			
96		5/10/2019	6/26/2019	Mainline C (125C20 to Savannah River)	Facility Modification	No Impact anticipated at this time			
97		4/9/2019	5/9/2019	Mainline A (Station 130 to 130A20)	Facility Modification	Meter Outage (4/29 to 5/4)	3613	Elba - SC	N/A
98		1/16/2019	2/20/2019	Mainline A (135A10 to 135A20)	Pipe Replacement	No Impact anticipated at this time			
99		2/21/2019	3/28/2019	Mainline B (135B10 to 135B20)	Pipe Replacement	No Impact anticipated at this time			
100		3/29/2019	5/3/2019	Mainline C (135C10 to Station 140)	Pipe Replacement	No Impact anticipated at this time			
101		8/15/2019	11/15/2019	Mainline A (135A10 to 140A10)	Pipe Replacement	Meter Outage (8/15 to 9/15)	7292, 7043, 7108	Simpsonville, Laurens, Fountain Inn	1006156, 1006092
107		8/12/2019	9/2/2019	Mainline B (125B18 to Station 130)	Facility Modification	No impact anticipated at this time			
108		9/11/2019	9/24/2019	Mainline C (125C18 to Station 130)	Facility Modification	No impact anticipated at this time			

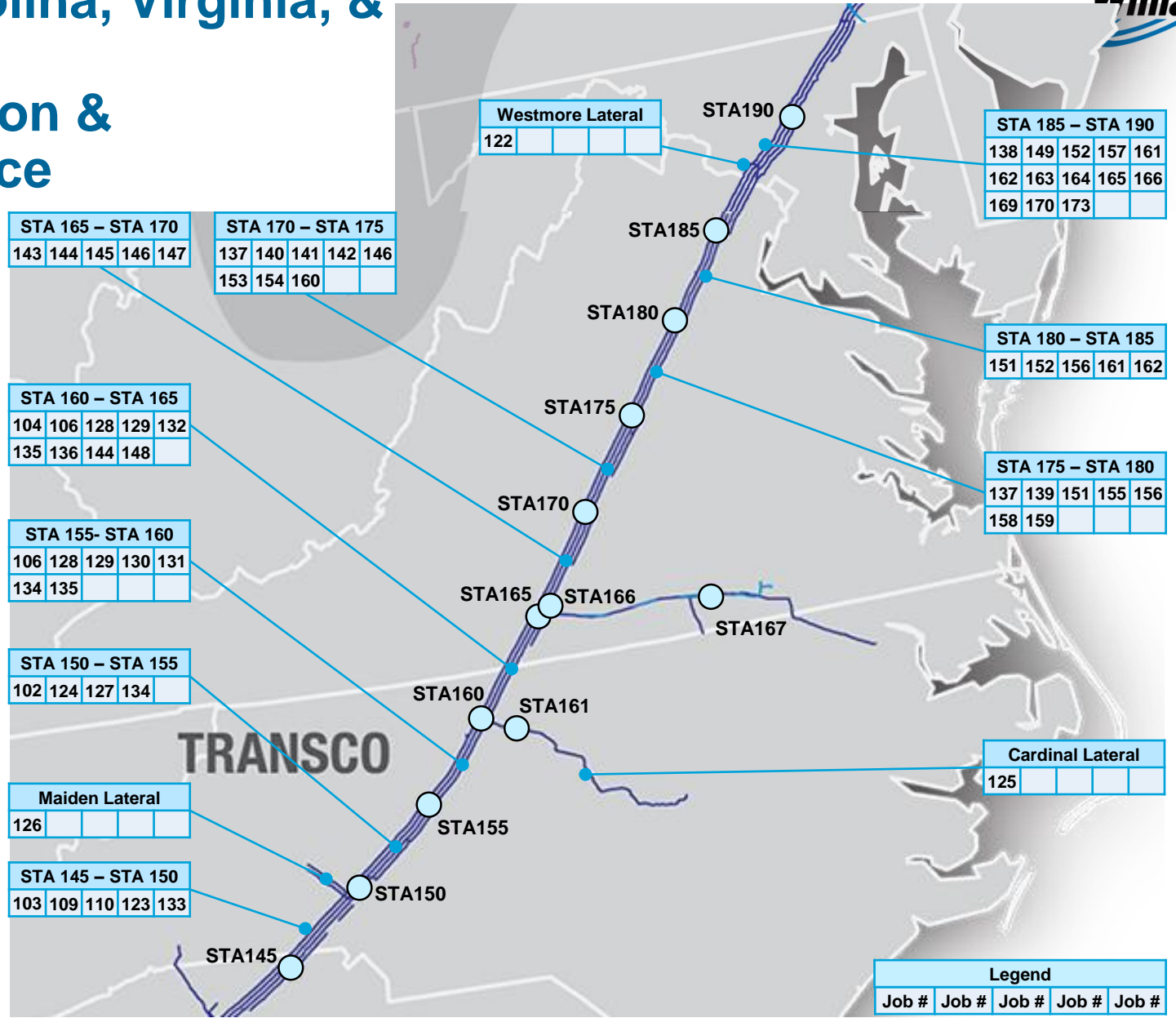
# Mississippi, Alabama, Georgia, & South Carolina Construction & Maintenance



Job Number	Status	Start	Finish	Location	Maintenance Activity	Anticipated Impact	Meter No.	Meter Name	1Line Nominatable Location ID
111		3/11/2019	4/11/2019	Mainline D (Station 130 to Station 140)	Anomaly Investigation Placeholder	No impact anticipated at this time			
112		7/11/2019	8/11/2019	Mainline B (Station 140 to Station 145)	Anomaly Investigation Placeholder	No impact anticipated at this time			
113		6/27/2019	7/17/2019	Mainline C (Savannah River to 135C20)	Facility Modification	No Impact anticipated at this time			
114		7/18/2019	8/7/2019	Mainline A (130A10 to 135A20)	Facility Modification	Meter Outage (7/1 to 7/22)	7067	Anderson	N/A
115		7/9/2019	7/20/2019	Mainline E (Station 130 to G296)	Anomaly Investigation Placeholder	No impact anticipated at this time			
116		7/22/2019	8/12/2019	Mainline B (Station 130 to Station 140)	Anomaly Investigation Placeholder	No impact anticipated at this time			
117		8/13/2019	8/21/2019	Mainline D (Station 130 to Station 140)	Anomaly Investigation Placeholder	No impact anticipated at this time			
118		9/18/2019	10/7/2019	Mainline C (Station 140 to Station 145)	Anomaly Investigation Placeholder	No impact anticipated at this time			
119		10/8/2019	10/17/2019	Mainline B (Station 140 to Station 145)	Anomaly Investigation Placeholder	No impact anticipated at this time			
120		10/18/2019	11/6/2019	Mainline D (Station 140 to S216)	Anomaly Investigation Placeholder	No impact anticipated at this time			
121		11/7/2019	11/16/2019	Mainline D (S227 to 145D0)	Anomaly Investigation Placeholder	Possible line outage	7366	Skygen	N/A



# North Carolina, Virginia, & Maryland Construction & Maintenance



# North Carolina, Virginia, & Maryland Construction & Maintenance



Job Number	Status	Start	Finish	Location	Maintenance Activity	Anticipated Impact	Meter No.	Meter Name	1 Line Nominatable Location ID
102		2/26/2019	4/3/2019	Mainline A (Station 150 to 150A20)	Facility Modification	No Impact anticipated at this time			
103		4/4/2019	4/27/2019	Mainline A (145A10 to Station 150)	Facility Modification	No Impact anticipated at this time			
104		1/23/2019	2/22/2019	Mainline C (160C10 to Station 165)	Hydrotest	No Impact anticipated at this time			
106		3/1/2019	4/29/2019	Mainline B (Station 155B2 to 160B10)	Facility Modification	No Impact anticipated at this time			
109		4/8/2019	4/9/2019	Mainline D (145D20 to Station 150)	Facility Modification	No Impact anticipated at this time			
110		4/25/2019	6/10/2019	Mainline D (145D20 to Station 150)	Facility Modification	No Impact anticipated at this time			
122		8/20/2019	8/22/2019	Westmore Lateral (MD124 to MD129)	Pipeline Inspection	Controlled flow needed during pipeline inspection	7382, 7383, 7384	Westmore RD #14, Westmore RD #13, Westmore RD #12	N/A
123		7/29/2019	8/10/2019	Mainline D (MLV 145D20 to Cowans Ford Loop D Station 150)	Pipeline Inspection	No impact anticipated at this time			
124		6/11/2019	6/20/2019	Mainline C (Station 150 to 155C20)	Anomaly Investigation Placeholder	No impact anticipated at this time			
125		4/8/2019	4/26/2019	Cardinal Lat "A" (NC10 to NC160)	Anomaly Investigation Placeholder	Possible line outage	7329, 7378, 7364, 7338, 7339, 7397, 7335, 7339, 7337	Cardinal Total, Brown Summit, Huffines Mills, Haw River PSNC, Haw River PDMT, Chapel Hill, Holly Springs, Clayton NC Nat, Clayton PSNC	N/A
126		4/27/2019	5/16/2019	Maiden Lat "A" (NM5 to NMA30)	Anomaly Investigation Placeholder	No impact anticipated at this time			
127		10/10/2019	10/18/2019	Mainline D (Station 150 to MLV Station 155)	Pipeline Inspection	No impact anticipated at this time			
128		7/11/2019	7/26/2019	Mainline B (Station 155 to MLV 160B10)	Pipeline Inspection	No impact anticipated at this time			
129		6/21/2019	7/1/2019	Mainline C (155C21 to 160C15)	Anomaly Investigation Placeholder	No impact anticipated at this time			
130		4/1/2019	4/30/2019	Mainline A (155A20 to 155A25)	Facility Modification	Possible Pressure Reduction			
131		4/1/2019	4/30/2019	Mainline C (155C21 to Station 160)	Facility Modification	Possible Pressure Reduction			

# North Carolina, Virginia, & Maryland Construction & Maintenance



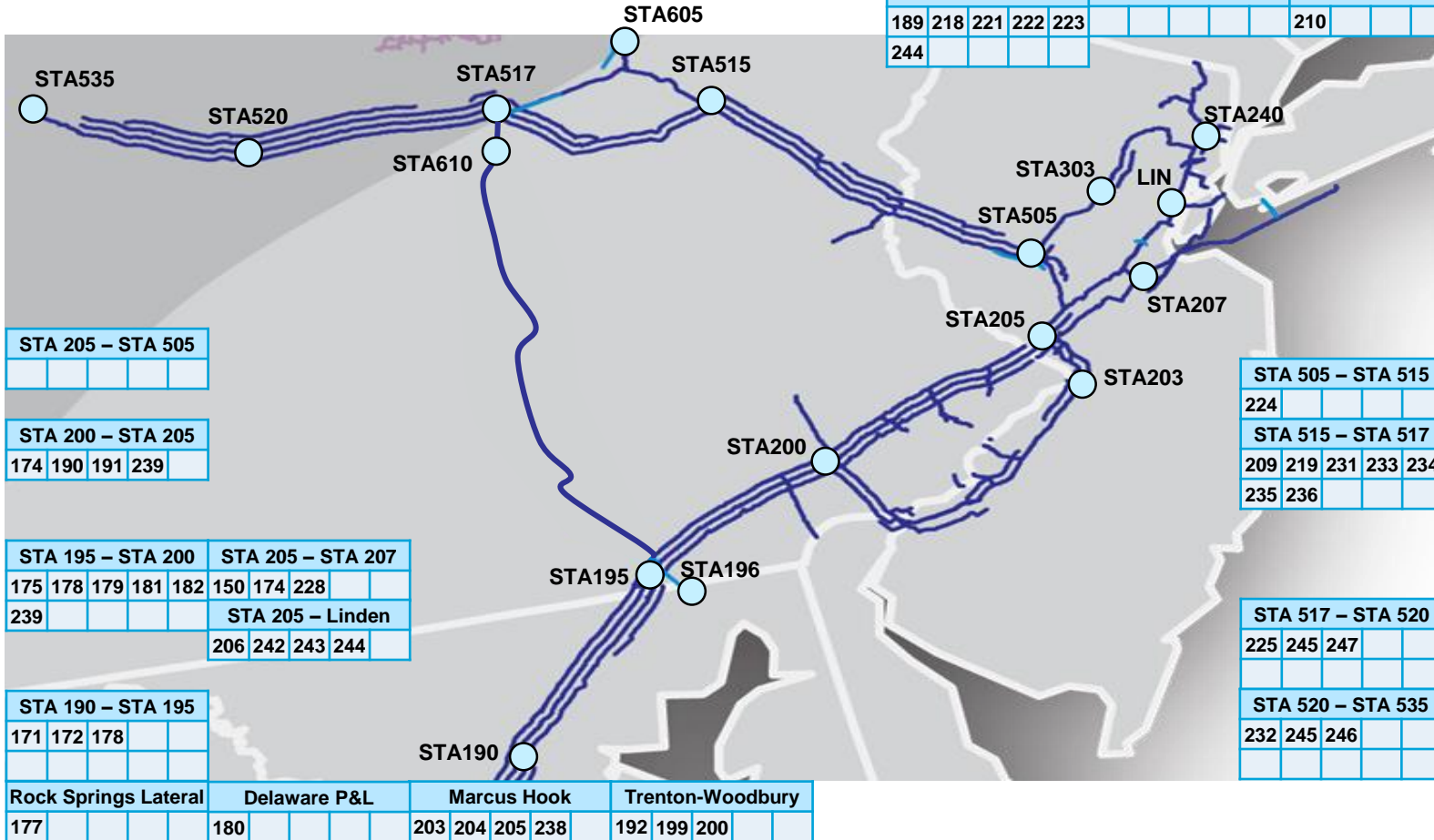
Job Number	Status	Start	Finish	Location	Maintenance Activity	Anticipated Impact	Meter No.	Meter Name	1Line Nominatable Location ID
132		5/24/2019	5/28/2019	Mainline A (Station 160 to 160A10)	Anomaly Investigation	No impact anticipated at this time			
133		5/17/2019	6/10/2019	Mainline D (Station 145 to N545)	Anomaly Investigation	No impact anticipated at this time			
134		7/9/2019	7/18/2019	Mainline A (Station 150 to Station 160)	Anomaly Investigation Placeholder	No impact anticipated at this time			
135		9/27/2019	10/7/2019	Mainline B (155B2 to 160B10)	Anomaly Investigation	No impact anticipated at this time			
136		3/19/2019	3/29/2019	Mainline D (V371 to Station 165)	Pipeline Inspection	No impact anticipated at this time			
137		9/3/2019	9/20/2019	Mainline B (Station 170 to MLV 175B20)	Pipeline Inspection	No impact anticipated at this time			
138		1/11/2019	2/10/2019	Mainline D (185D10 to Potomac River)	Facility Modification	No Impact anticipated at this time			
139		3/15/2019	4/9/2019	Mainline C (175C20 to Station 180)	Facility Modification	No Impact anticipated at this time			
140		1/21/2019	1/30/2019	Mainline C (Station 170 to James River)	Facility Modification	No impact anticipated at this time			
141		4/10/2019	4/24/2019	Mainline A (James River to Station 175)	Facility Modification	No Impact anticipated at this time			
142		4/10/2019	4/24/2019	Mainline D (James River to Station 175)	Facility Modification	No Impact anticipated at this time			
143		5/20/2019	5/23/2019	Mainline A (165A10 to 165A20)	Anomaly Investigation	No impact anticipated at this time			
144		3/28/2019	4/6/2019	Mainline C (160C15 to Station 170)	Anomaly Investigation Placeholder	No impact anticipated at this time			
145		5/15/2019	5/18/2019	Mainline A (165A20 to Station 170)	Anomaly Investigation	No impact anticipated at this time			
146		2/25/2019	4/1/2019	Station 170 Piers	Anomaly Investigation Placeholder	Station 170 outage			
147		7/19/2019	7/29/2019	Mainline D (V382 to Station 170)	Anomaly Investigation Placeholder	No impact anticipated at this time			

# North Carolina, Virginia, & Maryland Construction & Maintenance



Job Number	Status	Start	Finish	Location	Maintenance Activity	Anticipated Impact	Meter No.	Meter Name	1Line Nominatable Location ID
148		11/1/2019	11/12/2019	Mainline A (160A20 to Station 165)	Anomaly Investigation	No impact anticipated at this time			
149		2/12/2019	3/8/2019	Mainline C (Station 185 to Potomac River)	Facility Modification	No Impact anticipated at this time			
151		6/14/2019	6/28/2019	Station 180	Facility Modification	Station 180 outage			
152		7/12/2019	7/26/2019	Station 185	Facility Modification	Station 185 outage			
153		4/28/2019	5/18/2019	Mainline B (Station 170 to James River)	Facility Modification	No Impact anticipated at this time			
154		5/21/2019	6/7/2019	Mainline B (James River to Station 175)	Facility Modification	No Impact anticipated at this time			
155		6/10/2019	6/30/2019	Mainline B (Station 175 to 175B20)	Facility Modification	No Impact anticipated at this time			
156		7/30/2019	8/8/2019	Mainline B (175B20 to 180B10)	Anomaly Investigation Placeholder	No impact anticipated at this time			
157		1/21/2019	1/26/2019	Mainline D (Station 185 to 185D13)	Facility Modification	No impact anticipated at this time			
158		4/27/2019	5/1/2019	Mainline A (175A20 to Station 180)	Anomaly Investigation	No impact anticipated at this time			
159		5/2/2019	5/6/2019	Mainline A (Station 175 to 175A10)	Anomaly Investigation	No impact anticipated at this time			
160		5/7/2019	5/14/2019	Mainline A (170A21 to Station 175)	Anomaly Investigation	No impact anticipated at this time			
161		8/19/2019	8/28/2019	Mainline C (180C15 to Station 190)	Anomaly Investigation	No impact anticipated at this time			
162		6/4/2019	6/21/2019	Mainline C (180C15 to Station 190)	Pipeline Inspection	No impact anticipated at this time			
163		6/25/2019	7/19/2019	Mainline D (Potomac River to Station 190)	Pipeline Inspection	No impact anticipated at this time			
164		9/24/2019	10/2/2019	Mainline A (Station 185 to Potomac River)	Pipeline Inspection	No impact anticipated at this time			
165		3/26/2019	4/5/2019	Mainline A (Potomac River to Station 190)	Pipeline Inspection	No impact anticipated at this time			
166		1/23/2019	3/12/2019	Mainline A (Potomac River to 190A5)	Facility Modification	Station 190 outage 1/23 to 1/29 and 3/10 to 3/12			
169		4/26/2019	6/5/2019	Mainline C (185C14 to Station 190)	Facility Modification	No impact anticipated at this time			
170		3/15/2019	4/24/2019	Mainline D (Potomac River to Station 190)	Facility Modification	No impact anticipated at this time			

# Pennsylvania & New Jersey Construction & Maintenance



Bayonne Lateral				
185	220			
N New Jersey Lateral				
215	216			
Essex Lateral				
West End Lateral				
188				
Sewaren Lateral				
Long Island Ext				
237				
Lower Bay Loop C				
174	193	194	195	196
197	198	228		
Oreland Lateral				
183	184	208	226	
Trenton Lateral				
229				
Somerton Lateral				
176				
Paterson Lateral				
211				
C Manhattan				
217				
Lower NY Bay Lat				
Camden Lateral				
186				
Fairless Lateral				
187				
PGW Plant Lat				
202	227			

# Pennsylvania & New Jersey Construction & Maintenance



Job Number	Status	Start	Finish	Location	Maintenance Activity	Anticipated Impact	Meter No.	Meter Name	1Line Nominatable Location ID	Location for Winter Ops Table
150		4/1/2019	5/3/2019	Mainline A (J706 to Raritan River)	Facility Modification	Station 205 outage				PA.NJ
171		8/9/2019	8/28/2019	Mainline A (Station 190 to Station 195)	Anomaly Investigation Placeholder	No impact anticipated at this time				PA.NJ
172		8/29/2019	9/17/2019	Mainline B (Station 190 to Station 195)	Anomaly Investigation Placeholder	No impact anticipated at this time				PA.NJ
173		9/16/2019	9/25/2019	Mainline D (Potomac River to Station 190)	Anomaly Investigation	No impact anticipated at this time				PA.NJ
174		5/6/2019	6/4/2019	Mainline C (200C30 to Y27)	Facility Modification	Meter outage and Station 207 outage	6293, 6312, 6292, 6278, 6210	Sayreville - PSEG, Red Oak, Sayreville - NSJ, Morgan, Long Beach	N/A	PA.NJ
175	Dates TBD			Mainline A to Downingtown M&R (195A5 to P347)	Anomaly Investigation Placeholder	No impact anticipated at this time				PA.NJ
176	Dates TBD			Somerton Lateral (P384 to P386)	Anomaly Investigation Placeholder	Possible line outage	6192	Somerton	N/A	PA.NJ
177	Dates TBD			Rock Springs Lateral (P543 to P546)	Anomaly Investigation Placeholder	Possible line outage	6337	Wildcat Power Gen	N/A	PA.NJ
178		10/7/2019	10/8/2019	Station 195	Facility Maintenance	Station 195 outage				PA.NJ
179		10/7/2019	10/25/2019	Station 196	Facility Maintenance	Meter and Station 196 outage	6337	Wildcat Power Gen	9009150	PA.NJ
180	Dates TBD			Delaware Power & Light Lateral (P163 to P168)	Anomaly Investigation Placeholder	Possible line outage	6182, 6180, 6195	Kennett Square, Hockessin, E Hockessin	N/A	PA.NJ
181	Dates TBD			Mainline A (195A7 to 195A10)	Anomaly Investigation Placeholder	No impact anticipated at this time				PA.NJ
182	Dates TBD			Mainline A (195A15 to 195A20)	Anomaly Investigation Placeholder	No impact anticipated at this time				PA.NJ
183	Dates TBD			Oreland B Lat (P443 to P447)	Anomaly Investigation Placeholder	No impact anticipated at this time				PA.NJ
184	Dates TBD			Oreland Ext Lat (P521 to P522)	Anomaly Investigation Placeholder	No impact anticipated at this time				PA.NJ
185		3/26/2019	4/3/2019	Bayonne Lateral 14" (J883 to J779)	Pipeline Inspection	Controlled flow needed during pipeline inspection	6323	BEC	N/A	PA.NJ
186		10/29/2019	11/6/2019	Camden Lateral (J806 to J810)	Pipeline Inspection	Controlled flow needed during pipeline inspection	6011	Camden	N/A	PA.NJ
187		11/7/2019	11/15/2019	Fairless Lateral (J703 to P307)	Pipeline Inspection	Controlled flow needed during pipeline inspection	6309	Fairless	N/A	PA.NJ
188		7/23/2019	8/2/2019	Hudson-West End Lateral A (J819 to J782)	Pipeline Inspection	Controlled flow needed during pipeline inspection	6043, 6230	West End, Hudson Marion	N/A	PA.NJ



# Pennsylvania & New Jersey Construction & Maintenance



Job Number	Status	Start	Finish	Location	Maintenance Activity	Anticipated Impact	Meter No.	Meter Name	1Line Nominatable Location ID
189		5/3/2019	5/24/2019	Mainline A (200A90 to Raritan River)	Facility Modification	Meter Outage	6307, 6323, 6327	Central Manhattan Heater ML-B, BEC, Raymond	9006583, 9006942
190		4/8/2019	4/13/2019	Mainline B (200B25 to 200B26)	Facility Modification	No impact anticipated at this time			
191		4/15/2019	4/19/2019	Mainline C (200C25 to 200C26)	Facility Modification	No impact anticipated at this time			
192		4/8/2019	4/12/2019	Station 203	Facility Modification	Station 203 outage			
193	Dates TBD			Lower Bay Loop C (200C25 to 200C26)	Anomaly Investigation	No impact anticipated at this time			
194	Dates TBD			Lower Bay Loop C (200C26 to 200C27)	Anomaly Investigation	No impact anticipated at this time			
195	Dates TBD			Lower Bay Loop C (200C27 to 200C30)	Anomaly Investigation	No impact anticipated at this time			
196	Dates TBD			Lower Bay Loop C (200C30 to 200C40)	Anomaly Investigation	No impact anticipated at this time			
197	Dates TBD			Lower Bay Loop C (200C40 to 200C50)	Anomaly Investigation	Possible line outage	6293, 6312, 6292, 6278, 6334, 6210	Sayville PSEG, Sayreyl Redoak, Sayreville NSJ, Morgan, Floyd Bennett, Long Beach	N/A
198	Dates TBD			Lower Bay Loop C (200C55 to 200C60)	Anomaly Investigation	Possible line outage	6293, 6312, 6292, 6278, 6334, 6210	Sayville PSEG, Sayreyl Redoak, Sayreville NSJ, Morgan, Floyd Bennett, Long Beach	N/A
199	Dates TBD			Trenton-Woodbury A (J14 to J45)	Anomaly Investigation	Possible line outage	6309	Fairless Energy	N/A
200	Dates TBD			Trenton-Woodbury B (J5 to J478)	Anomaly Investigation	No impact anticipated at this time			
201	Dates TBD			Mainline Caldwell B (J233 to J173)	Anomaly Investigation	Possible line outage	6287, 6302, 6255	Bridgewater, Hoechst Celans, Gillette	N/A
202	Dates TBD			PGW Plant "B" Lat (J743 to J539)	Anomaly Investigation	Possible line outage	6275, 6143	Pennsauken, Richmond	N/A
203	Dates TBD			Sunolin-Marcus Hook Lat (J913 to J470)	Anomaly Investigation	No impact anticipated at this time			
204	Dates TBD			Sunolin-Marcus Hook Lat (J473 to J493)	Anomaly Investigation	No impact anticipated at this time			
205	Dates TBD			Sunolin-Marcus Hook Lat (J493 to J808)	Anomaly Investigation	No impact anticipated at this time			
206		5/24/2019	6/4/2019	Mainline A (Raritan River to 200A60)	Facility Modification	Meter Outage	6031, 6197, 6025	Central, Edison Gen Sta, Grandview	N/A
207		5/15/2019	6/23/2019	Mainline Caldwell B Loop (505B0 to 505B50)	Facility Modification	Meter Outage	6287, 6302, 6255, 6303	Bridgewater, Hoechst Celanese, Gillette, Chatham	N/A
208		7/8/2019	7/25/2019	Oreland A Lateral (P445 to P449)	Facility Modification	Meter Outage	6021, 6045	Oreland, Ashmead	N/A
209		7/29/2019	8/22/2019	Leidy Line A (515LA28 to Station 517)	Facility Modification	Meter Outage	6159	Dallas	N/A
210		4/1/2019	9/29/2019	Station 303	Facility Modification	Station 303 outage			

# Pennsylvania & New Jersey Construction & Maintenance



Job Number	Status	Start	Finish	Location	Maintenance Activity	Anticipated Impact	Meter No.	Meter Name	1Line Nominatable Location ID
211		10/14/2019	10/19/2019	Paterson Lat 10" (J231 to J234)	Facility Modification	Meter outage	6091, 6047	Fairlawn, Paterson	N/A
212		4/1/2019	4/9/2019	Mainline Caldwell B Loop (505B40 to 505B55)	Facility Modification	Meter outage	6137	Roseland	N/A
213		4/1/2019	4/9/2019	Mainline Caldwell D Loop (505D40 to 505D55)	Facility Modification	Meter outage	6137	Roseland	N/A
214		9/25/2019	9/29/2019	Mainline Caldwell B Loop (505B50 to 505B55)	Facility Modification	Meter outage	6137	Roseland	N/A
215		4/8/2019	4/20/2019	N New Jersey Lat 24" (J196 to J199)	Facility Modification	Meter outage	6147, 6087, 3091, 4050, 6266	Paramus, Emerson, Rivervale, Rivervale XO, Orange-Rockland	N/A
216		4/22/2019	5/11/2019	N New Jersey Lat 24" (J199 to J214)	Facility Modification	Meter outage	6087, 3091, 4050, 6266	Emerson, Rivervale, Rivervale XO, Orange-Rockland	N/A
217		5/6/2019	5/31/2019	72nd St Lat 36" (200B121 to J246/J249)	Facility Modification	Meter outage	6115	Central Manhattan	N/A
218		5/20/2019	5/27/2019	Mainline A (200A110 to 200A121)	Facility Modification	No impact anticipated at this time			
219		8/27/2019	9/27/2019	Leidy Loop Line B (515LB20 to Station 517)	Hydrotest	No impact anticipated at this time			
220	Dates TBD			14" Bayonne Lateral (J883 to J778)	Anomaly Investigation	Possible line outage	6323	BEC	N/A
221	Dates TBD			Mainline A (200A110 to J635)	Anomaly Investigation	Possible line outage	6039	Harrison	N/A
222	Dates TBD			Mainline A (J629 to 200A110)	Anomaly Investigation	No impact anticipated at this time			
223	Dates TBD			Mainline A (200A80 to 200A90)	Anomaly Investigation	Possible line outage	6023	Erie Street	N/A
224		6/4/2019	6/14/2019	Leidy Line D (MLV 505LD65 to MLV 505LD81)	Pipeline Inspection	No impact anticipated at this time			
225		6/18/2019	6/28/2019	Leidy Line D (MLV 517LD08 to MLV 517LD19)	Pipeline Inspection	No impact anticipated at this time			
226		9/17/2019	10/3/2019	Oreland A Lateral (P445 to Oreland Ashmead Extension P449)	Pipeline Inspection	Controlled flow needed during pipeline inspection	6021, 6045	Oreland, Ashmead Road	N/A
227		8/20/2019	9/4/2019	PGW Plant A Lateral (J842 to Delaware River)	Pipeline Inspection	Controlled flow needed during pipeline inspection	6093	Whitman	N/A
228		9/3/2019	9/20/2019	Mainline C (Delaware River to Lower Bay Loop C Morgan M&R)	Pipeline Inspection	Controlled flow needed during pipeline inspection and minimal impact during tool passage	6293, 6312, 6292, 6278	Sayville PSEG, Sayreyl Redoak, Sayville NSJ, Morgan	N/A
229		5/28/2019	6/7/2019	Trenton Lateral (J8 to J16)	Pipeline Inspection	Controlled flow needed during pipeline inspection	6019, 6027	Trenton, Hydrocarbon Research	N/A
230		8/6/2019	8/16/2019	Mainline Caldwell D Loop (J948 to Station 505)	Pipeline Inspection	No impact anticipated at this time			

# Pennsylvania & New Jersey Construction & Maintenance



Job Number	Status	Start	Finish	Location	Maintenance Activity	Anticipated Impact	Meter No.	Meter Name	1Line Nominatable Location ID
231		4/8/2019	4/13/2019	Leidy Line A (515LA22 to 515LA28)	Facility Modification	No impact anticipated at this time			
232		10/31/2019	11/8/2019	Wharton Extension Lateral	Pipeline Inspection	Possible impact during pig run			
233	Dates TBD			Leidy Line A (Station 515 to 515LA19)	Anomaly Investigation	No impact anticipated at this time			
234	Dates TBD			Leidy Loop Line B (515LB1 to 515LB10)	Anomaly Investigation	No impact anticipated at this time			
235	Dates TBD			Leidy Loop Line B (515LB22 to 515LB30)	Anomaly Investigation	No impact anticipated at this time			
236	Dates TBD			Leidy Loop Line B (515LB30 to 515LB40)	Anomaly Investigation	No impact anticipated at this time			
237		3/19/2019	3/27/2019	Long Island Extension Lateral (J171 to Y36)	Pipeline Inspection	Controlled flow needed during pipeline inspection and minimal impact during tool passage	6263, 6095, 6028, 6062	Piles Creek, Grasmere, Richmond Narrows, Narrows	N/A
238		6/4/2019	6/12/2019	Marcus Hook Lateral A (P328 to P331)	Pipeline Inspection	Controlled flow needed during pipeline inspection	6003, 6041	Chester, Wilmington	N/A
239		9/17/2019	9/27/2019	Mainline C (Station 195 to MLV 200C10)	Pipeline Inspection	No impact anticipated at this time			
240		10/7/2019	10/24/2019	Central Penn Line South (CPLS)	Pipeline Inspection	Possible impact during pig run			
241		3/12/2019	3/22/2019	Mainline Caldwell D Loop (Southern Boulevard to Roseland Regulator)	Pipeline Inspection	No impact anticipated at this time			
242		9/3/2019	9/11/2019	Mainline E (Milltown Regulator to Raritan River)	Pipeline Inspection	No impact anticipated at this time			
243		7/30/2019	8/16/2019	Mainline A (TREN-A Tap to Raritan River)	Pipeline Inspection	No impact anticipated at this time			
244		7/9/2019	7/26/2019	Mainline A (Raritan River to Passaic River)	Pipeline Inspection	Controlled flow needed during pipeline inspection and minimal impact during tool passage	6031, 6197, 6033, 6347, 6345, 6346, 6023, 6323, 6327, 6037	Central, Edison Gen Sta, Sewaren, Sewaren Utility, Railroad Units 1-5, Railroad Unit 6, Erie Street, BEC, Raymond, Essex	N/A
245		6/1/2019	7/1/2019	Station 520	Facility Modification	Station 520 outage			
246	Dates TBD			Leidy Line A (520LA20 to 520LA30)	Anomaly Investigation	No impact anticipated at this time			
247	Dates TBD			Leidy Line A (517LA20 to 520LA0)	Anomaly Investigation	Possible line outage	6176	Old Lycoming	N/A

# Now What?

## > Individual Project Updates

- Job numbers and outage dates are subject to change
- 2019 Transco 1Line maintenance table posted to EBB by year's end

## > Further Questions?

- Ross Sinclair (Manager, Pipeline Control)
  - 713-215-2688
  - [Ross.M.Sinclair@Williams.com](mailto:Ross.M.Sinclair@Williams.com)
- Richard Truxell (Manager, Pipeline Control)
  - 713-215-4044
  - [Richard.W.Truxell@Williams.com](mailto:Richard.W.Truxell@Williams.com)
- Tyler Tunic (Maintenance Coordinator, Pipeline Control)
  - 713-215-2354
  - [Tyler.Tunic@Williams.com](mailto:Tyler.Tunic@Williams.com)
- Your Transco Representative

# Transportation Services/1 Line

# Topics

## > Transportation Services Organization

### > Priority Of Service

- Tariff Filing
- Priorities of Services
- Changes to 1Line
- St 95 Pool

### > Imbalance Management

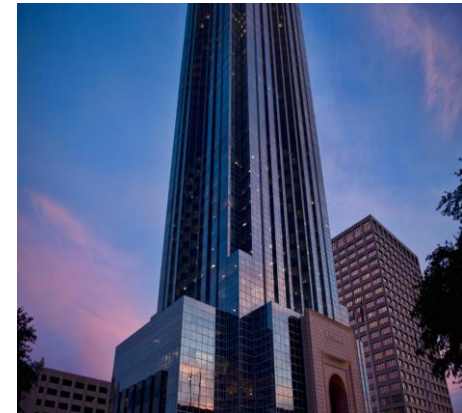
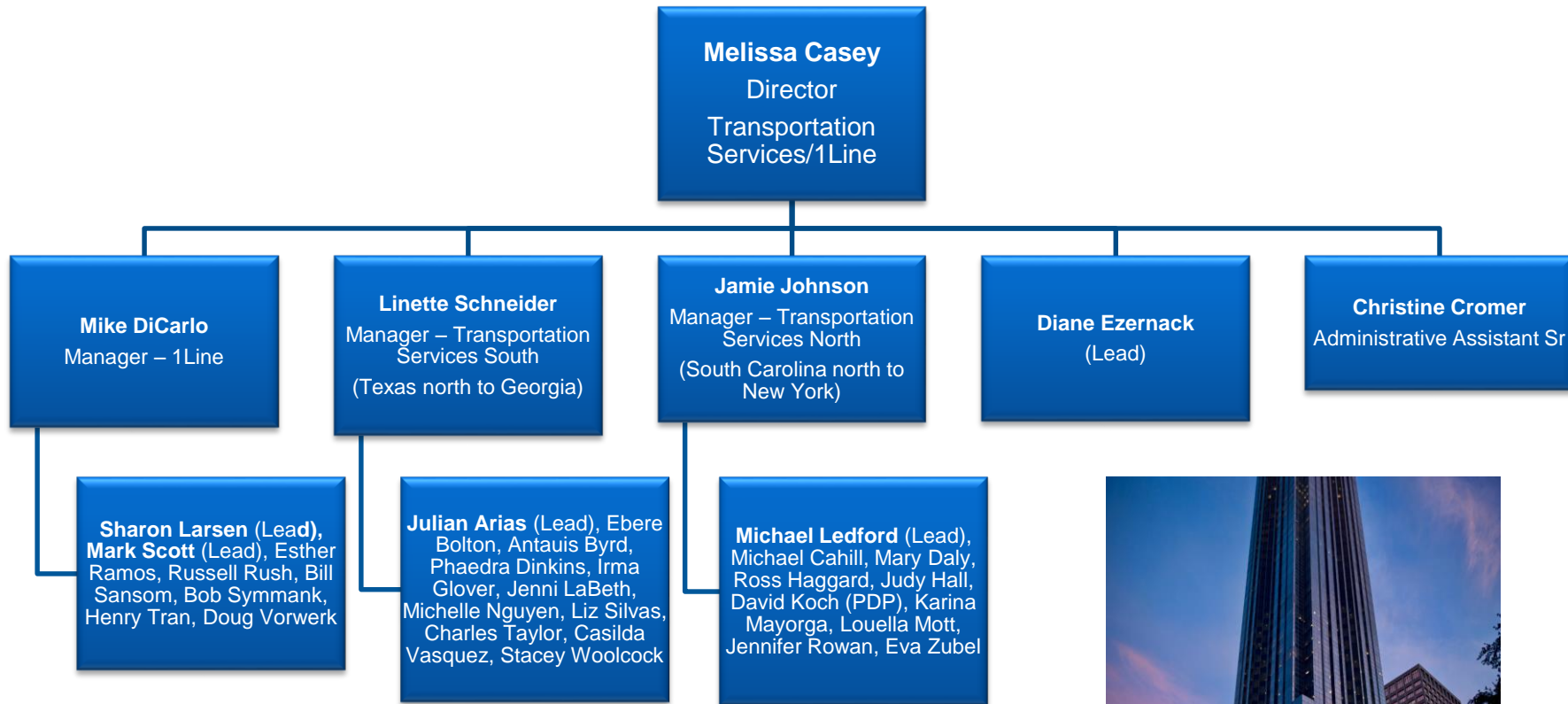
### > 1Line Changes

- What's New
- What's Coming





# Transportation Services/1Line Org Chart



# FERC Approved Priority of Service Tariff Filing

## RP18-314-000

- > On January 2, 2018, Transco submitted a significant tariff filing to clarify and revise the priority of services offered in our FERC gas tariff. The tariff filing and all related communications can be found under docket number RP18-314.
- > On March 28<sup>th</sup>, a technical conference was convened in Washington, DC.
- > On September 7<sup>th</sup>, FERC issued an order approving the filing without modification.
- > On October 9<sup>th</sup>, a request for rehearing was submitted to the FERC.
- > Communication plans are underway with more specific dates for webinars, training and an implementation date, but no earlier than March 1, 2019.
- > Transco will file actual tariff records reflecting the revised tariff provisions at least 30 days but not more than 60 days in advance of the date that the revised tariff provisions will become effective.

# Priority of Service

## New Changes Coming to 1Line

### > Nominations Area

- A new nomination request, NAESB transaction type 22 No-Notice Service, will be established for shippers to designate swing contracts for swing service delivery points.

### > Separation of PDA/Confirmation page

- The PDA page will be redesigned and separated from the confirmations page.
- The PDA page will be streamlined similar to the LDC Quick View for delivery locations:
  - The page will be grouped into three sections:
    - High Burns (TT22 and linked transactions)
    - Low Burns (transport and linked transactions)
    - Bundled Storages (both high and low burns)
  - UP/Down Contract level will no longer be an option for delivery locations.
- The PDA page for receipt locations design is unchanged.



# Priority of Service

## New Changes Coming to 1Line

### > Scheduling Pages

- The segment audit report will be streamlined to remove breaks for line connectors and directional flow added for each transaction.
- The review Select Scheduling Run page will be updated to include segment constraint information and additional filters.

### > Throughput Section Boundary (TSB) - Nominations only

- TSBs for nominations can be at location or segment level and will no longer contain high burn limit values in the evaluation.
- Linked transactions will continue to be included in TSBs.

### > HBLV Constraints

- High burn limit values will be evaluated at a location or in a segment separately from transportation transactions.

# Priority of Service

## New Changes Coming to 1Line

### > Reports

- The Operational Capacity Report will have three sections:
  - Segment includes: location TSBs, segment TSBs, and segment HBLVs
  - Mainline includes: receipts and deliveries
  - Storage: *no change*
- Portal report name changes and updates:
  - “TSB/HBLV Delivery Based Constraints” (currently named “Pipeline and Location Delivery Based Constraints”) will be redesigned to separate nomination constraint information from high burn limit value constraint information. Report will identify if the constraint type is location or segment based in addition to the scheduled or HBLV information breakdown by priority of service.
  - “Pipeline and Location Delivery Based Constraints – Physically Used” updated for new TSB segment constraint type and inclusion of North to South TSBs on Mainline

### > Critical Notice Postings

- The Market & Production Constraints 1Line Posting will be updated for the new constraint types

## Priority of Service New Pool Available in Zone 4

### > Station 95 Pool

- Will be located in Zone 4 OIA 2
- If moving gas between Station 85 and Station 95:
  - Transaction will be evaluated for capacity
  - Transaction will be subject to TSB constraint evaluation
  - No fuel or transport charges assessed
- Commodity charges and fuel will apply to transactions out of the Station 95 pool delivered elsewhere except to Station 85



# Imbalance Management

## > Reminder to customers to manage their imbalances:

- Daily imbalances are allowed up to 10%
- Cumulative imbalances are allowed up to 5%
- The thresholds are defined under the rate schedule (contract level) and resolved under Transco's GT&C section 25 (zone level)
- So not to be at risk for OFO, please manage imbalances within these thresholds

## > Under the Rate Schedule(s):

- For daily imbalances between receipts and deliveries exceeding 10 percent or 1,000 dth (whichever is greater) or cumulative imbalances exceeding 5 percent or 1,000 dth (whichever is greater) Seller, upon notice to Buyer, which notice shall be given at least 24 hours in advance, unless exigent circumstances dictate otherwise, may issue Operational Controls or Operational Flow Orders pursuant to Sections 51 and 52 of the General Terms and Conditions to require adjustments to Buyer's daily scheduling of receipts or deliveries over a reasonable period of time to maintain a concurrent balance when the operational integrity of Seller's pipeline system would otherwise be threaten.

# Imbalance Management Tools

## Location Specific OFO



- > Transco has two methods by which it may issue a Location Specific OFO:
  - **Method 1**
    - Applicable to only those locations in a designated area that meet the following criteria:
      - Located within the identified “area” in which the operational integrity of the system is at risk;
      - The scheduled to allocated variance is in the direction of the problem (Due To/Due From)
      - The scheduled to allocated variance exceeds an identified “volume threshold”
      - The scheduled to allocated variance exceeds an identified “percentage threshold”
  - **Method 2**
    - Applicable to all locations with a scheduled to allocated variance in the direction of the problem in a designated area where the operation integrity of the system is at risk
- > Buyers with imbalances/variance greater than the tolerance specified in the OFO notice at the designated locations will be subject to the penalties specified in Section 52 of the General Terms and Conditions of Transco’s FERC Gas Tariff.

# Imbalance Management Tools

## Shipper Specific Imbalance OFO

- > Transco may issue a Shipper Specific Imbalance OFO that would be applicable to those shippers that meet the following criteria:
  - Shipper’s transportation activity is located within the affected area of the system
  - Shipper’s imbalance is in the direction of the problem (Due To/Due From)
  - Shipper’s overall cumulative imbalance exceeds an identified “volume threshold”
  - Shipper’s overall cumulative imbalance exceeds an identified “percentage threshold”
  
- > Buyers with imbalances/variance greater than the tolerance specified in the OFO notice at the designated locations will be subject to the penalties specified in Section 52 of the General Terms and Conditions of Transco’s FERC Gas Tariff

# Resources for Imbalance Management

## > Reminders to Shippers and Operators:

- Locations: To avoid falling on the list of locations for a Scheduling OFO, operators need to confirm close to anticipated flow. There are several pages and reports available to assist in monitoring that the percentage of scheduled vs allocated is within Transco's accepted tolerances.
  - Page to view: Allocated Quantities Page
  - Reports to view: Allocation Audit LDC (Daily Snapshot); Daily Location Allocation
- Shippers: To avoid falling subject to an Imbalance OFO, shippers need to maintain that their allocated receipts and deliveries are within Transco's accepted tolerances. There are several pages and reports available to assist in monitoring both the daily and cumulative imbalance percentages.
  - Page to view: Monthly Imbalance Summary page
  - Reports to view: Shipper Daily Imbalance Statements; Monthly Shipper Imbalance Statements; Interconnect Statements

> Transco is an active party in the confirmation process and prefers for the location operators to confirm in line with physical flow.

# 1Line New & Upcoming Changes

## > November 2017:

- Storage eContracts
  - eContracting expanded to include open access storage rate schedules (WSS-OA, ESS, EESWS, and LNG)
- Contracts/Locations
  - New Contracts/Locations page to allow service requesters to view all locations on their firm or storage contracts

## > March 2018:

- Capacity Model Redesign
  - Incorporate Traditional & Non-Traditional rights on the “Available Scheduled Qty by Location” page
  - Redesign “Avail Scheduled Qty by Segment” page to simplify and add more filters

# 1Line New & Upcoming Changes

## > October 2018:

- Market Area Pooling Changes
  - Changes to the Zones 5 & 6 pools to charge fuel and commodity on transactions leaving the pool. Consistent with the fuel/commodity charges at Pooling Station 85.
- Atlantic Sunrise
  - Activated new Central Penn North & Central Penn South lines and introduced “Route” functionality for Zone 6 shippers.

## > 4<sup>th</sup> Quarter 2018:

- User Forum Requests:
  - Adding sorting and filtering options to the critical and non-critical notice pages;
  - Adding 7<sup>th</sup> tab to Customer Activities;
  - A new email to inform the releasing party when a pre-arranged bid is accepted;
  - Allow shippers to withdraw Post cycle nominations;
  - Allow multiple nominations to be deleted at one time.



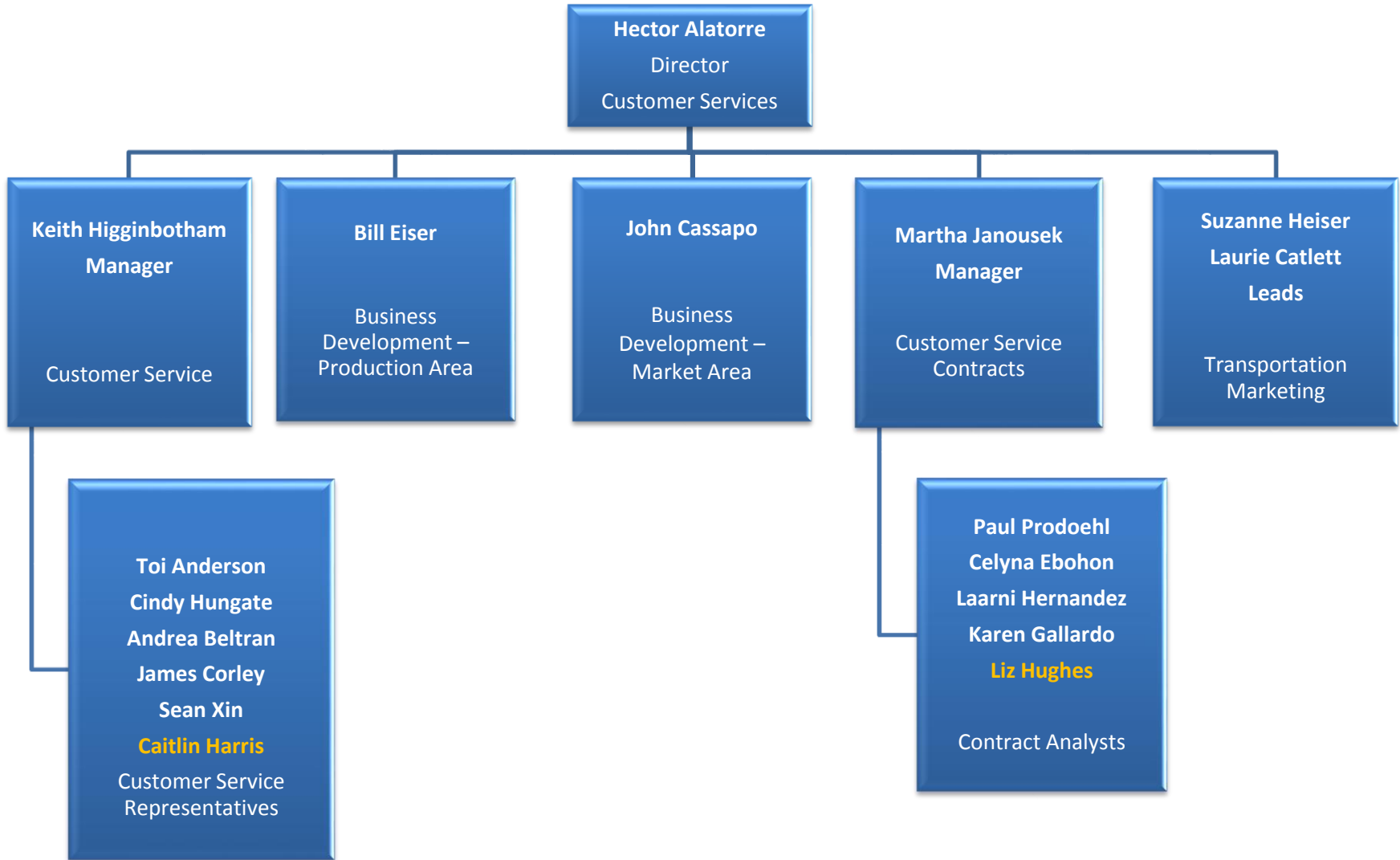
# 1Line New & Upcoming Changes

## > 4<sup>th</sup> Quarter 2018 (continued):

- Capacity Release – Temporary Multi-Path Releases
  - Transco will allow service requesters to release all contract paths under the same temporary release offer.
  - This will eliminate the need for one contract to create a separate capacity release offer for each contract path.
- Gulfstream – Segmentation Tools
  - The MDQ Calculate nominations function and the Segment Audit report will be available for Gulfstream shippers.

# Customer Services

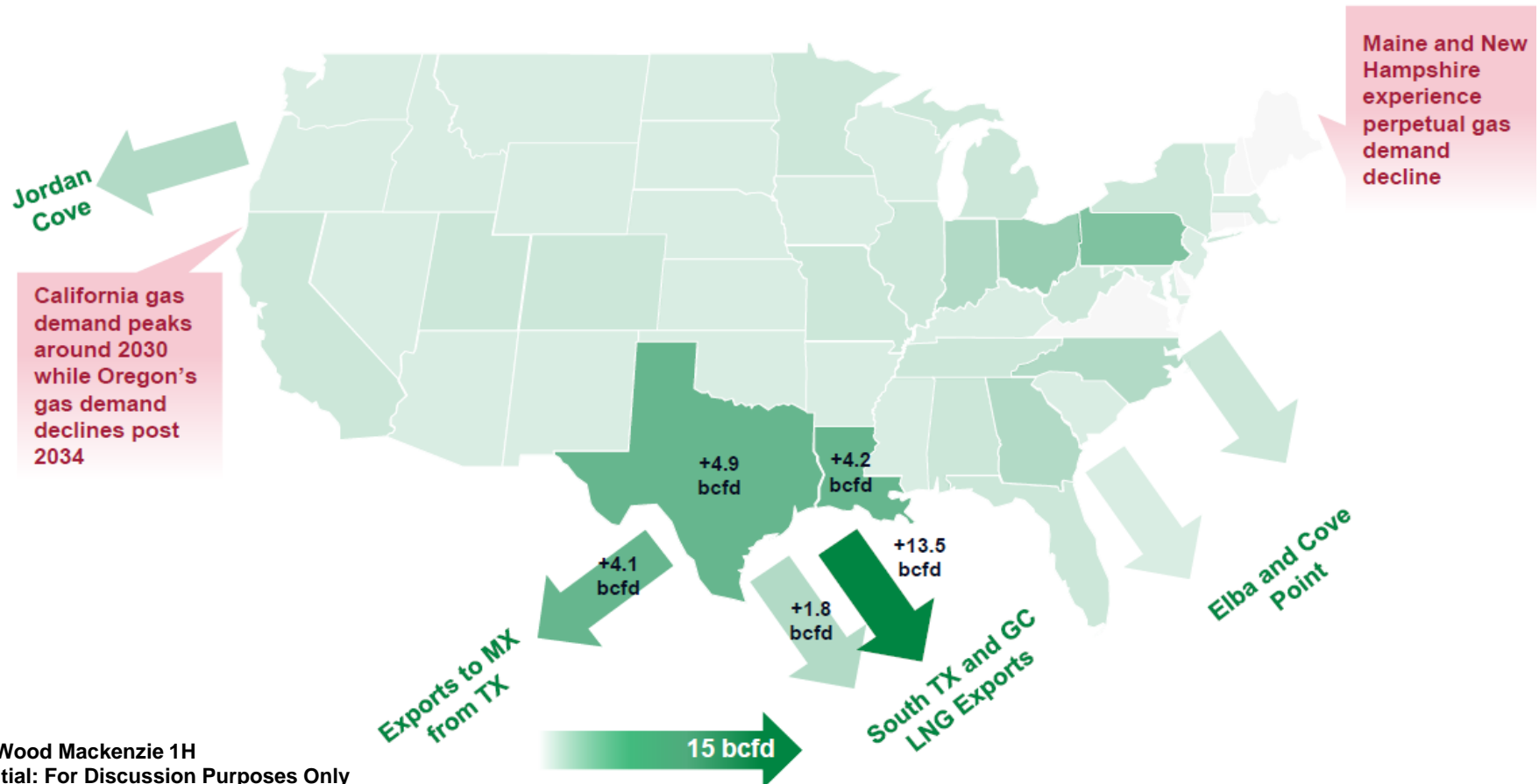
# Commercial Operations - Customer Services



# More than 55% of demand and export growth in 2018-2040 is in or transits Texas and Louisiana

Several states in New England or the west with high penetration of renewable generation could experience flat to negative gas demand growth in the long term

Demand growth between 2017 and 2040



Source: Wood Mackenzie 1H  
Confidential: For Discussion Purposes Only

# Wharton Storage Update & System Maintenance



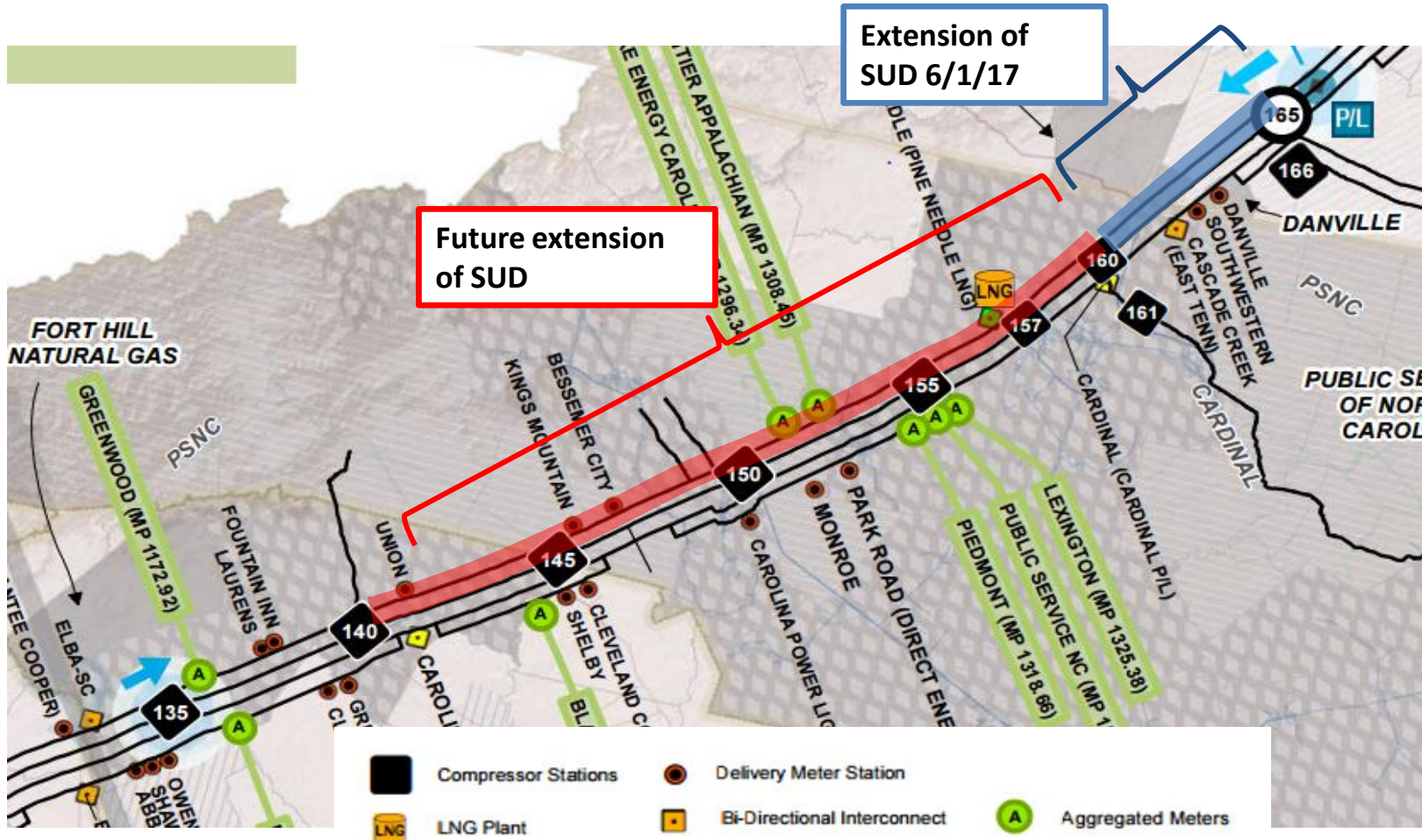
## Wharton Storage

- > Transco is currently undertaking a comprehensive assessment of Station 535, the storage field and the related injection and withdrawal lines to and from storage.
- > The target was to have the assessments and all necessary repairs complete on both the storage field and the compressor station in time to provide service for the 2018-2019 withdrawal season. Given unanticipated delays, the expected in-service date is now in the January 2019 timeframe.
- > The objective of the assessment is to ensure that all of the Wharton Storage Facilities continue to operate in a safe and reliable manner once the repairs are complete and placed back in service.
- > Transco intends to continue to implement measures designed to mitigate potential impacts of this event on its ability to provide Rate Schedule GSS service.
- > We will keep you apprised of any additional developments, including any limitations on the availability of storage services provided under Rate Schedule GSS.

# SUD Changes Effective - 10/1/2018

## Mainline SUD - North

Atlantic Sunrise – The SUD from Rivervale to Station 160 will be extended south to Station 140.

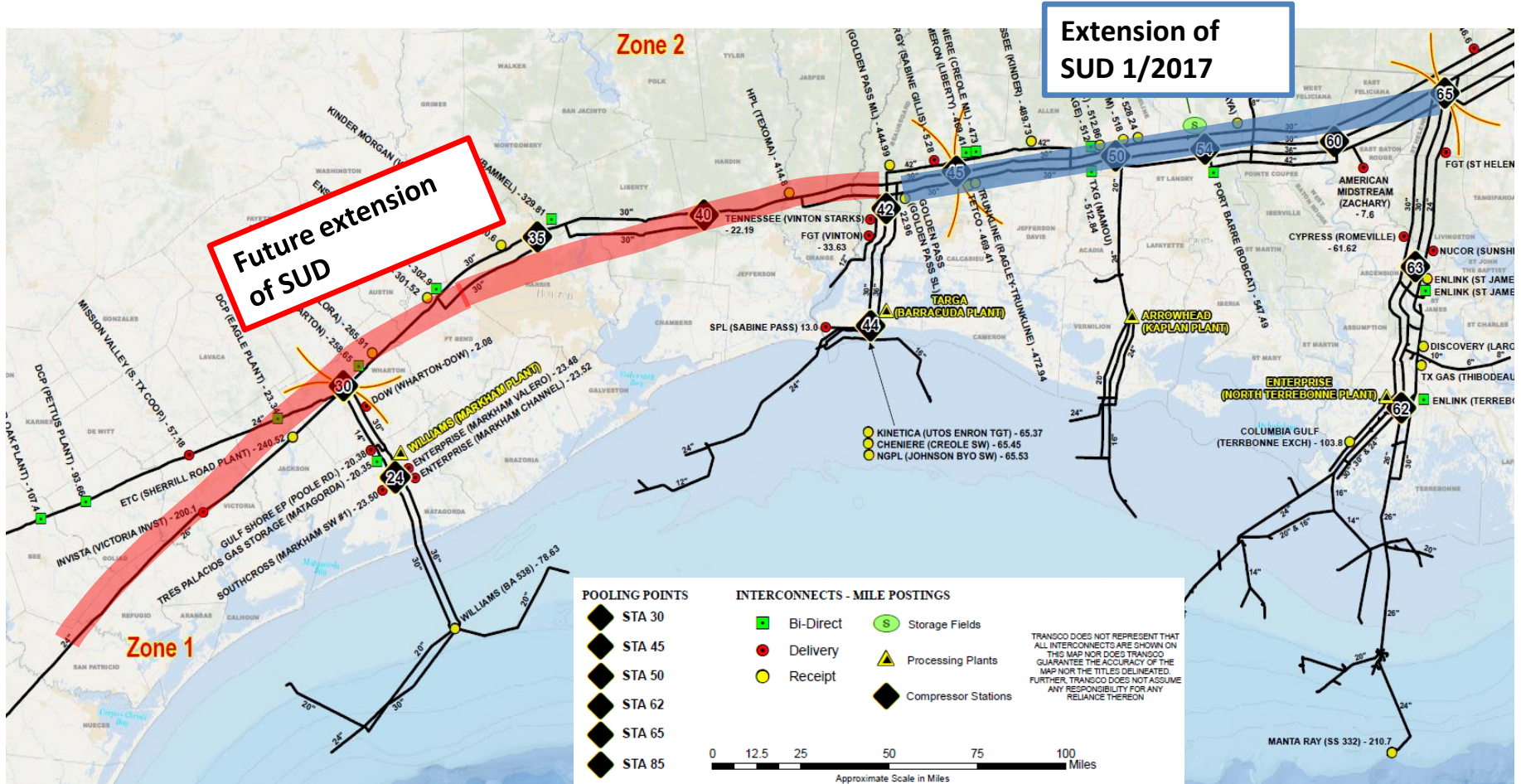




# SUD Changes Effective – 1/1/2019

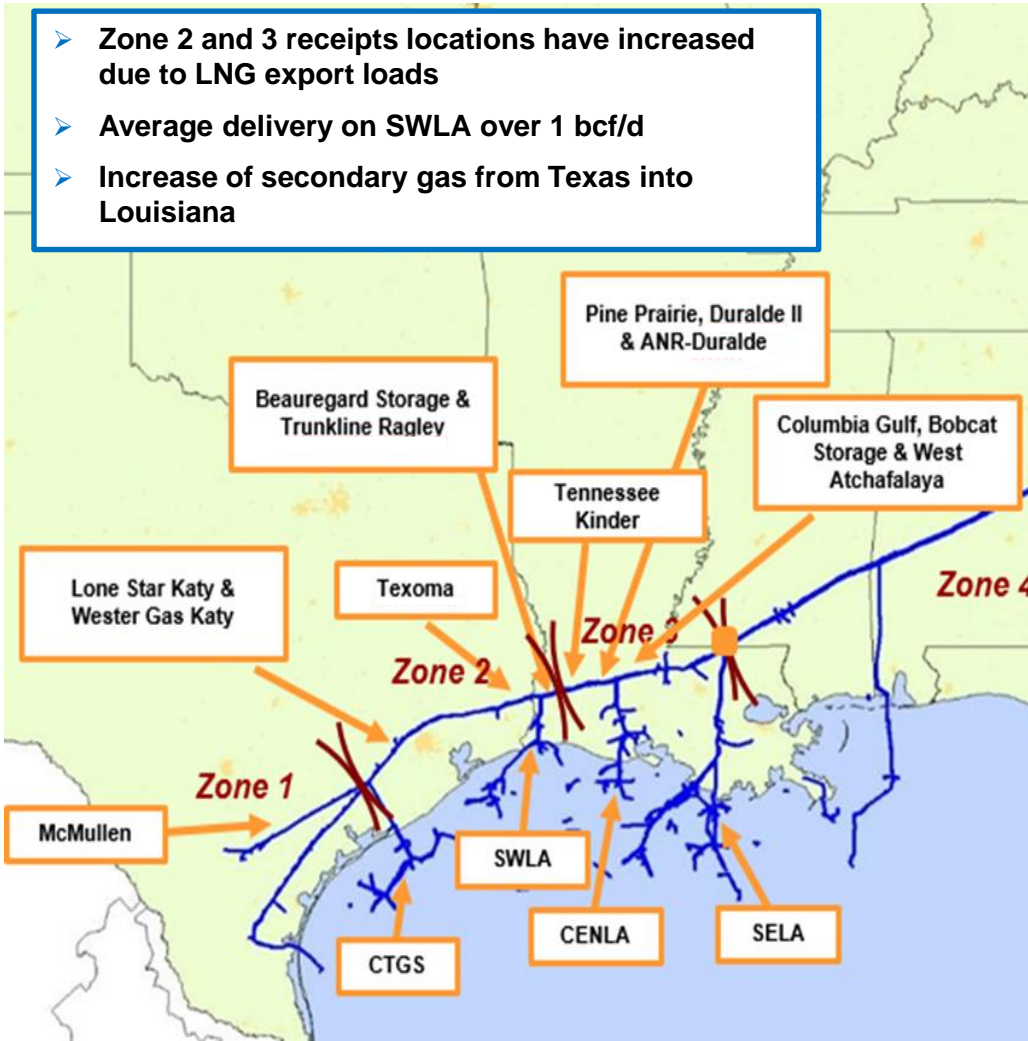
## Mainline SUD - South

Gulf Connector – The SUD from Station 65 to Station 42 will be extended south to Station 17



# Zones 1, 2, and 3 Transco System Supplies

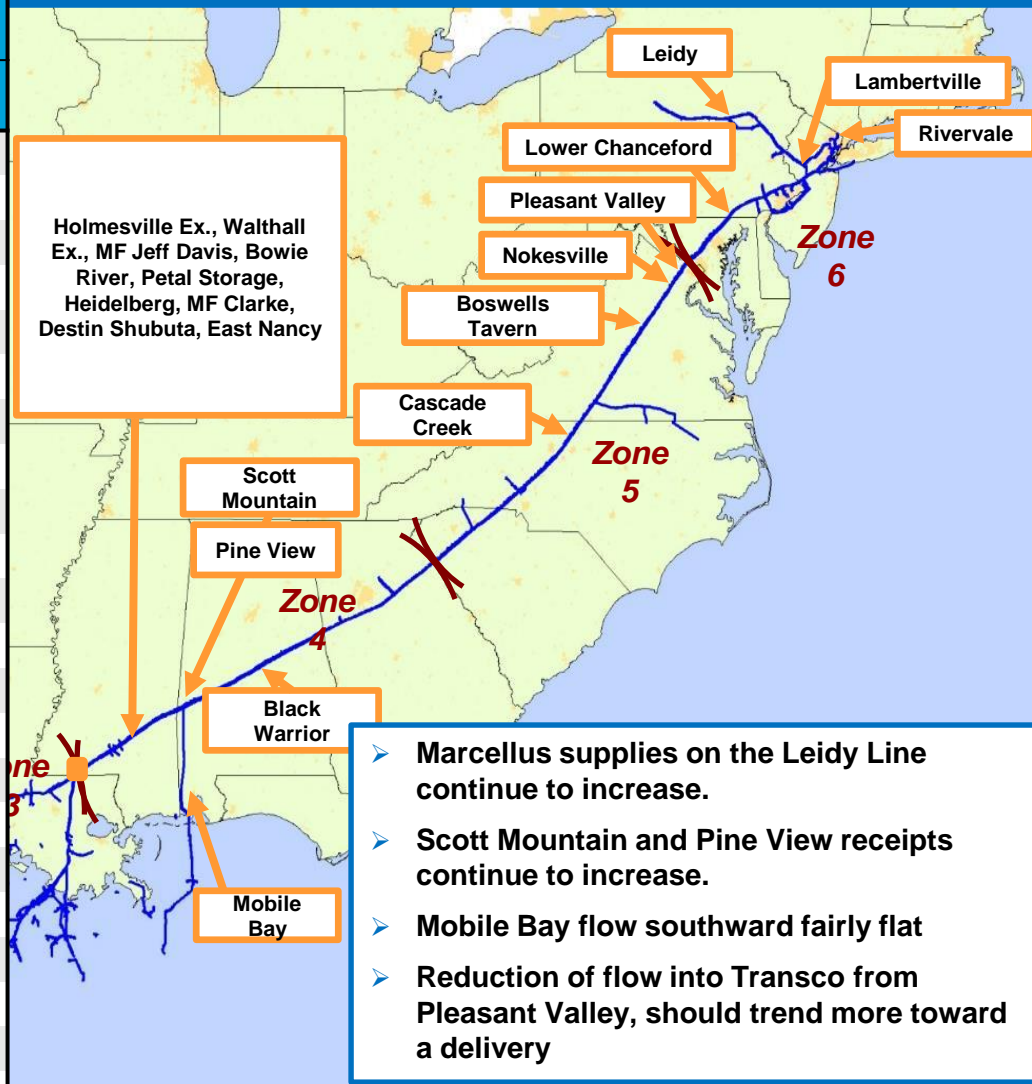
- Zone 2 and 3 receipts locations have increased due to LNG export loads
- Average delivery on SWLA over 1 bcf/d
- Increase of secondary gas from Texas into Louisiana



Receipt or Lateral	Volume (MMscf)		
	Receipt or <u>Receipt / Delivery / Net</u>		
	09-01-2016 to 08-31-2017	09-01-2017 to 08-31-2018	% Chg
<u>McMullen</u>	56 / (25) / 31	59 / (35) / 24	(23%)
<u>CTGS</u>	180 / (109) / 71	158 / (111) / 47	(34%)
Lone Star Katy	5	29	446%
Western Gas Katy	7	13	79%
Texoma	4	54	1261%
<u>SWLA</u>	156 / (335) / (179)	132 / (1,020) / (888)	(396%)
Beauregard Storage	2	24	878%
Trunkline Ragley Ex	19	18	(6%)
Tennessee Kinder Ex	113	141	25%
Pine Prairie Storage	126	373	197%
Duralde II	203	389	92%
ANR-Duralde Evan.	173	275	60%
Eunice Ex.	21	114	451%
<u>CENLA</u>	118 / (6) / 112	110 / (9) / 101	(10%)
Columbia Gulf Eunice	204	294	44%
Bobcat Storage	56	69	23%
West Atchafalaya	34	209	521%
<u>SELA</u>	137 / (64) / 73	156 / (56) / 100	37%

# Zones 4, 5 and 6 Transco System Supplies

Receipt or Lateral	Volume (MMscf)		
	Receipt or Receipt / Delivery / Net		
	09-01-2016 to 08-31-2017	09-01-2017 to 08-31-2018	% Chg
Holmesville	213	293	38%
Walthall Ex.	51	49	(5%)
M.F. Jeff Davis Ex.	19	9	(51%)
Bowie River	47	82	75%
Petal Storage	42	62	48%
Heidelberg Ex.	163	157	(4%)
M. F. Clarke Ex.	9	15	63%
Destin Shubuta	20	19	(6%)
East Nancy	81	130	60%
Scott Mountain	1025	1164	14%
Pine View	878	1007	15%
<b>Mobile Bay</b>	<b>561 / (1,282) / (721)</b>	<b>479 / (1,182) / (703)</b>	2%
Black Warrior	25	31	24%
Cascade Creek	111	115	3%
Boswells Tavern	129	84	(35%)
Nokesville	66	66	< 1%
Pleasant Valley	83	49	(41%)
Lower Chanceford	831	849	2%
Lambertville	67	78	15%
Linden Oakford	21	24	12%
Rivervale	212	211	(< 1%)
<b>Leidy</b>	<b>3,055 / (1,015) / 2,040</b>	<b>3,117 / (922) / 2,195</b>	8%





## Rate Case Filed – August 31, 2018

- Rate Case was filed to comply with a rate case filing obligation under a prior settlement and to recover costs associated with increased capital expenditures. The increase in operation and maintenance expenses, depreciation expense and return and related income taxes reflects the significant number of expansion projects placed in service since Transco's last rate case.
- The rates are proposed to be effective October 1, 2018, but the increased rates are expected to be suspended until March 1, 2019.
- The test period for the filing consists for the twelve months ended May 31, 2018, adjusted for changes which are known and measurable with reasonable accuracy and which will become effective within nine months thereafter, i.e., by February 28, 2019.
- The rates are proposed to be effective October 1, 2018, but most are expected to be suspended until March 1, 2019. Only those incrementally-priced Rate Schedule FT services which experience an overall decrease in rate, on a combined 100% load-factor basis, will become effective on October 1, 2018. Appendix B to the filing supports which rates are "overall rate" decreases that we expect will be made effective without suspension.
- As a result of a recently concluded transaction, Transco is now a wholly-owned subsidiary of The Williams Companies, Inc., a publicly traded Delaware Corporation. Thus, consistent with Commission policy, Transco is permitted an income tax allowance in its rates, because it is now a natural gas company organized as a pass-through entity whose income or losses are consolidated on the federal income tax return of its corporate parent.

# Rate Case Filed – August 31, 2018 (Continued)



- The rate case is based on a cost of service of \$2,450,631,401 and a rate base of \$8,018,461,479.
- The Tax Cuts and Jobs Act of 2017 reduced the federal corporate income tax from 35 percent to 21 percent. As a result of the lower federal income tax rate, Transco proposes to flow back the net excess deferred income taxes, in the amount of \$743,498,556, to customers over the estimated remaining average life of the property giving rise to the excess ADIT, which is 21.45 years (\$34.7 million per year).
- The cost of service used in this filing reflects and overall after-tax return of 12.43% (16.09% Pretax). Transco based the filing on its own capital structure and cost of debt, and a rate of return on equity of 16.40%.

## 100% Load Factor FT Telescoped Rates

Zone	Pre-filed Rates			Docket No. RP18 Rates			Rate Increase
	Reservation	Commodity	Total	Reservation	Commodity	Total	
Zone 4	\$0.28981	\$0.01439	\$0.30421	\$0.39770	\$0.01705	\$0.41475	\$0.11055
Zone 5	\$0.40353	\$0.02215	\$0.42569	\$0.56319	\$0.02355	\$0.58674	\$0.16106
Zone 6	\$0.47117	\$0.02669	\$0.49787	\$0.65824	\$0.02759	\$0.68583	\$0.18797

# Unsubscribed Capacity



## FT Capacity

311,350 FT; Non-seasonal; Mobile Bay MP261 to Pooling Station 85 Z4A

37,346 FT; Non-seasonal; Southeast Louisiana Lateral Station 62-65

3,763 FT (ACQ); Seasonal (March 1- November 30) Telescoped Capacity

## Eminence ESS Rate Schedule

637,081 dt; Withdrawal: 75,725 dt/d; Injection: 6,324 dt/d.

580,720 dt; Withdrawal 68,818 dt/d; Injection 5,743 dt/d. available 11/1/2018.

54,996 dt; Withdrawal 6,518 dt/d; Injection 544 dt/d. available 11/1/2018.

47,484 dt; Withdrawal 5,684 dt/d; Injection 474 dt/d. available 3/1/2019.

276,255 dt; Withdrawal 33,074 dt/d; Injection 2,761 dt/d. available 4/1/2019.

458,184 dt; Withdrawal 54,855 dt/d; Injection 4,578 dt/d. available 4/12/2019.

# Business Development

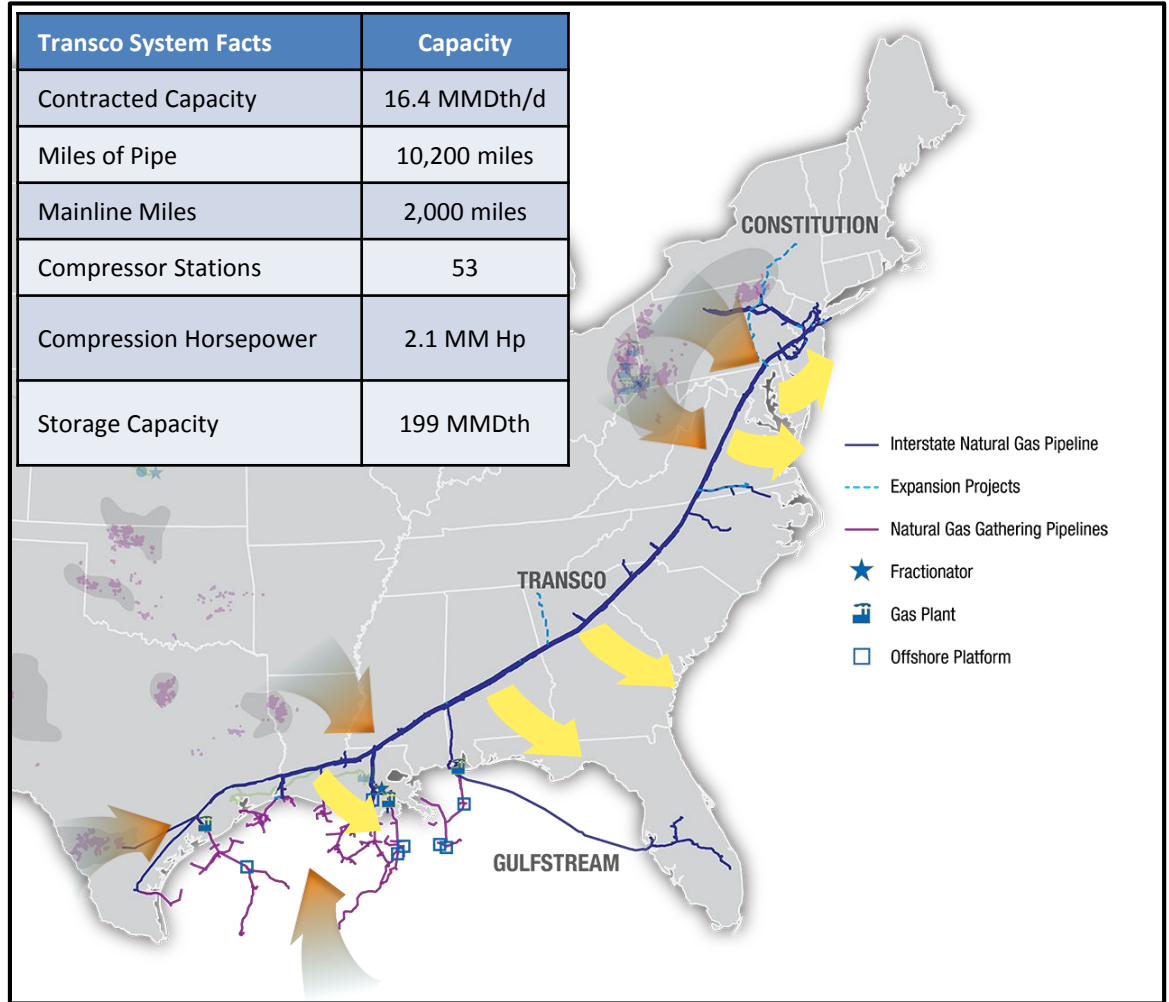


# Transco: Access to Cost-effective Supplies and Premium Markets

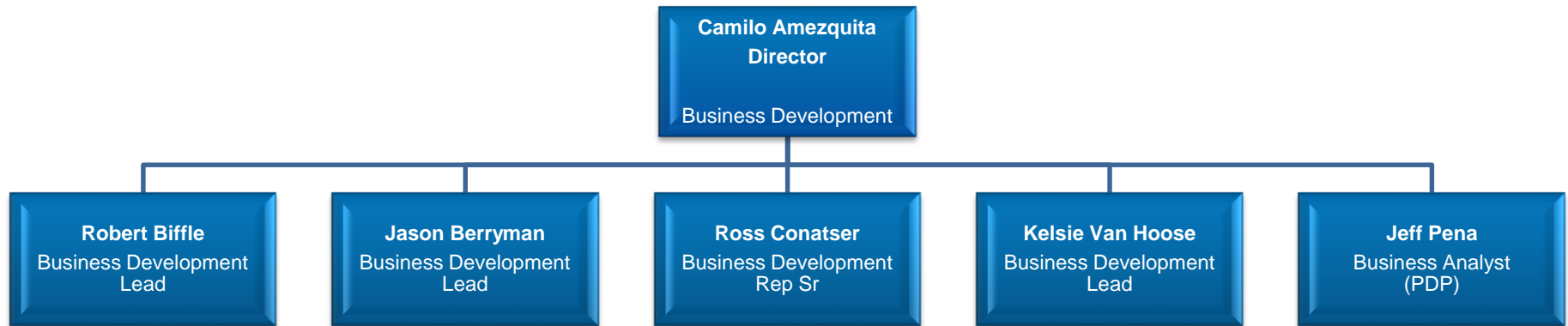
**Nation's largest-volume natural transmission gas pipeline**

**Extends 1,800 miles from South Texas to New York City**

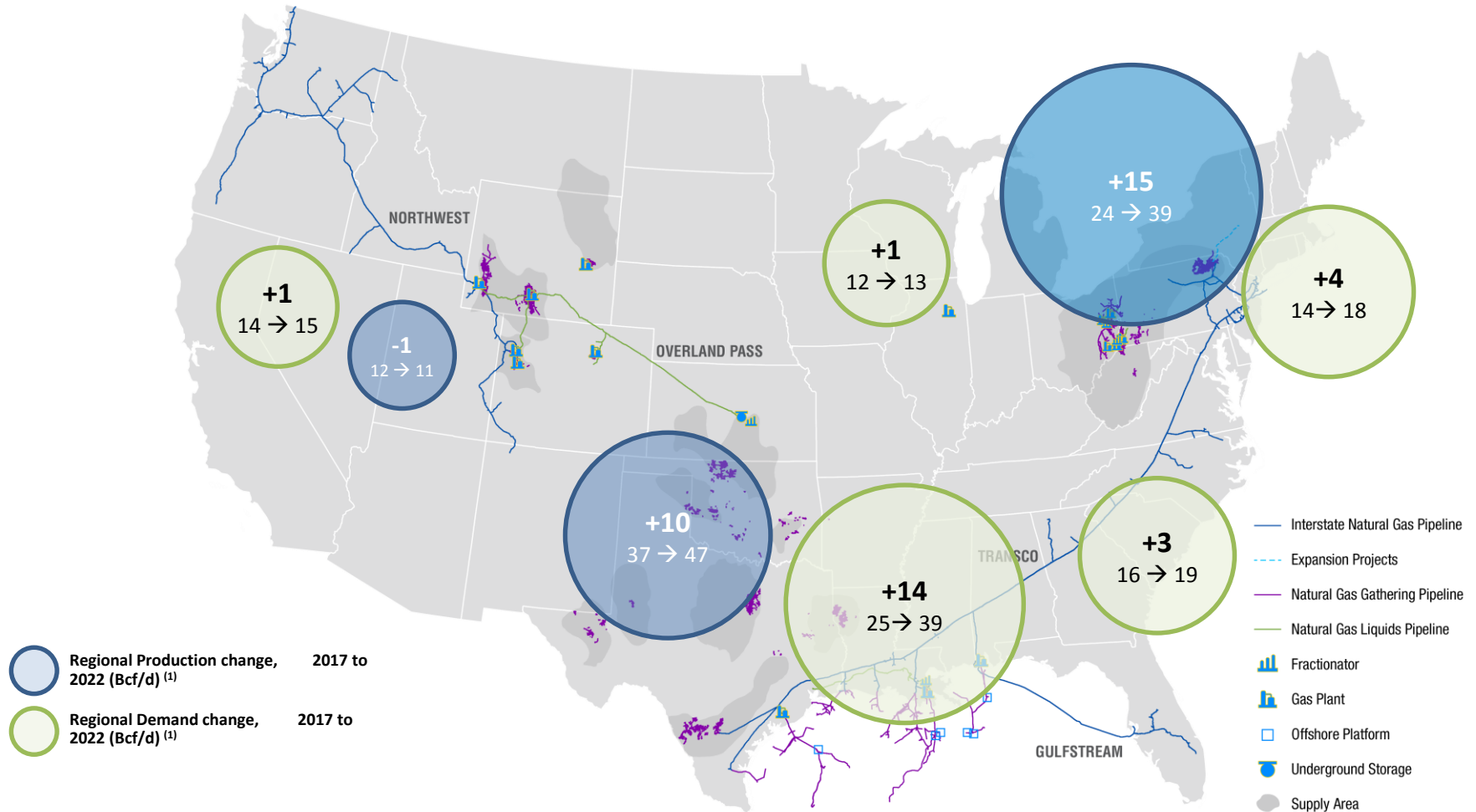
**Delivers approximately 10% of U.S. gas to major markets like New York City, Philadelphia & Washington D.C.**



# Business Development Org Chart



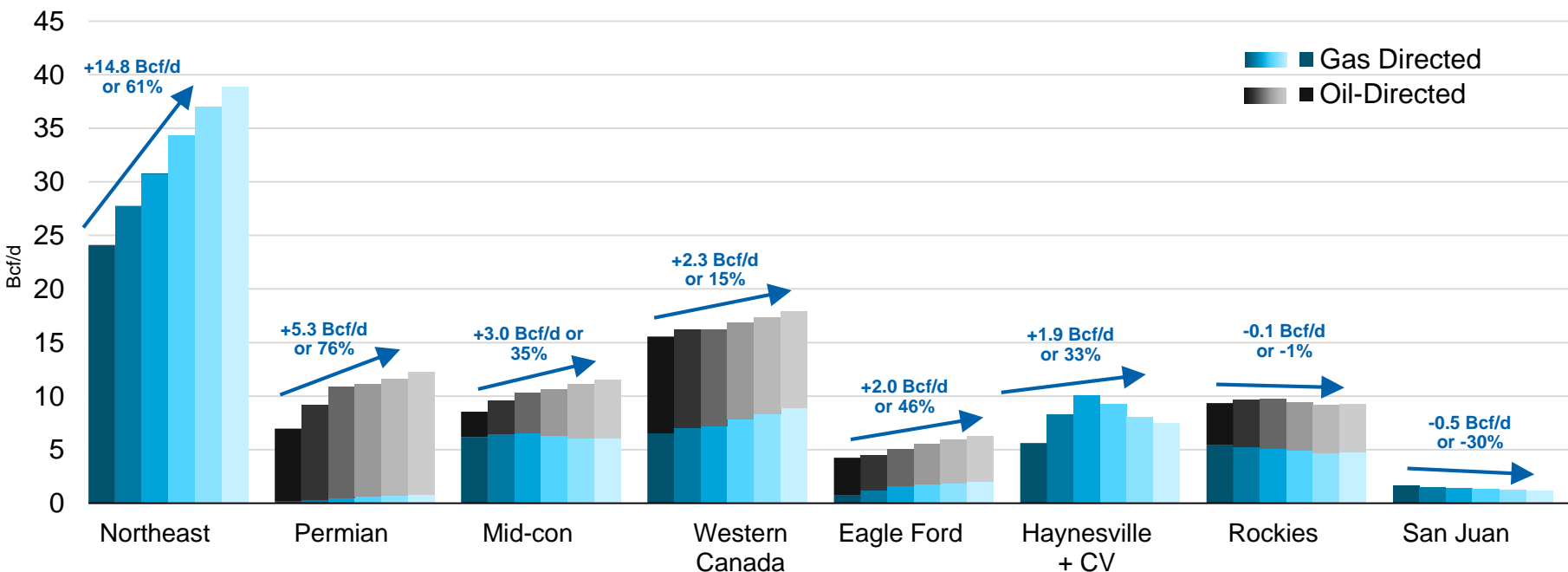
# Growing regional natural gas demand requires additional infrastructure to connect with production basins



(1) Size of bubble indicates magnitude of 2022 production or demand

# Supplies from advantaged basins must grow to meet forecasted demand

NATURAL GAS FORECASTED PRODUCTION BY REGION & WELL TYPE (2017–2022)



Range: 2017 – 2022

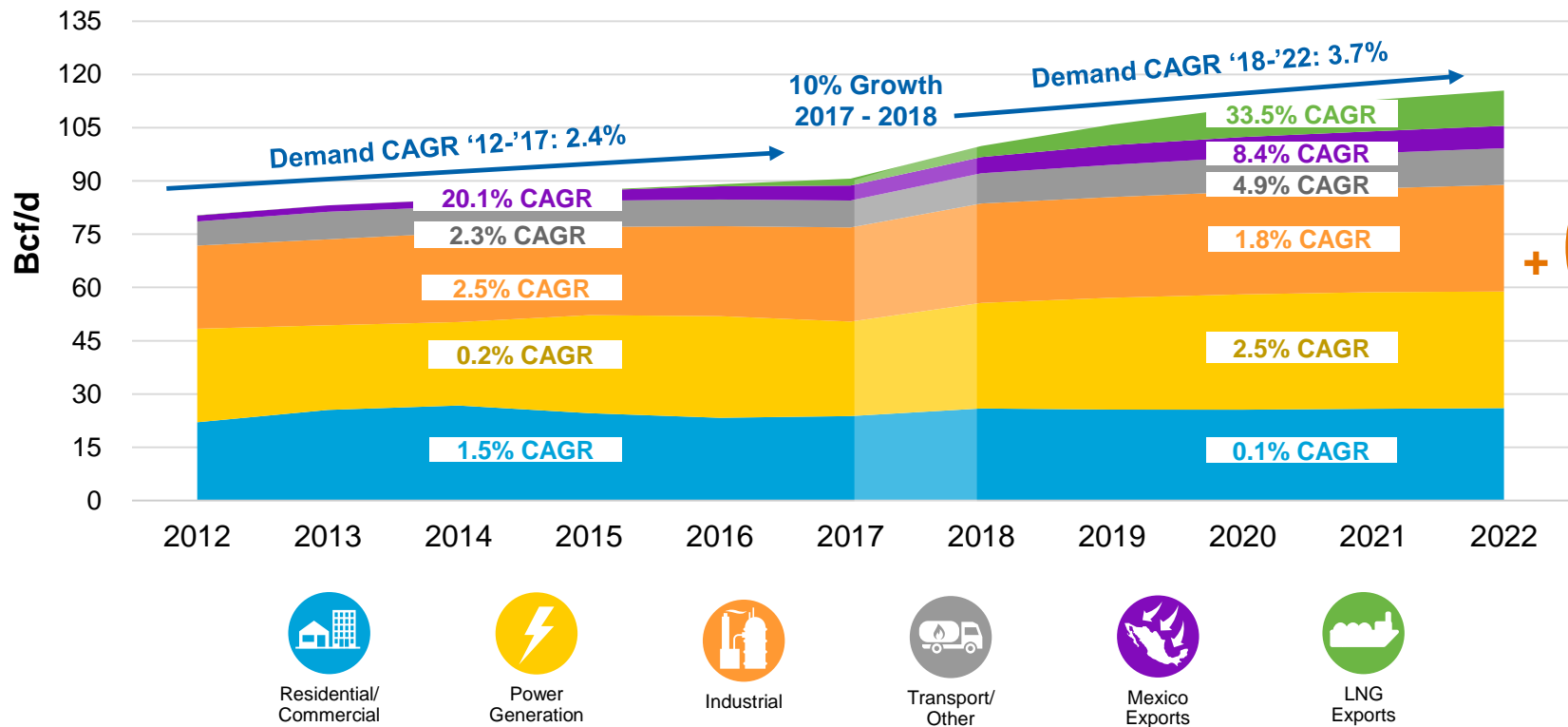
Note: Chart excludes Eastern Canada, Alaska, West Coast, Barnett, Gulf Coast conventional & GOM production that amounts to a decline of 2.4 Bcf/d through 2022; CV=Cotton Valley

Source: Wood Mackenzie 1H

'18

# Robust domestic and global natural gas demand forecasts continue to rise, reaching 116 Bcf/d by 2022

NORTH AMERICAN NATURAL GAS DEMAND BY SECTOR (2012–2022)

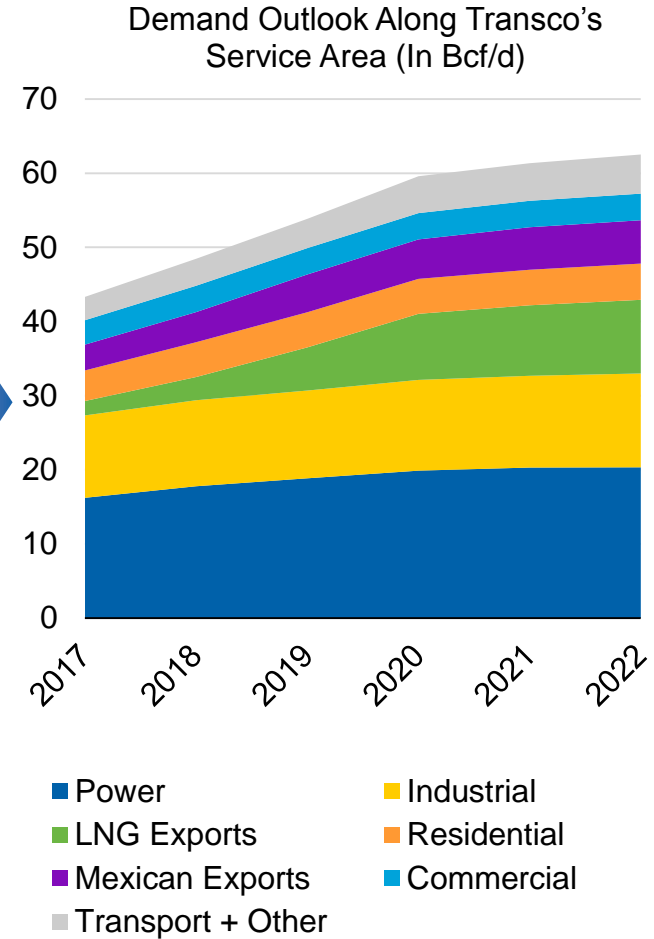
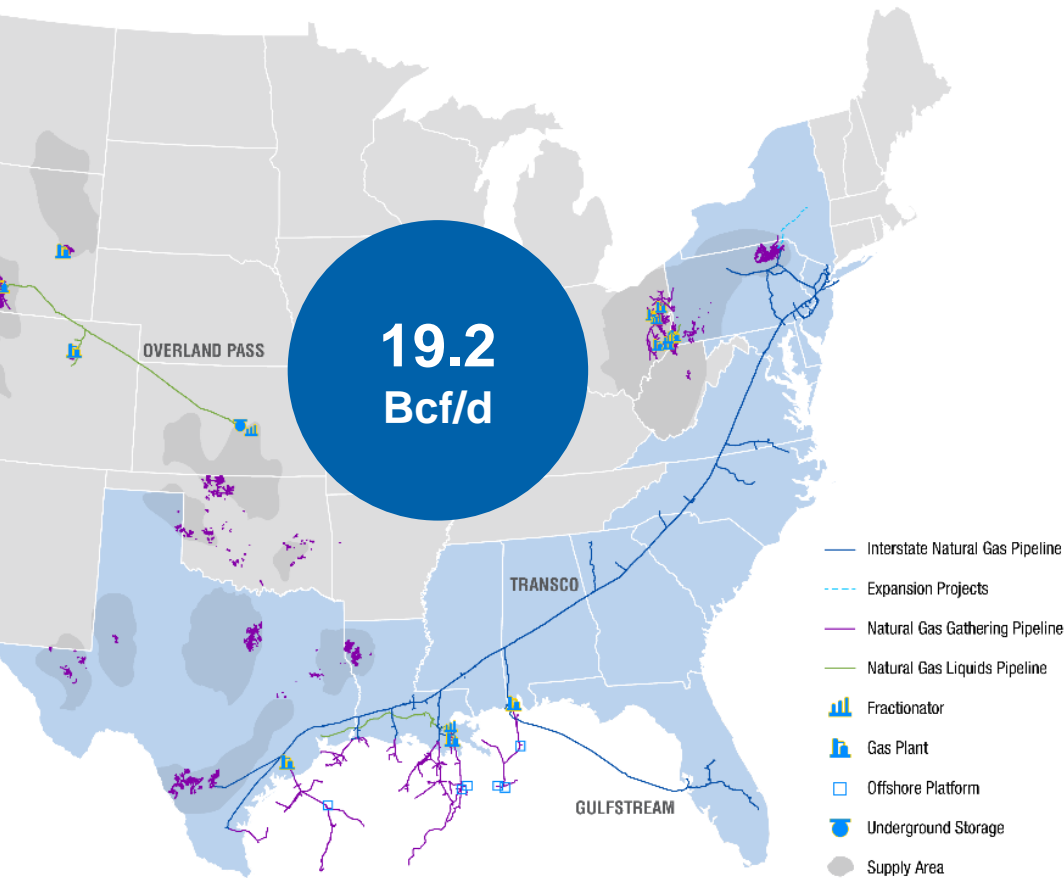


~1,045 Mbpd of incremental ethane represents ~2.9 Bcf/d of natural gas\*

North American demand growth increased by 3 Bcf/d from prior forecast

Sources: Wood Mackenzie 1H '18; WMB Analytics; \*Based off 90% utilization of announced North American ethane export capacity and North American ethylene plant capacity '18-'22

# Robust domestic and international demand drives Transco growth through 2022

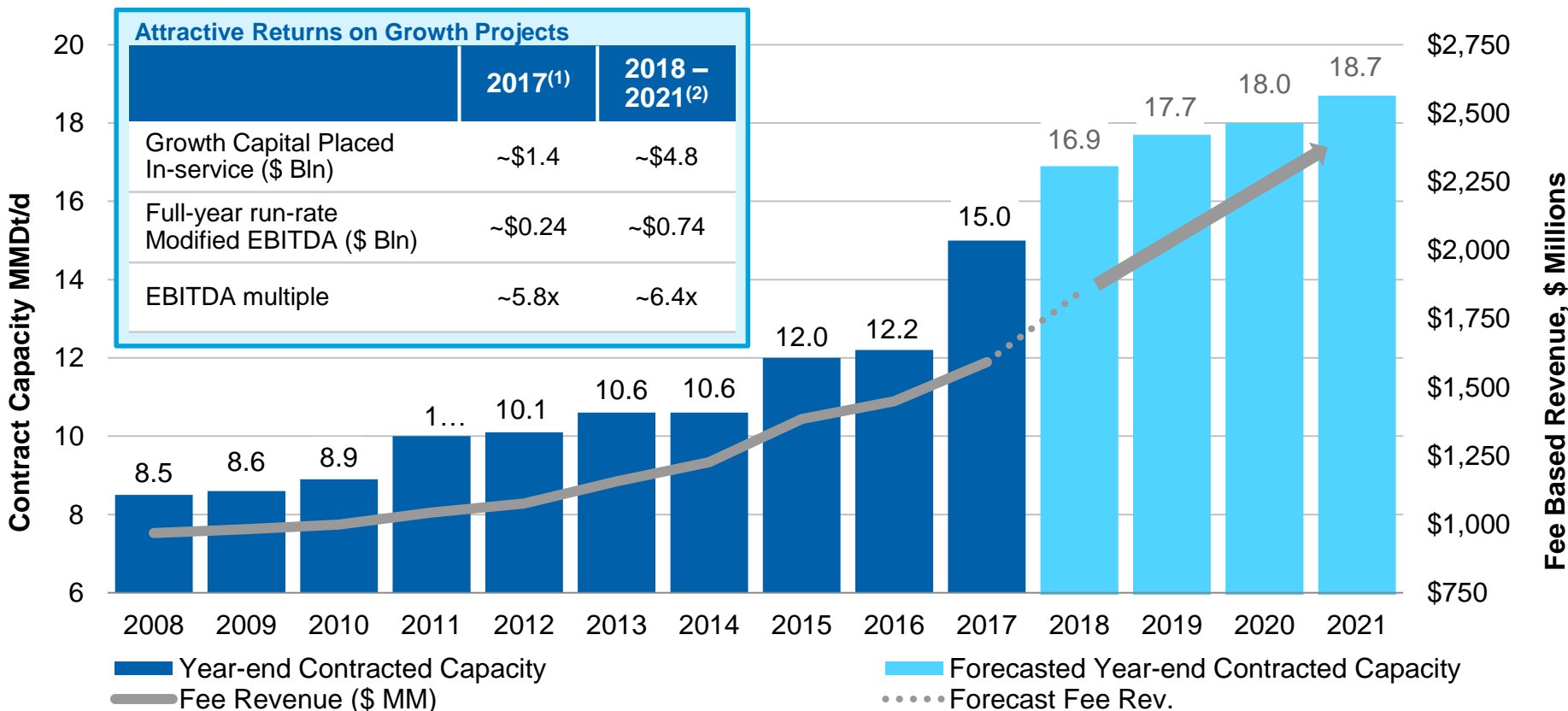


Source: Wood Mackenzie 1H 2018



# Unprecedented growth on Transco demonstrates competitive advantage

## TRANSCO CONTRACTED CAPACITY AND FEE-BASED REVENUE



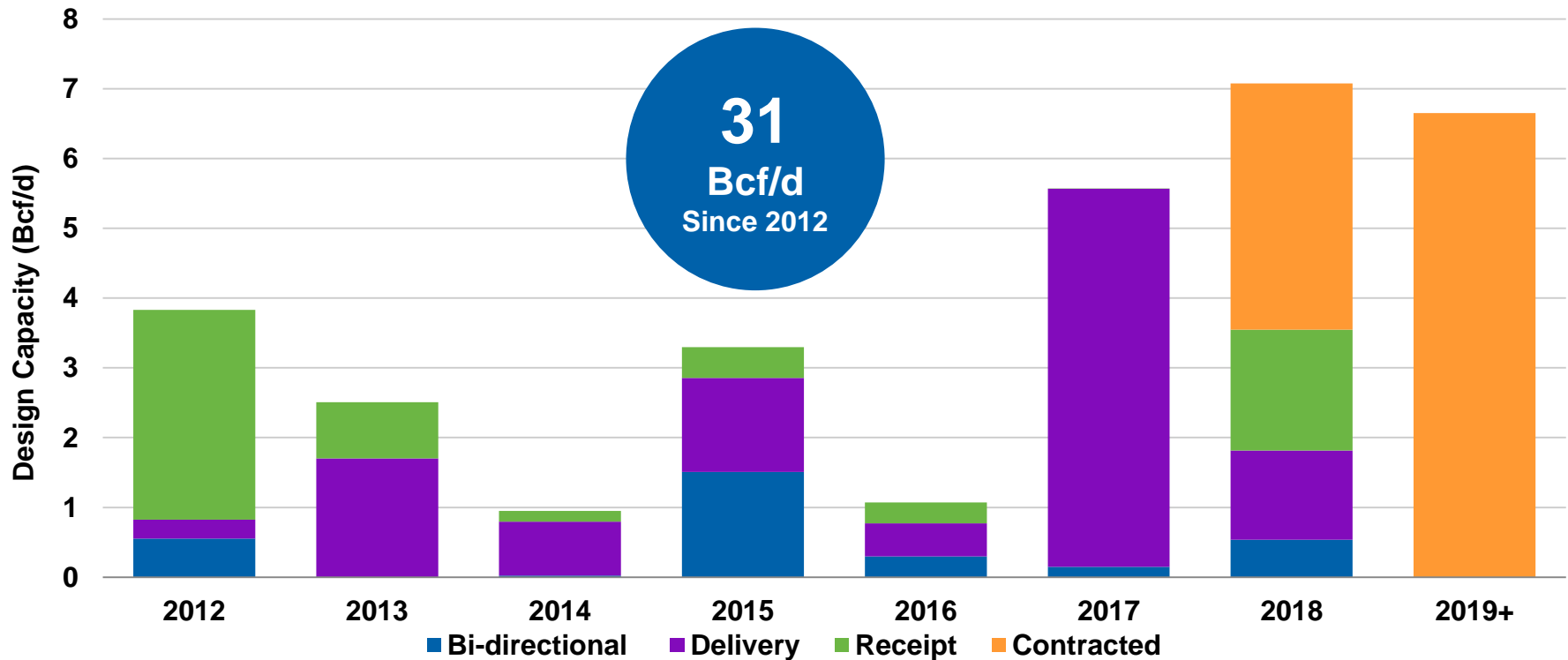
(1) Includes Gulf Trace, Hillabee (Ph. 1), Dalton, NY Bay Expansion, Virginia Southside II, Garden State I

(2) Includes Garden State II, Atlantic Sunrise, Gulf Connector, St. James Supply, Rivervale South to Market, NE Supply Enhancement, Hillabee (Ph. 2), Gateway, Southeastern Trail



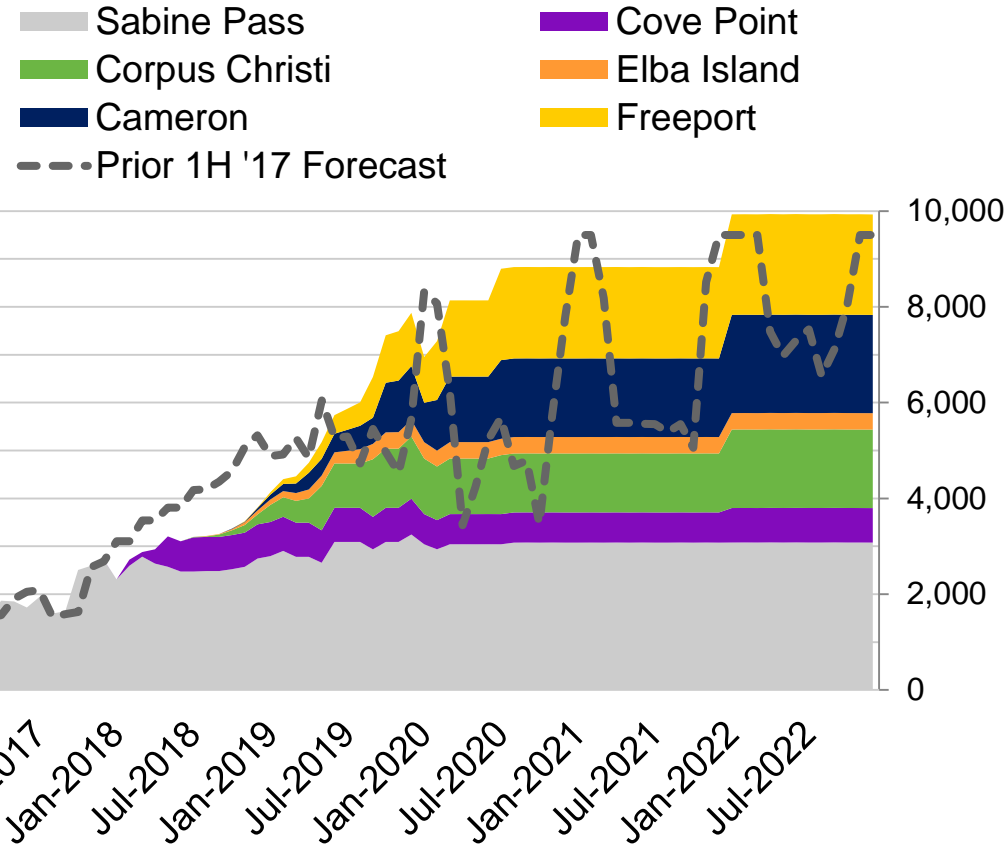
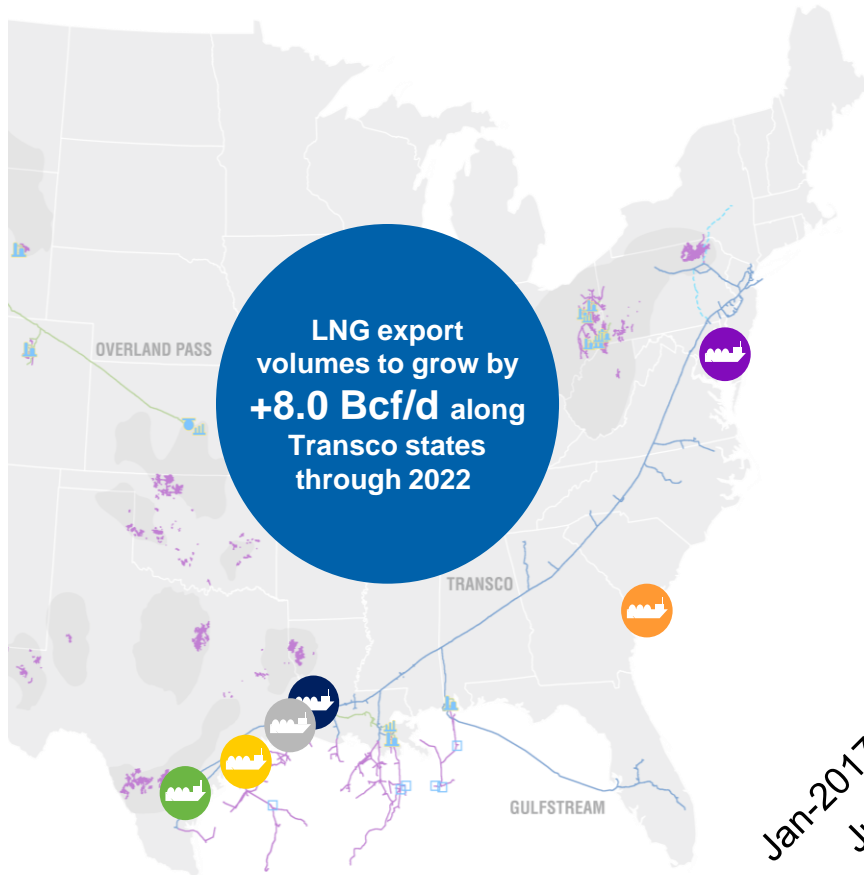
# Interconnects reflect unique position of Transco, a transportation network unlike any other

ANNUAL INTERCONNECT CAPACITY ON TRANSCO



# Williams' assets and capabilities remain well positioned for second wave; LNG export terminals are now expected to run at full utilization

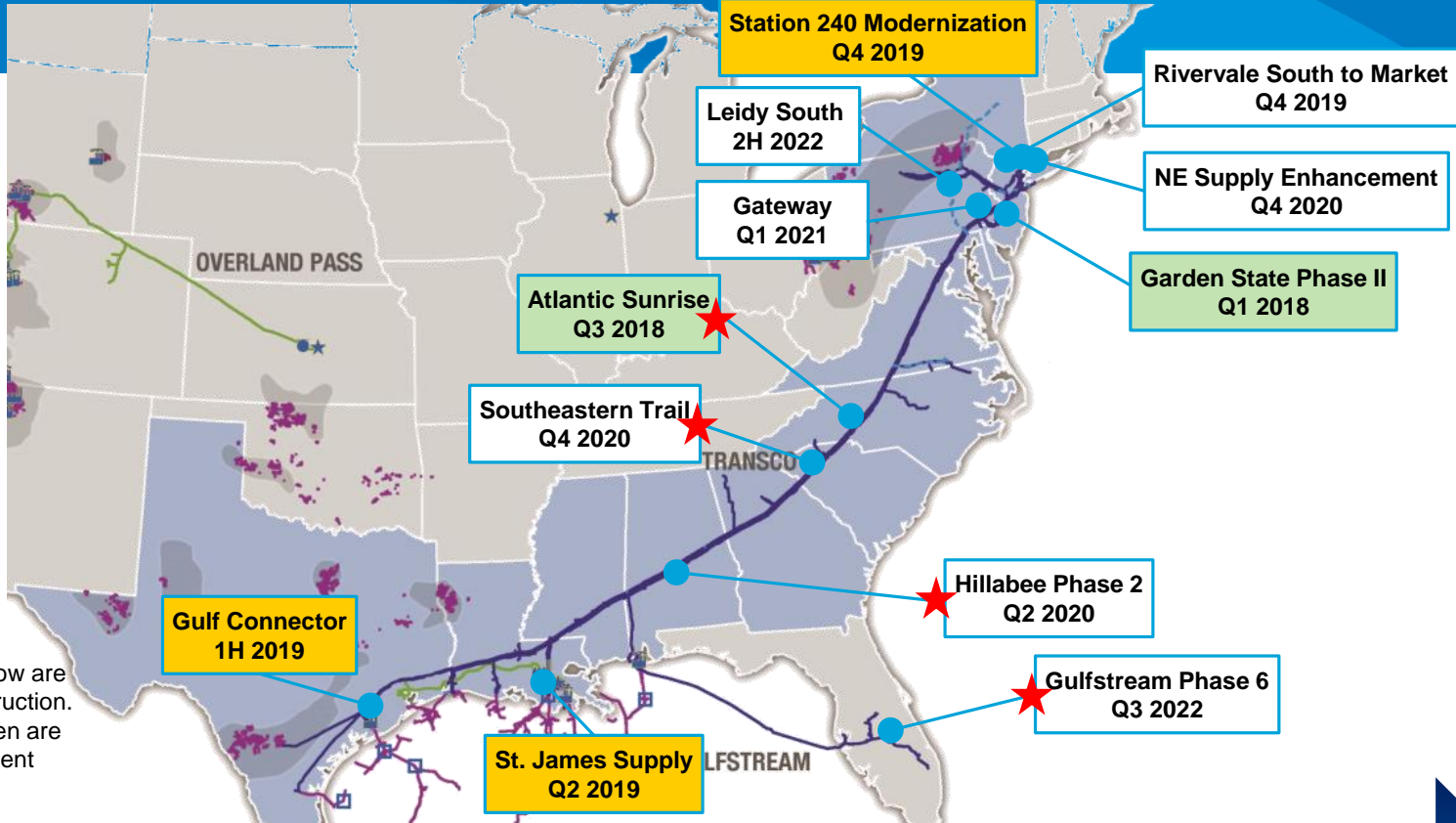
Williams' Asset Map + Third-party Liquefaction Plants



Source: Wood Mackenzie 1H '18

# Eastern Interstates – Projects in Execution

We are currently executing a total of 10 different expansion opportunities



Projects shaded in yellow are starting or under construction. Projects shaded in green are in service. Stars represent power generation



**Shipper Commitments**  
 Leidy South  
 Sanctioned 8/18  
 Gulfstream Ph. VI  
 Sanctioned 8/18

**FERC Certificate Application Filed**  
 NE Supply Enhancement  
 Filed 3/17  
 Gateway  
 Filed 11/17  
 Southeastern Trail  
 Filed 4/18

**FERC EIS / EA**  
 Gateway  
 Received 7/18

**FERC Certificate**  
 Rivervale South to Market  
 Received 8/18

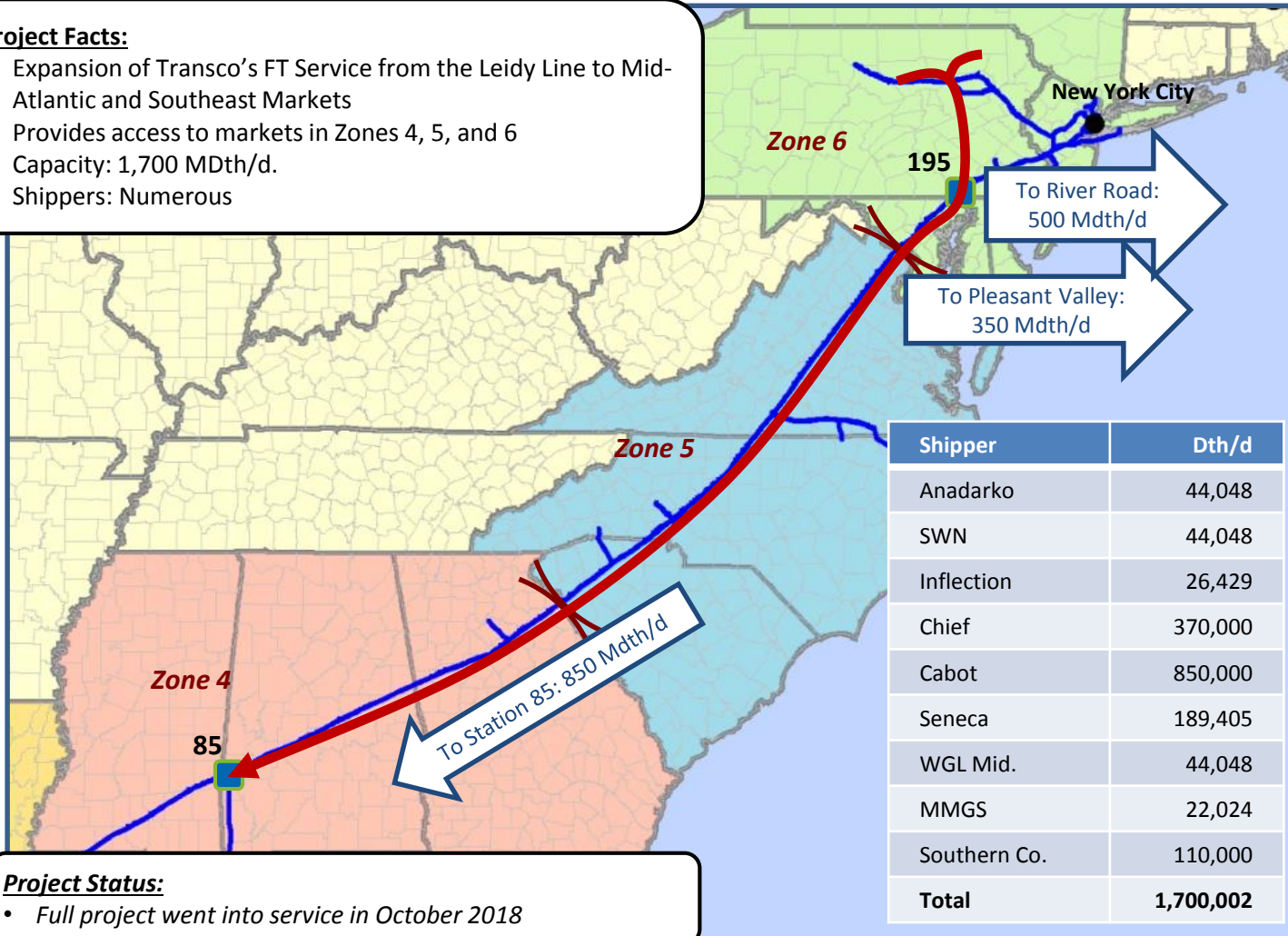
**Major Construction Activities**  
 Gulf Connector  
 Began 2/18  
 St. James  
 Began 4/17  
 Hillabee Phase 2  
 Began 8/18

**In-service**  
 Garden St Ph 2 – ISD 3/18  
 Atlantic Sunrise – ISD 10/18

# Atlantic Sunrise

**Project Facts:**

- Expansion of Transco’s FT Service from the Leidy Line to Mid-Atlantic and Southeast Markets
- Provides access to markets in Zones 4, 5, and 6
- Capacity: 1,700 MDth/d.
- Shippers: Numerous



Shipper	Dth/d
Anadarko	44,048
SWN	44,048
Inflection	26,429
Chief	370,000
Cabot	850,000
Seneca	189,405
WGL Mid.	44,048
MMGS	22,024
Southern Co.	110,000
<b>Total</b>	<b>1,700,002</b>

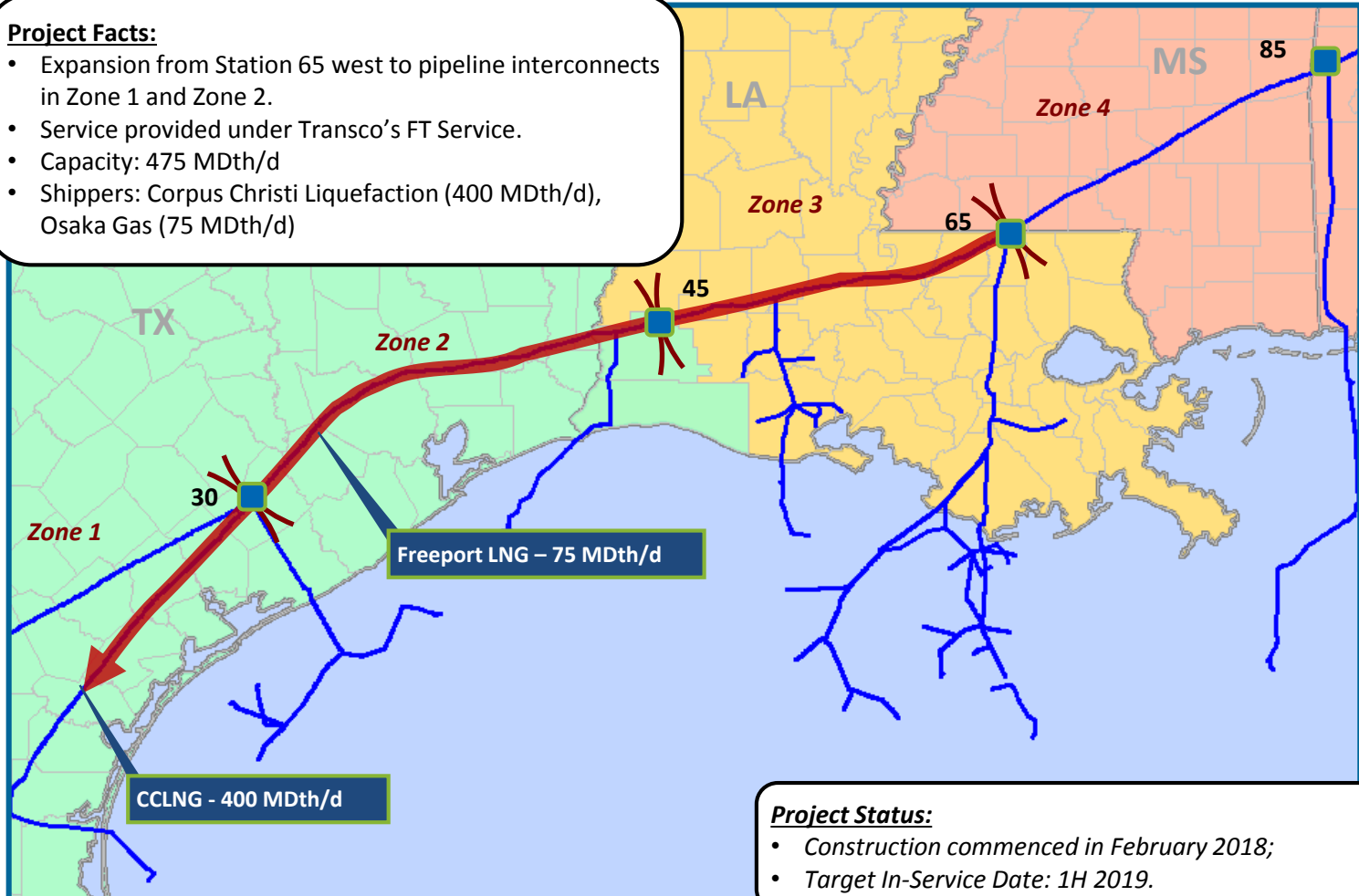
**Project Status:**

- Full project went into service in October 2018

# Gulf Connector

**Project Facts:**

- Expansion from Station 65 west to pipeline interconnects in Zone 1 and Zone 2.
- Service provided under Transco’s FT Service.
- Capacity: 475 MDth/d
- Shippers: Corpus Christi Liquefaction (400 MDth/d), Osaka Gas (75 MDth/d)



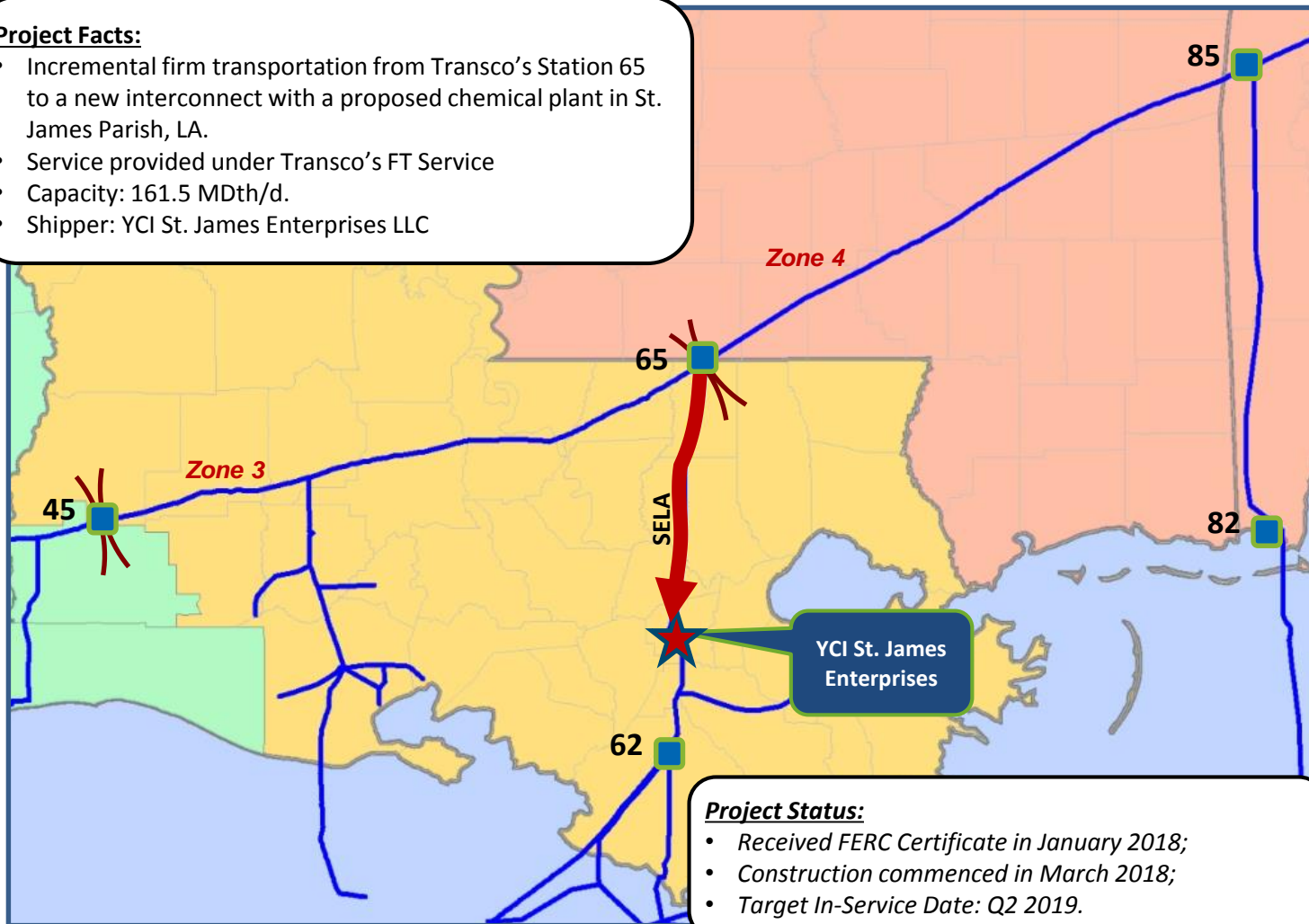
**Project Status:**

- Construction commenced in February 2018;
- Target In-Service Date: 1H 2019.

# St. James Supply

## Project Facts:

- Incremental firm transportation from Transco's Station 65 to a new interconnect with a proposed chemical plant in St. James Parish, LA.
- Service provided under Transco's FT Service
- Capacity: 161.5 MDth/d.
- Shipper: YCI St. James Enterprises LLC



## Project Status:

- Received FERC Certificate in January 2018;
- Construction commenced in March 2018;
- Target In-Service Date: Q2 2019.



# Station 240 Modernization

## **Project Status:**

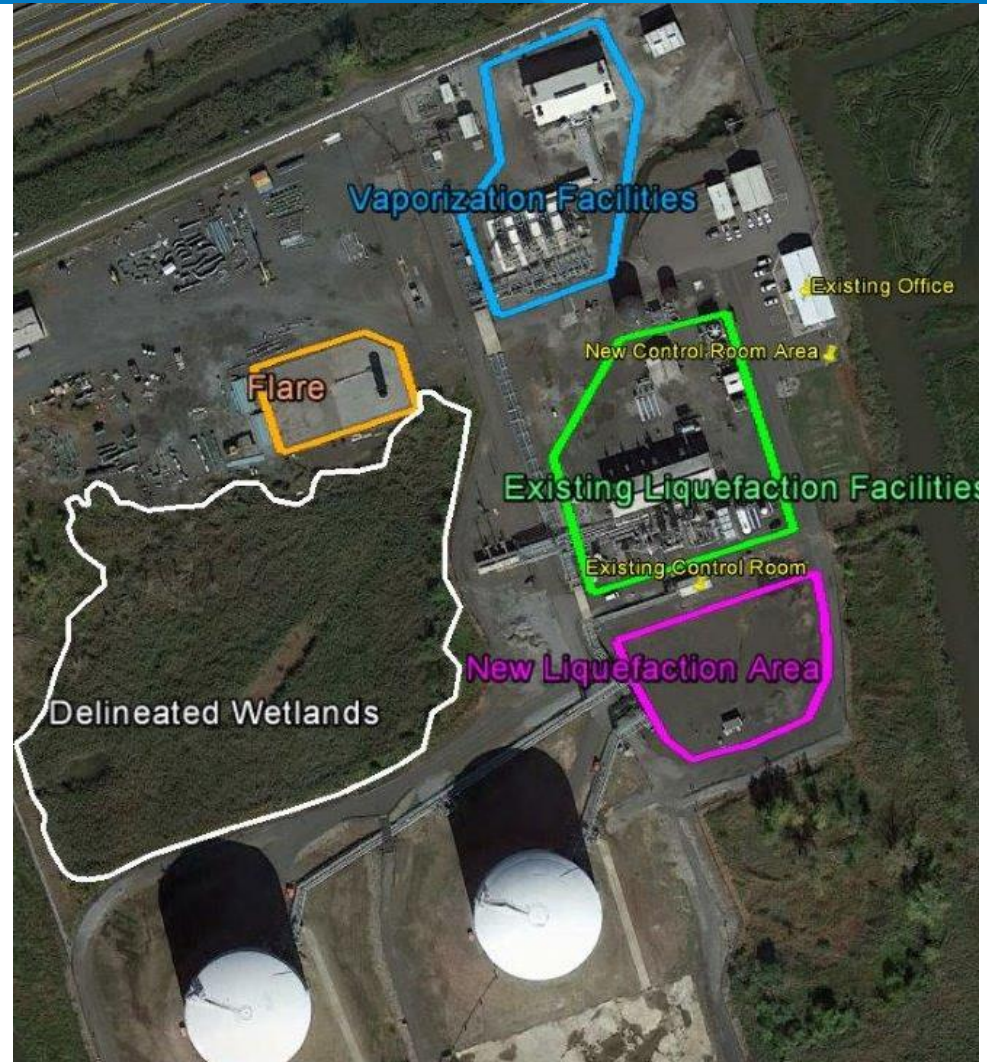
- Construction (site work) commenced in May 2018;
- Target In-Service Date: Q4 2019

## **Project Facts:**

- Replace liquefaction plant at Station 240 in Carlstadt, New Jersey to resolve safety and emissions issues, liquefaction degradation, operational/reliability issues.
- Facilities:
  - Gas Pretreatment
  - 10 MDth/d Liquefaction
  - Compression
  - Control System and Transformers

## **Background:**

- Station 240 is a peak-shaving LNG plant constructed in 1964.
- Consists of liquefaction, vaporization, and storage.
- The vaporization was replaced/upgraded in 1991.
- Total Storage is approximately 2,000 MDth; Vaporization of 400 MDth/d; and Liquefaction of 10 MDth/d.

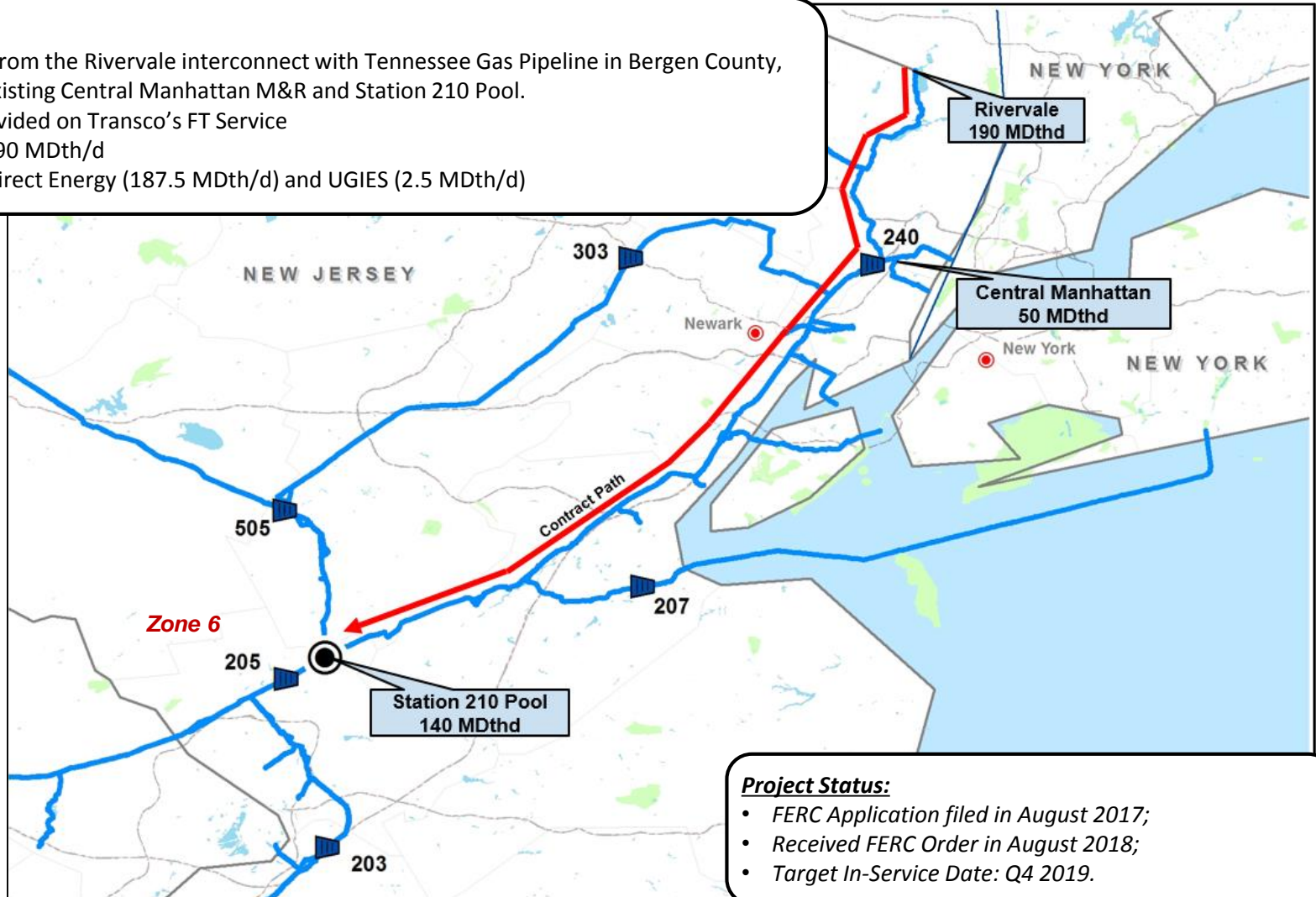




# Rivervale South to Market

## Project Facts:

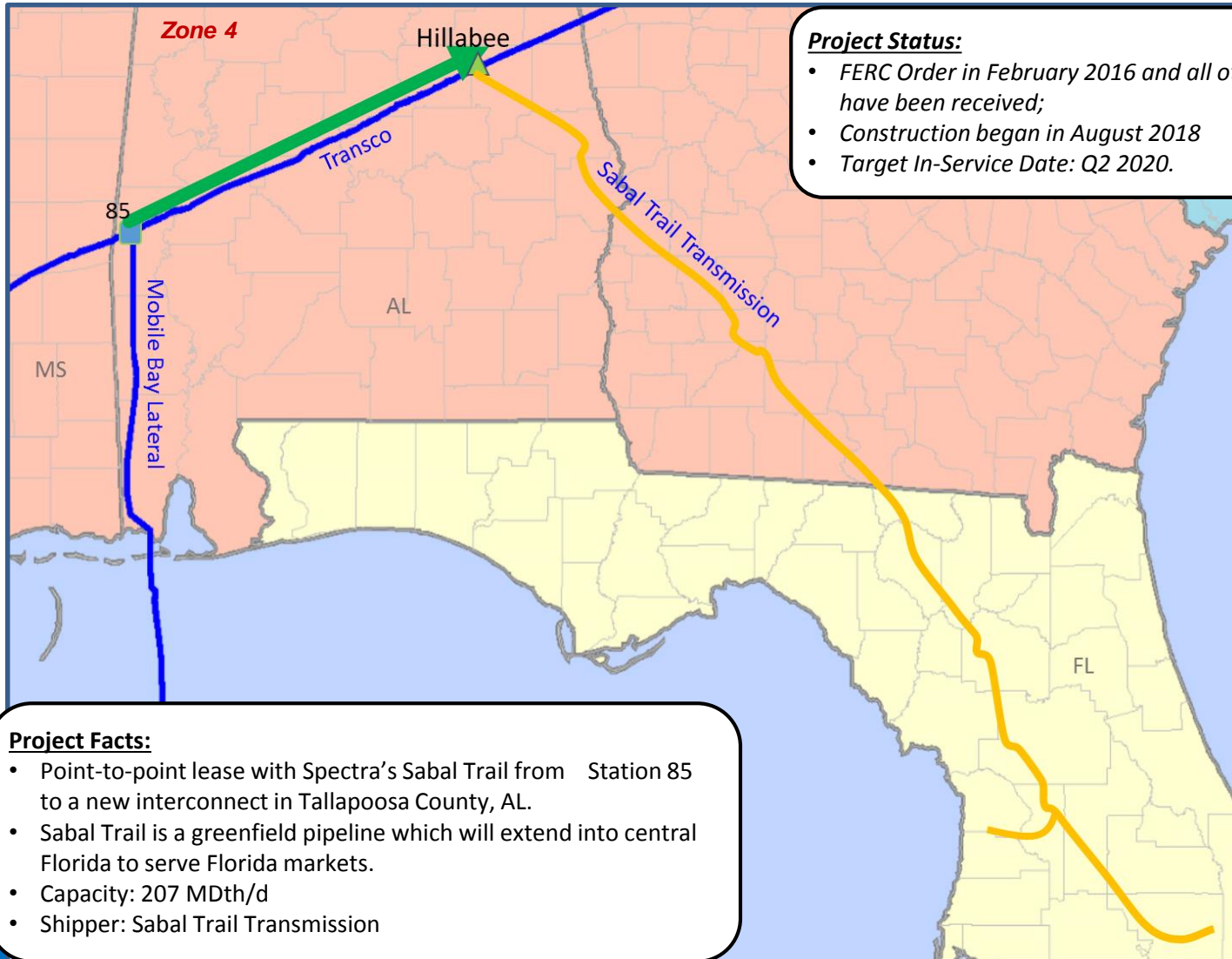
- Expansion from the Rivervale interconnect with Tennessee Gas Pipeline in Bergen County, NJ to the existing Central Manhattan M&R and Station 210 Pool.
- Service provided on Transco's FT Service
- Capacity: 190 MDth/d
- Shippers: Direct Energy (187.5 MDth/d) and UGIES (2.5 MDth/d)



## Project Status:

- FERC Application filed in August 2017;
- Received FERC Order in August 2018;
- Target In-Service Date: Q4 2019.

# Hillabee Phase 2



**Project Status:**

- FERC Order in February 2016 and all other permits have been received;
- Construction began in August 2018
- Target In-Service Date: Q2 2020.

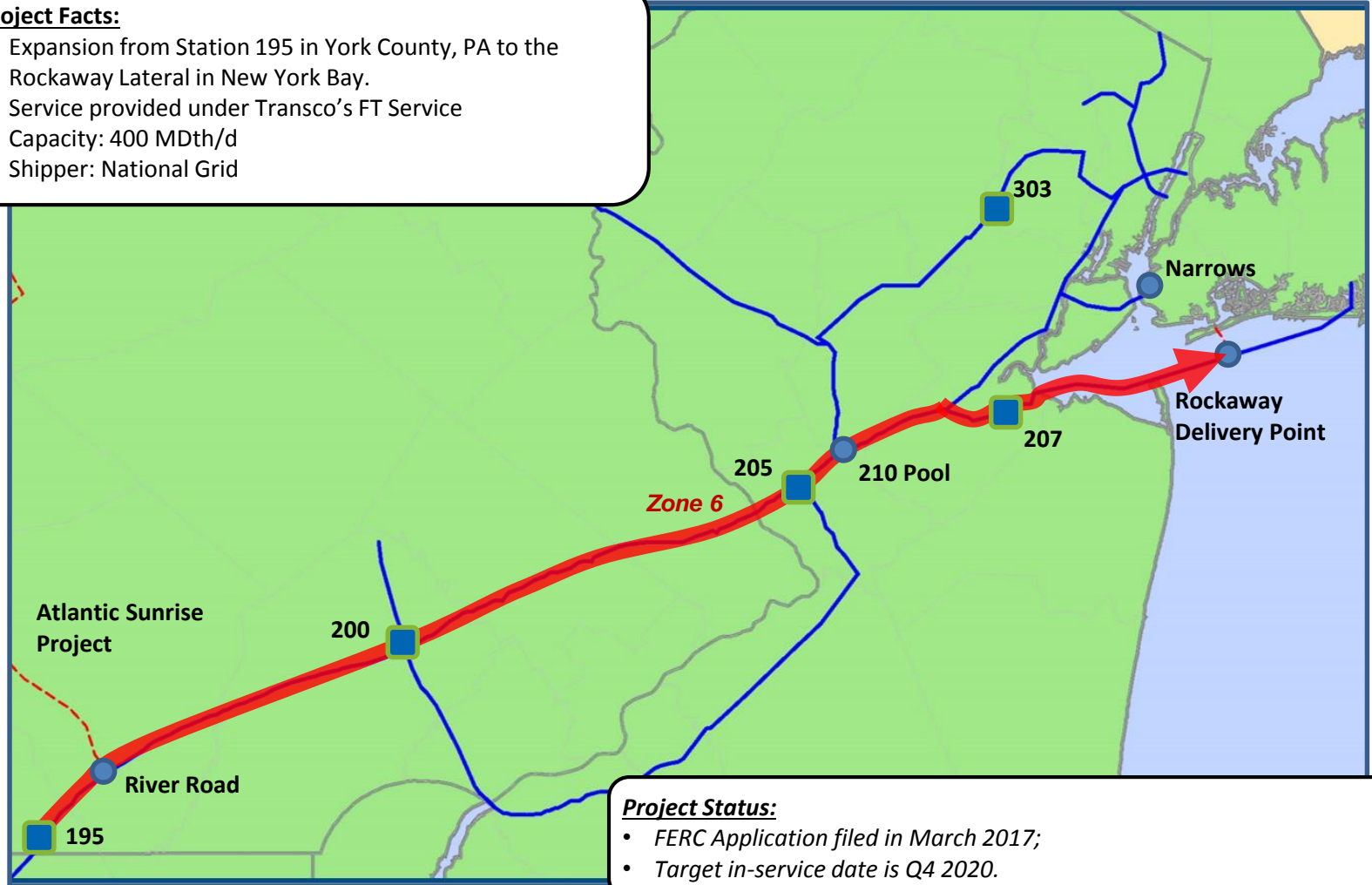
**Project Facts:**

- Point-to-point lease with Spectra’s Sabal Trail from Station 85 to a new interconnect in Tallapoosa County, AL.
- Sabal Trail is a greenfield pipeline which will extend into central Florida to serve Florida markets.
- Capacity: 207 MDth/d
- Shipper: Sabal Trail Transmission

# NE Supply Enhancement

**Project Facts:**

- Expansion from Station 195 in York County, PA to the Rockaway Lateral in New York Bay.
- Service provided under Transco's FT Service
- Capacity: 400 MDth/d
- Shipper: National Grid



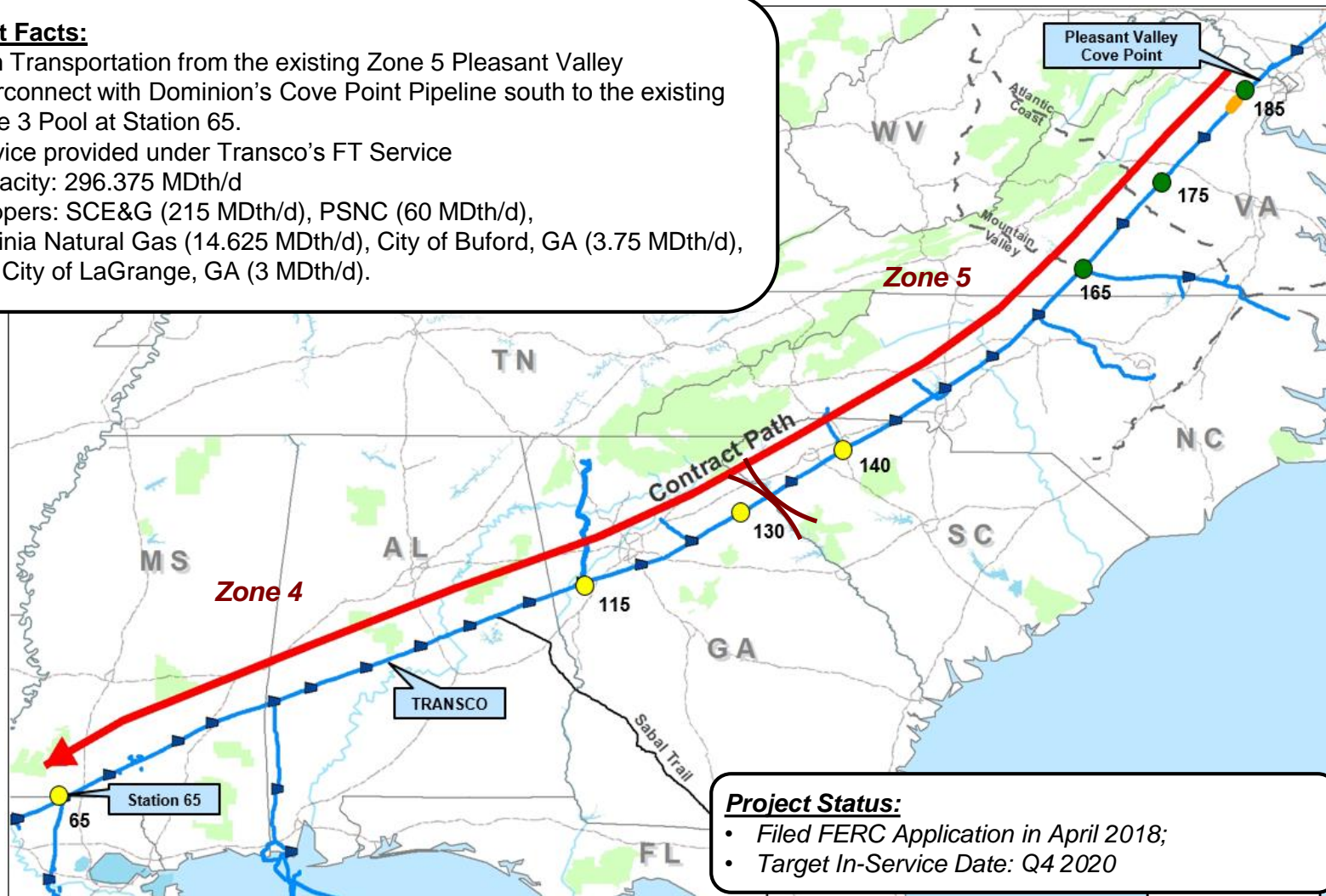
**Project Status:**

- FERC Application filed in March 2017;
- Target in-service date is Q4 2020.

# Southeastern Trail

## Project Facts:

- Firm Transportation from the existing Zone 5 Pleasant Valley Interconnect with Dominion's Cove Point Pipeline south to the existing Zone 3 Pool at Station 65.
- Service provided under Transco's FT Service
- Capacity: 296.375 MDth/d
- Shippers: SCE&G (215 MDth/d), PSNC (60 MDth/d), Virginia Natural Gas (14.625 MDth/d), City of Buford, GA (3.75 MDth/d), and City of LaGrange, GA (3 MDth/d).



## Project Status:

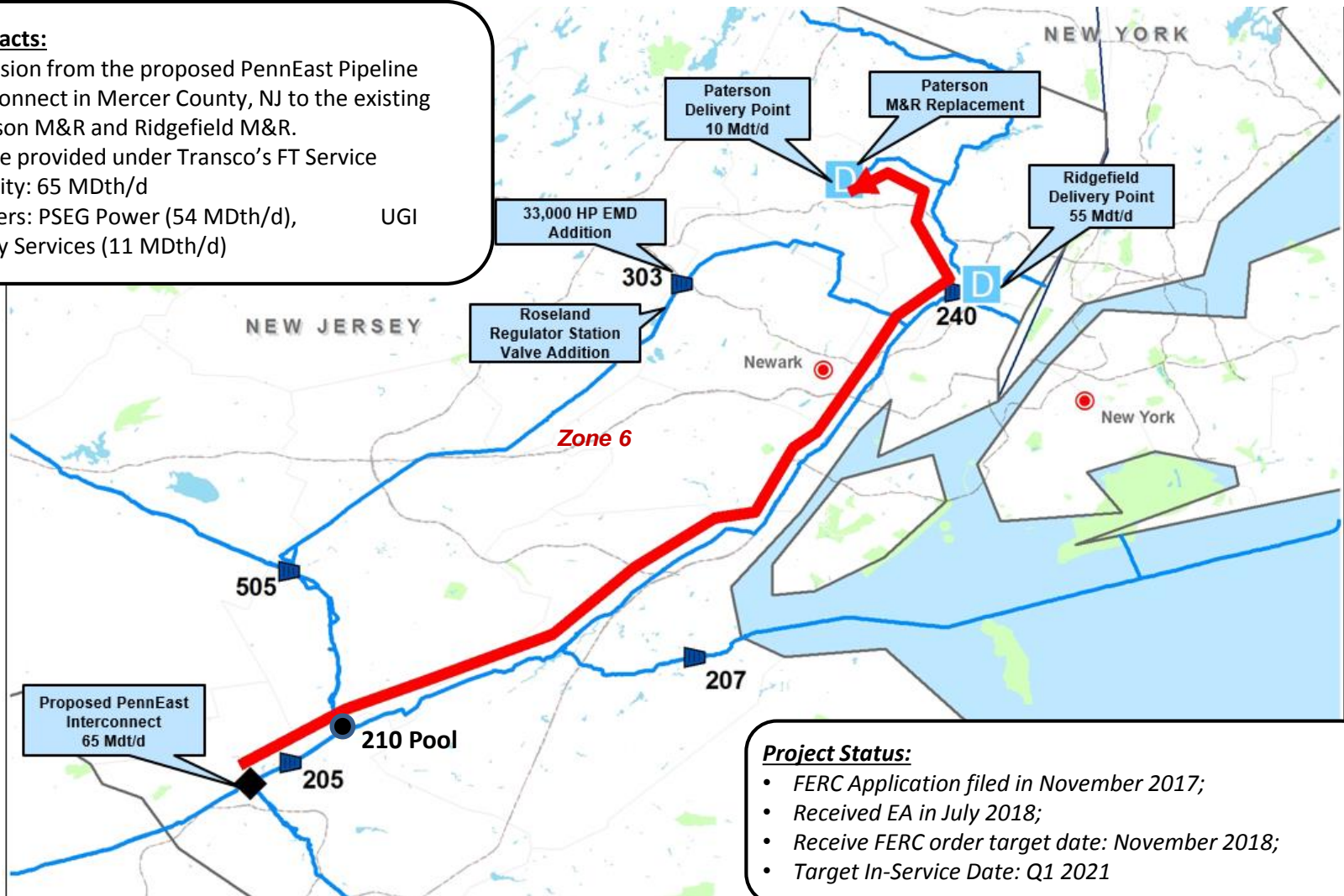
- Filed FERC Application in April 2018;
- Target In-Service Date: Q4 2020



# Gateway

**Project Facts:**

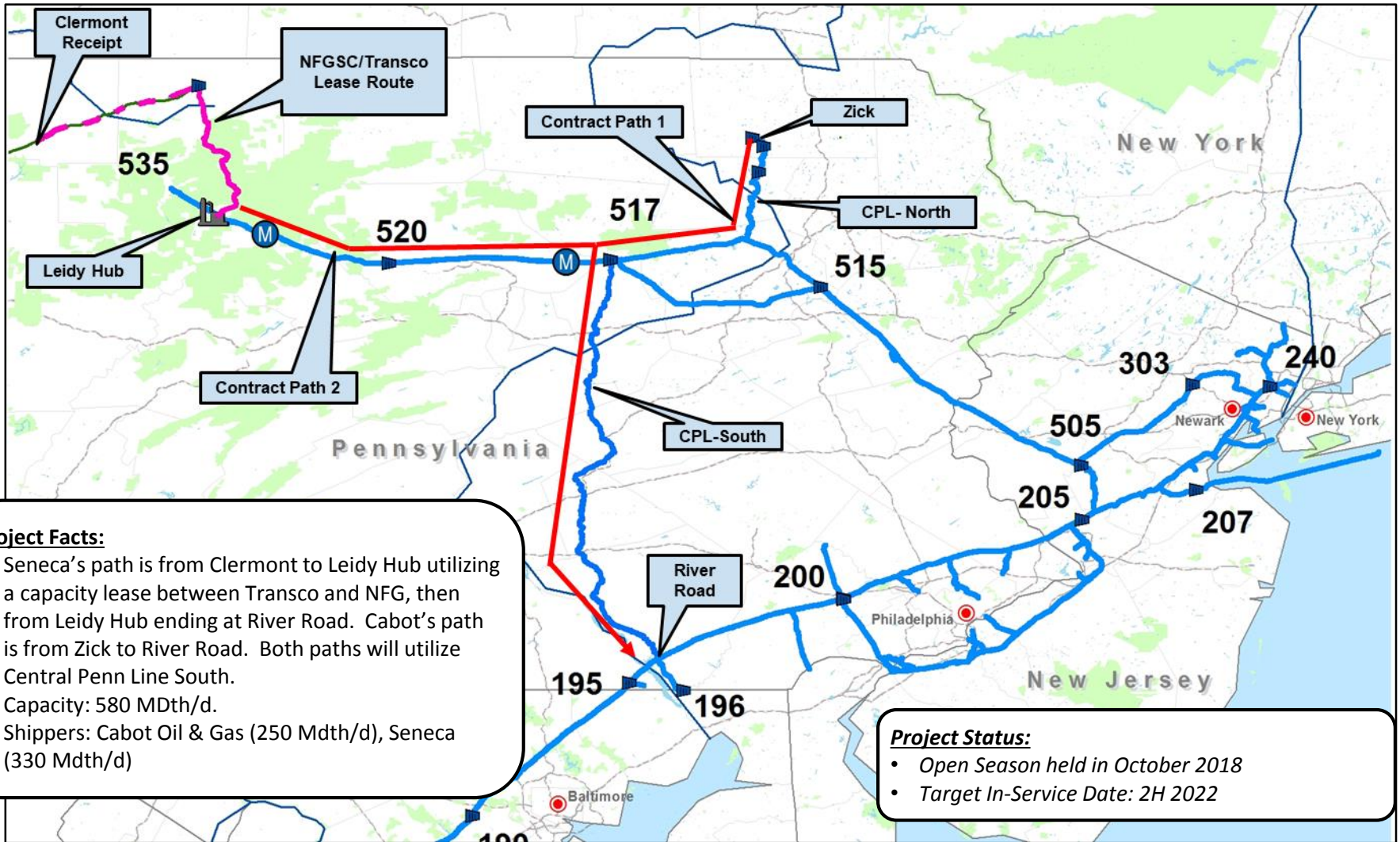
- Expansion from the proposed PennEast Pipeline interconnect in Mercer County, NJ to the existing Paterson M&R and Ridgefield M&R.
- Service provided under Transco's FT Service
- Capacity: 65 MDth/d
- Shippers: PSEG Power (54 MDth/d), UGI Energy Services (11 MDth/d)



**Project Status:**

- FERC Application filed in November 2017;
- Received EA in July 2018;
- Receive FERC order target date: November 2018;
- Target In-Service Date: Q1 2021

# Leidy South



**Project Facts:**

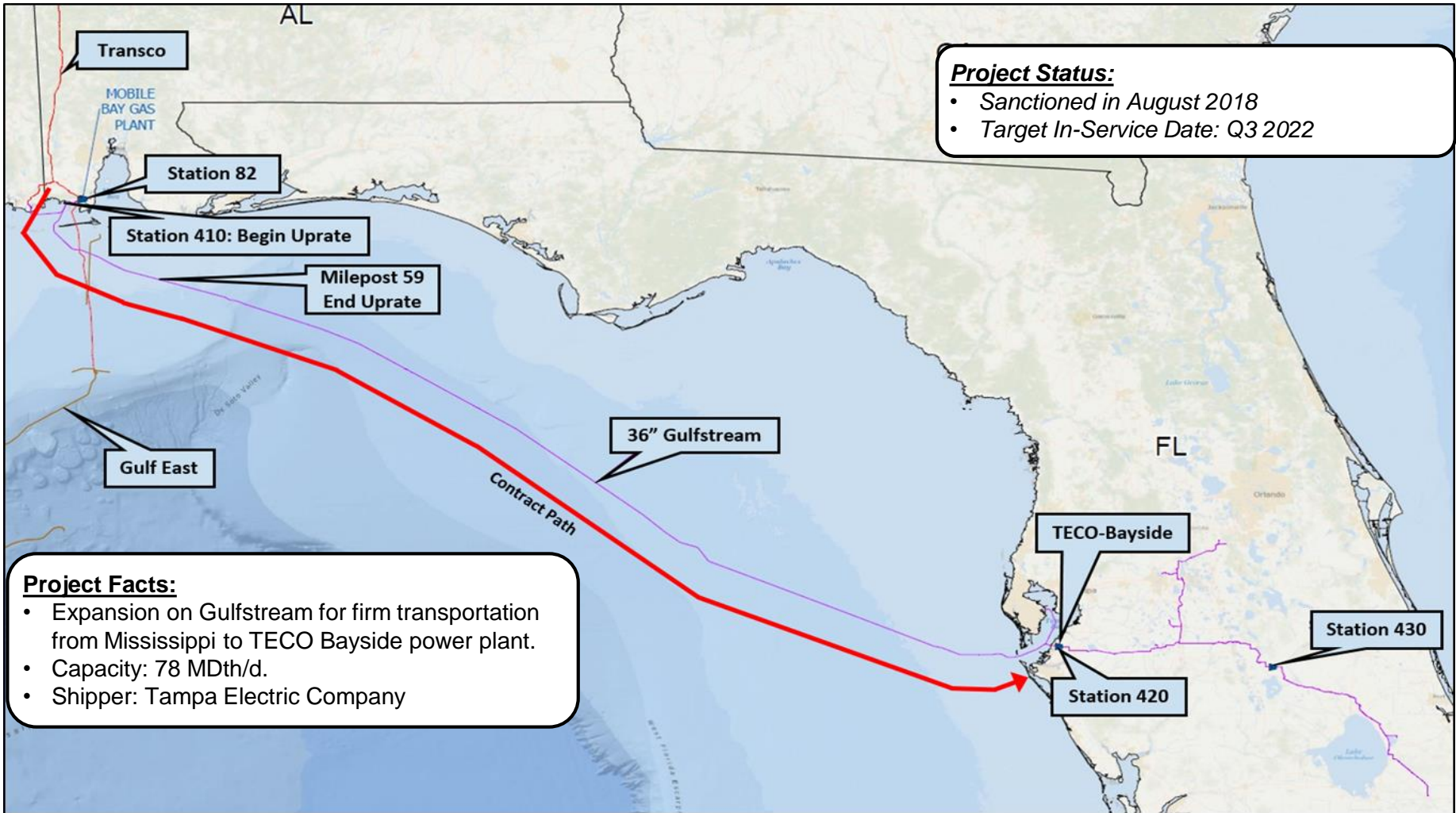
- Seneca’s path is from Clermont to Leidy Hub utilizing a capacity lease between Transco and NFG, then from Leidy Hub ending at River Road. Cabot’s path is from Zick to River Road. Both paths will utilize Central Penn Line South.
- Capacity: 580 MDth/d.
- Shippers: Cabot Oil & Gas (250 Mdth/d), Seneca (330 Mdth/d)

**Project Status:**

- Open Season held in October 2018
- Target In-Service Date: 2H 2022

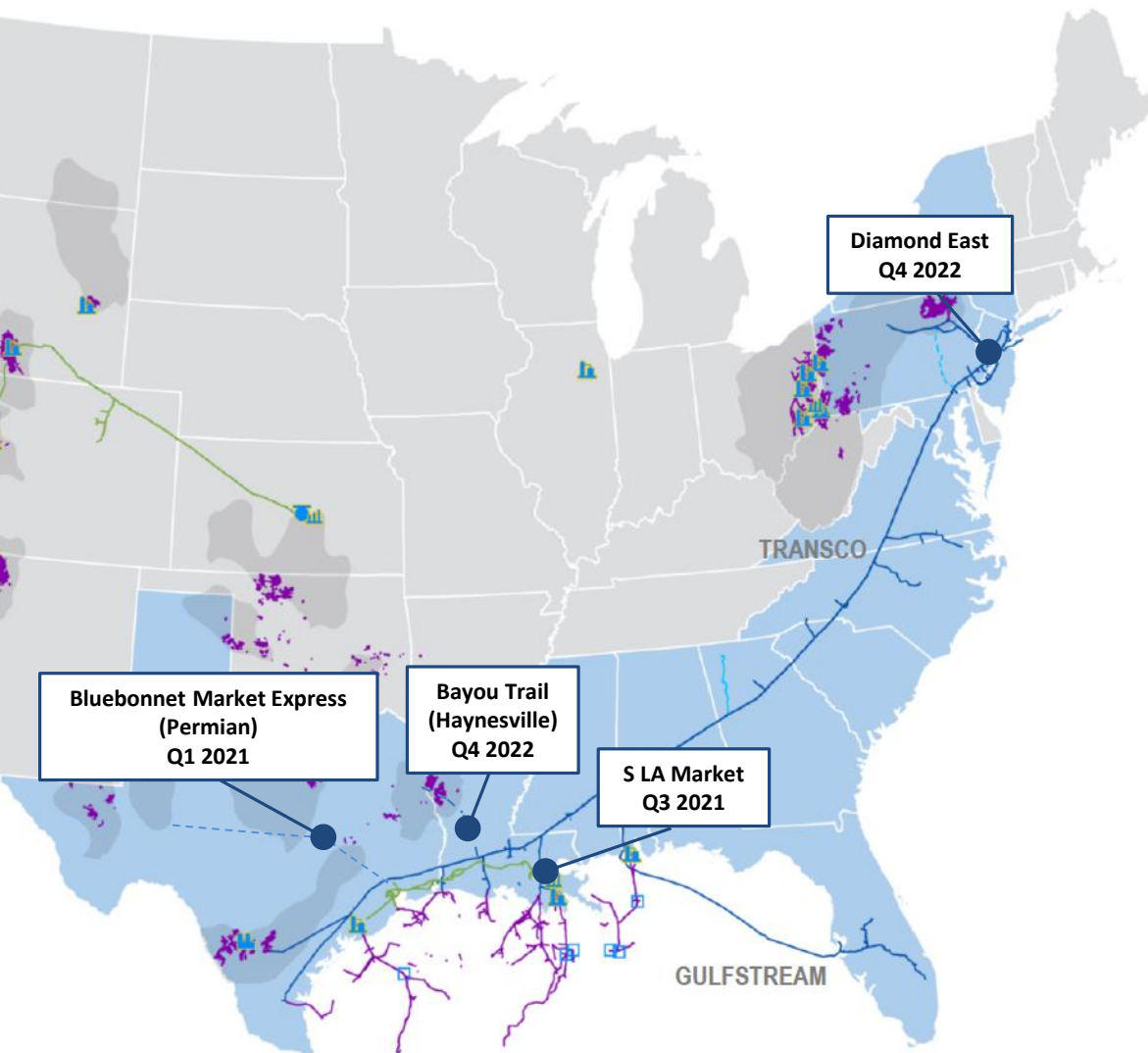


# Gulfstream Phase VI





# Currently Pursuing ~21 Demand-Driven Expansion Opportunities Across Eastern Interstates



**Potential projects are primarily demand pull for access to low cost supply**

Power generation, Industrial, LDC, LNG / Mexican exports

## Project development updates:

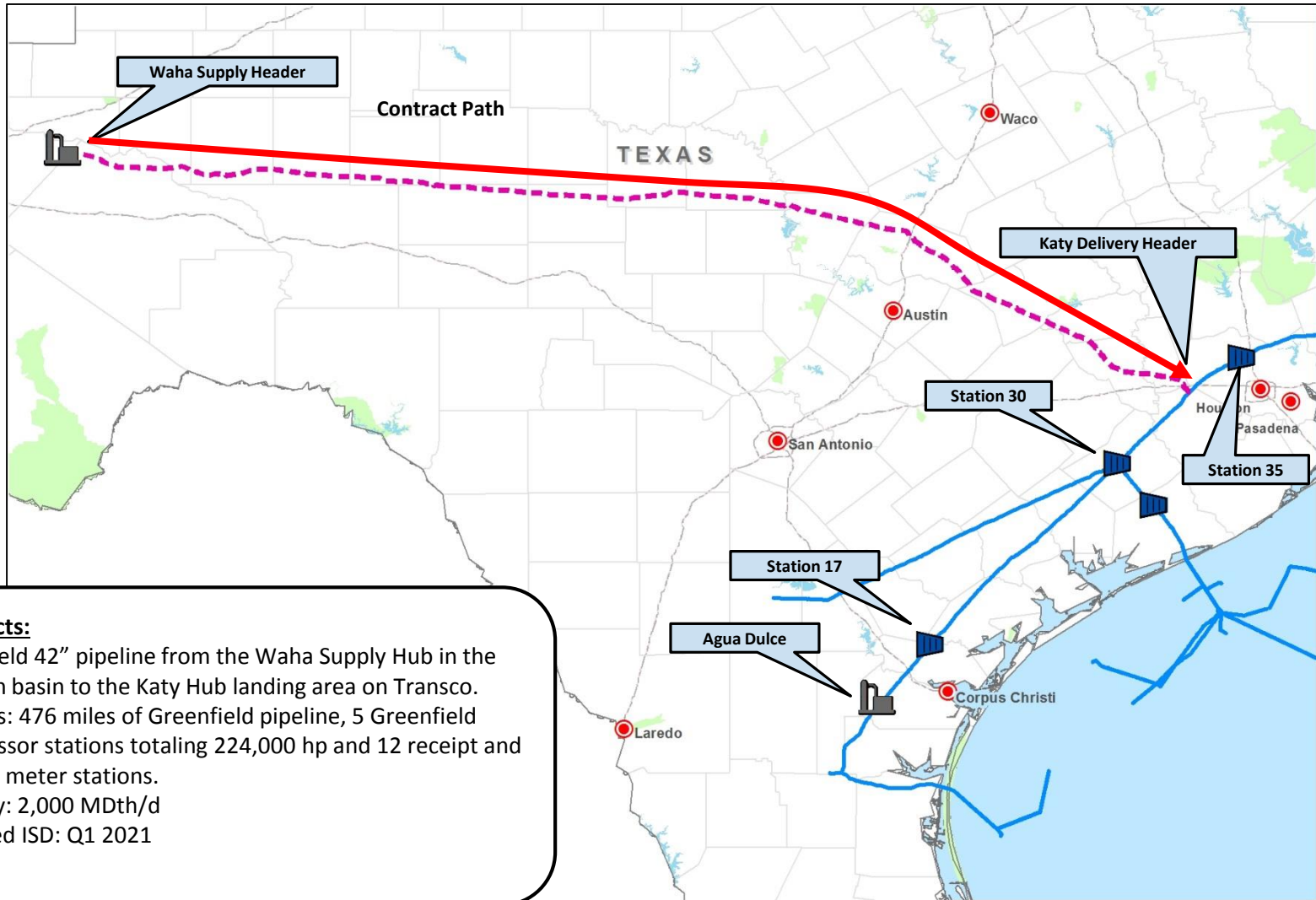
Bluebonnet Mountain Express  
In negotiations with prospective shipper(s)

South Louisiana Market  
In negotiations with prospective shipper

Diamond East  
In negotiations with prospective shipper(s)

Bayou Trail  
In negotiations with prospective shipper(s)

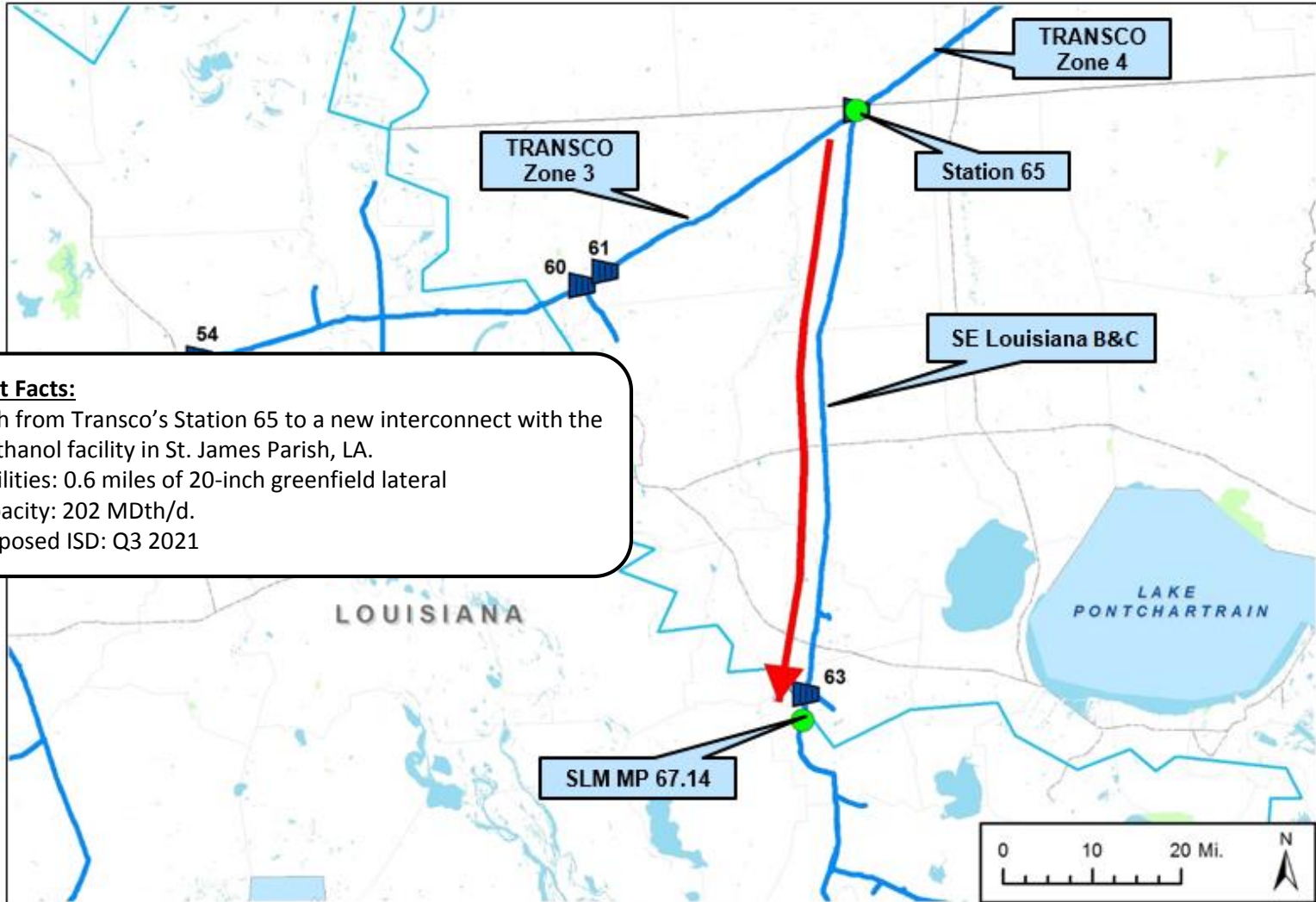
# Bluebonnet Market Express



**Project Facts:**

- Greenfield 42" pipeline from the Waha Supply Hub in the Permian basin to the Katy Hub landing area on Transco.
- Facilities: 476 miles of Greenfield pipeline, 5 Greenfield compressor stations totaling 224,000 hp and 12 receipt and delivery meter stations.
- Capacity: 2,000 MDth/d
- Proposed ISD: Q1 2021

# South Louisiana Market

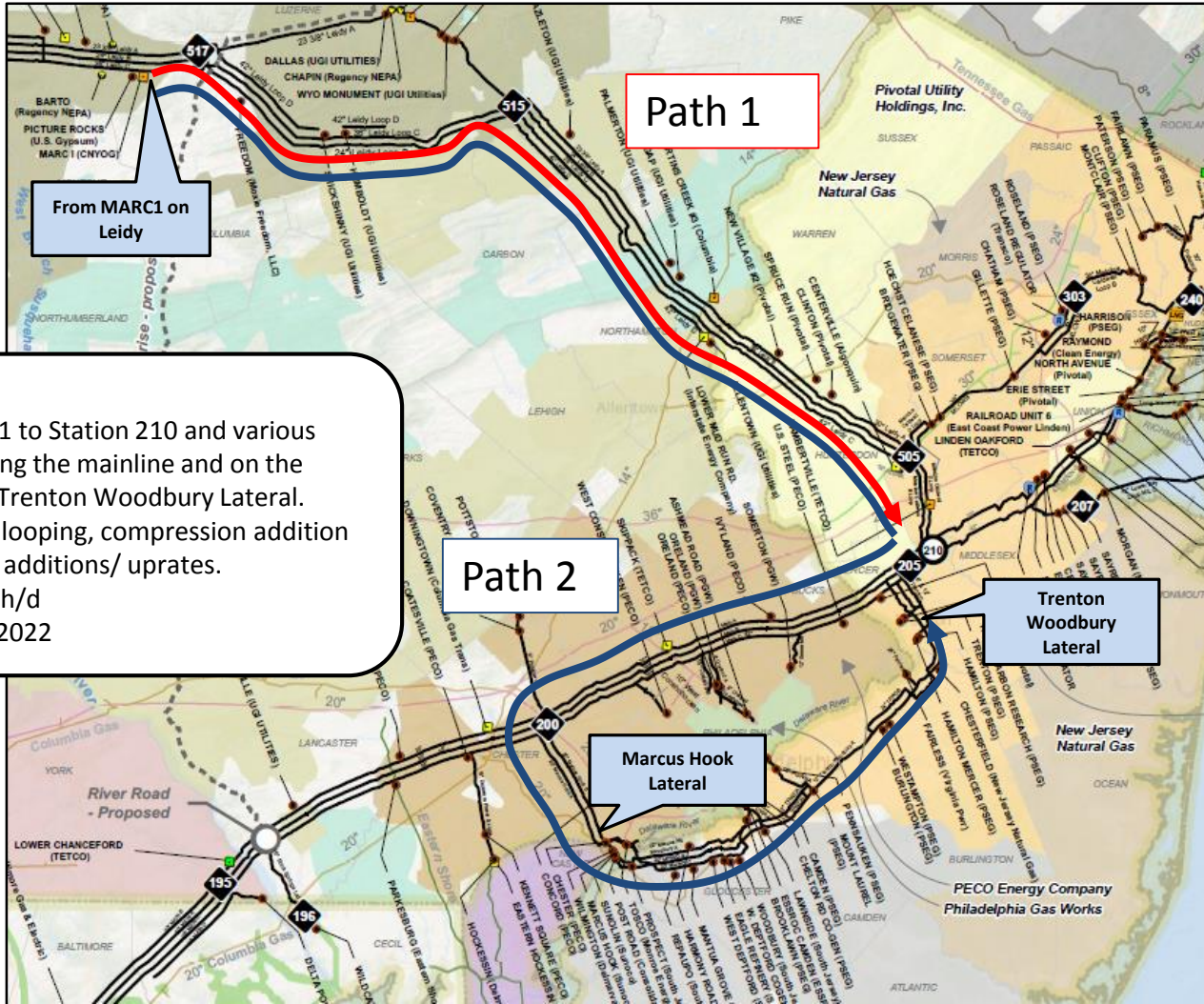


**Project Facts:**

- Path from Transco’s Station 65 to a new interconnect with the methanol facility in St. James Parish, LA.
- Facilities: 0.6 miles of 20-inch greenfield lateral
- Capacity: 202 MDth/d.
- Proposed ISD: Q3 2021



# Diamond East



From MARC1 on Leidy

Path 1

Path 2

Trenton Woodbury Lateral

Marcus Hook Lateral

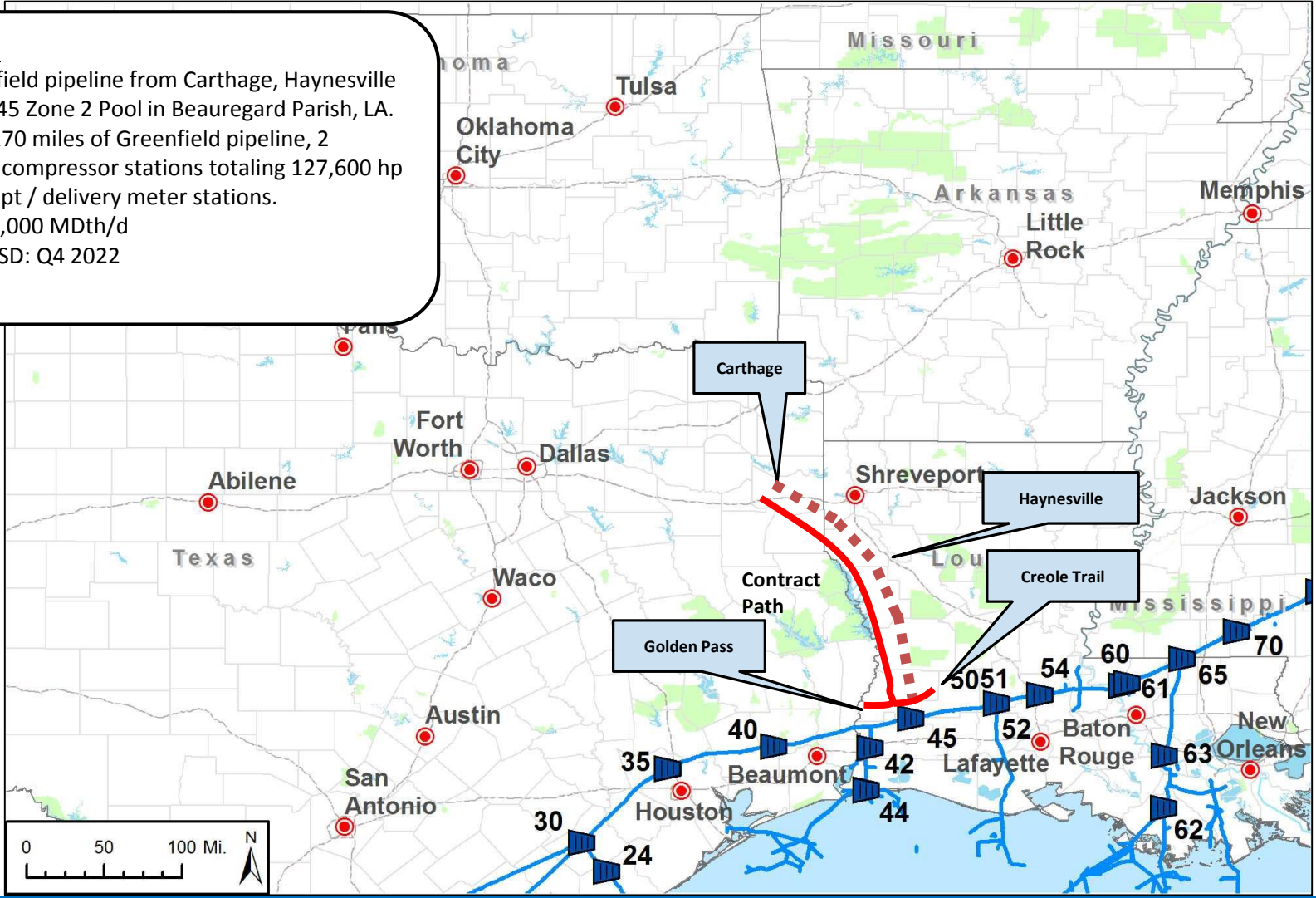
**Project Facts:**

- Paths from MARC 1 to Station 210 and various delivery points along the mainline and on the Marcus Hook and Trenton Woodbury Lateral.
- Facilities: Pipeline looping, compression addition and meter station additions/ uprates.
- Capacity: 540 MDth/d
- Proposed ISD: Q4 2022

# Bayou Trail Pipeline

**Project Facts:**

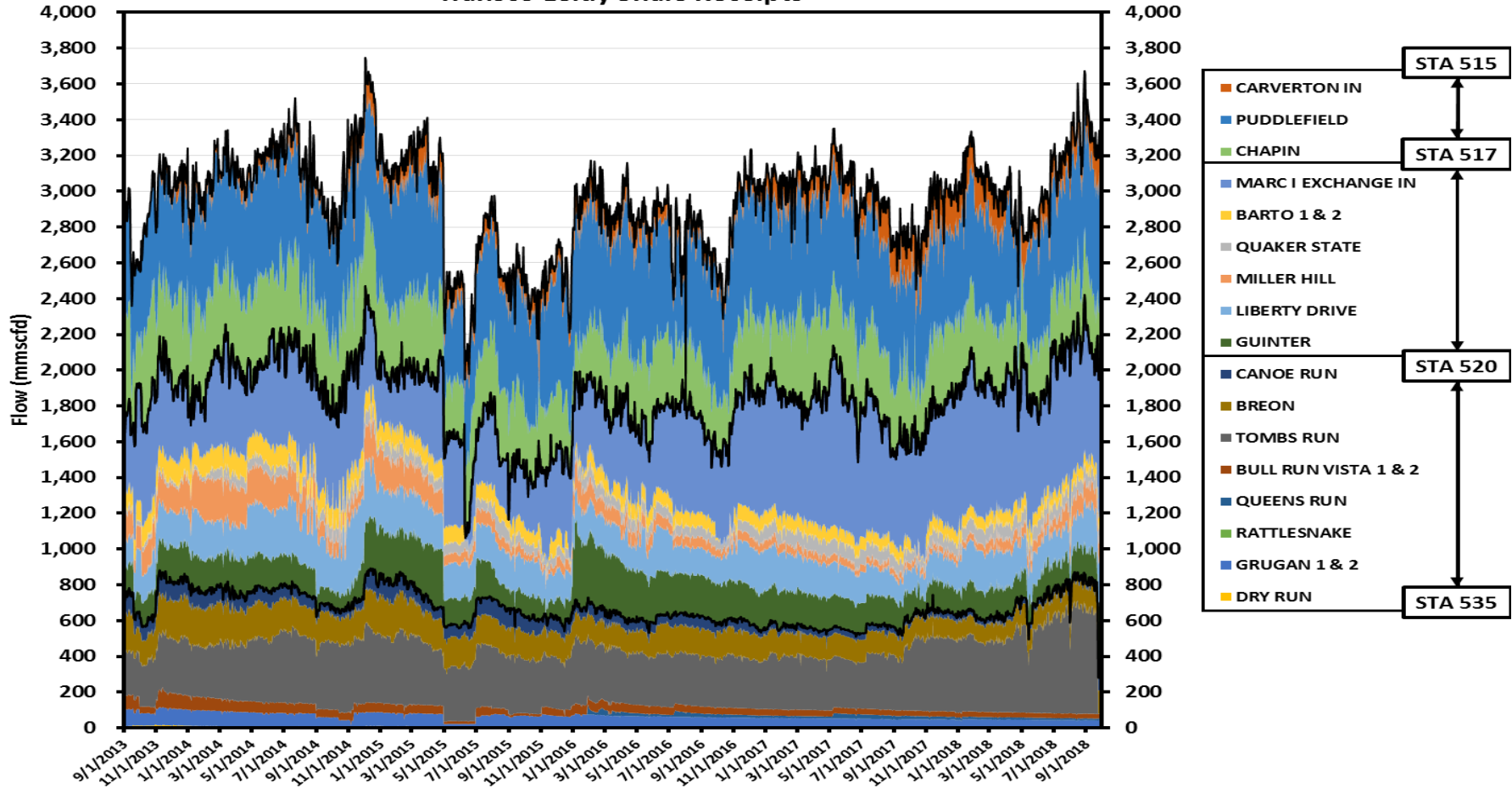
- 42" Greenfield pipeline from Carthage, Haynesville to Station 45 Zone 2 Pool in Beauregard Parish, LA.
- Facilities: 170 miles of Greenfield pipeline, 2 Greenfield compressor stations totaling 127,600 hp and 9 receipt / delivery meter stations.
- Capacity: 2,000 MDth/d
- Proposed ISD: Q4 2022



# Future State System Flow Projections

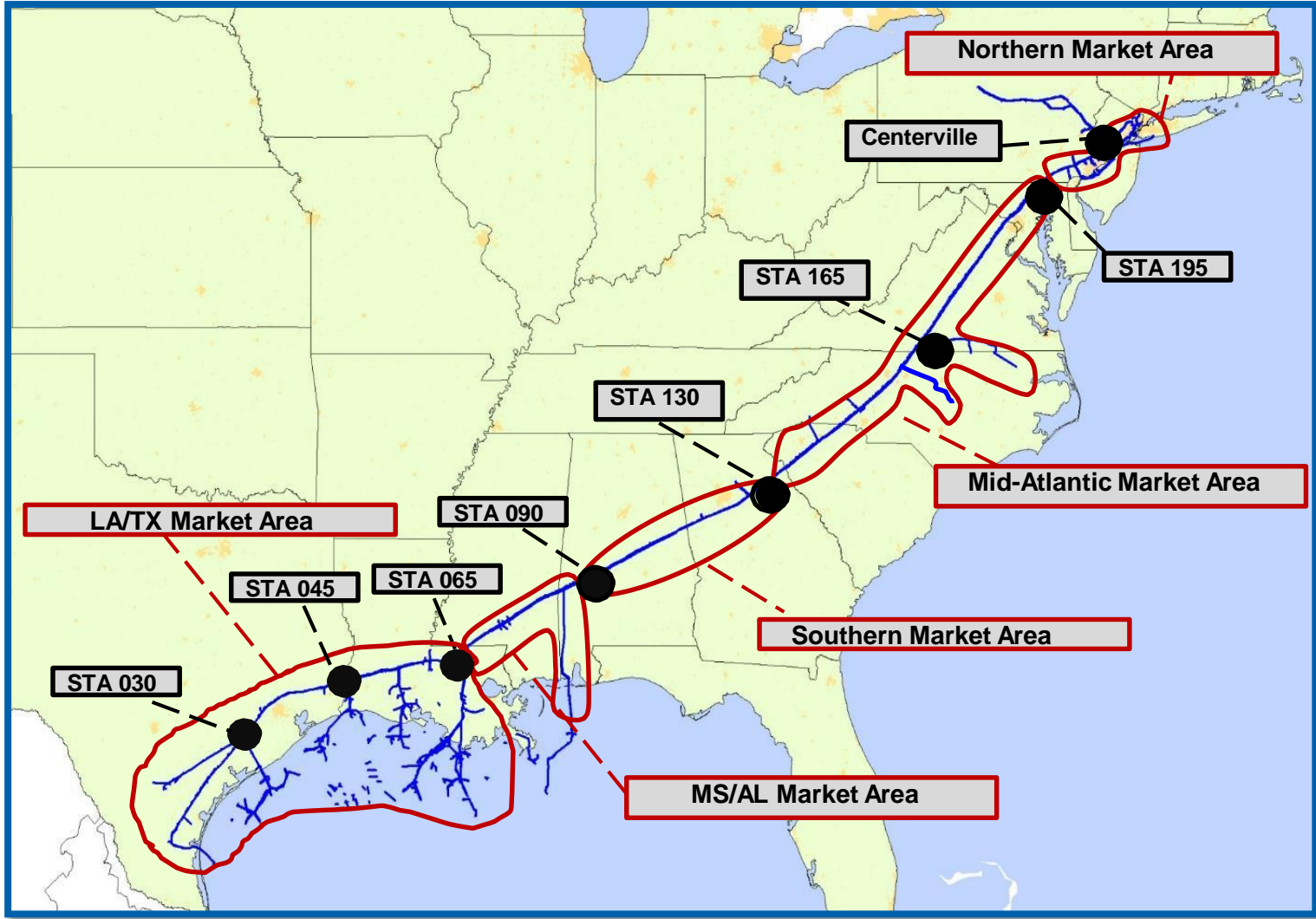
# Leidy Receipts

Transco Leidy Shale Receipts

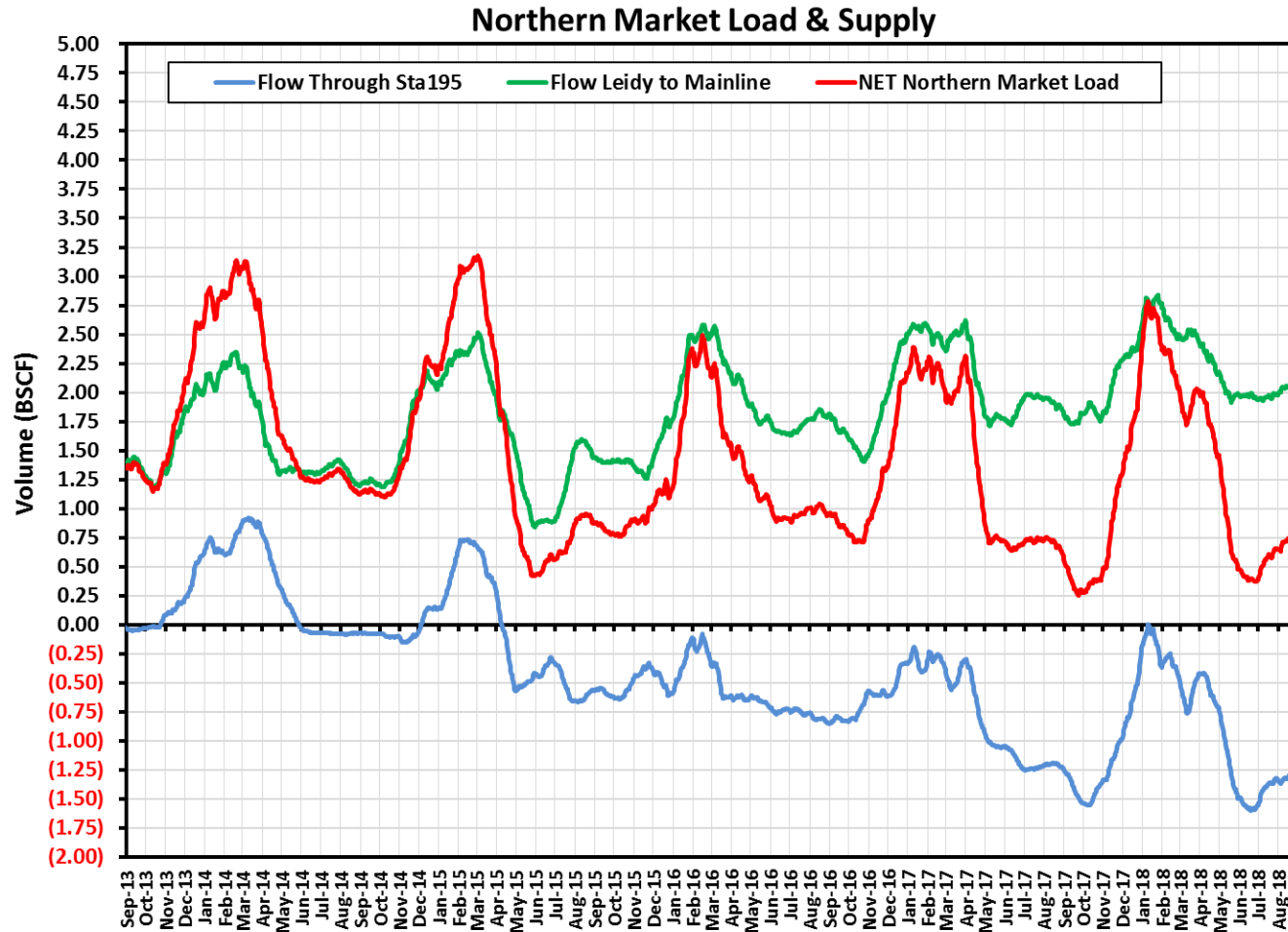




# Simplified Map

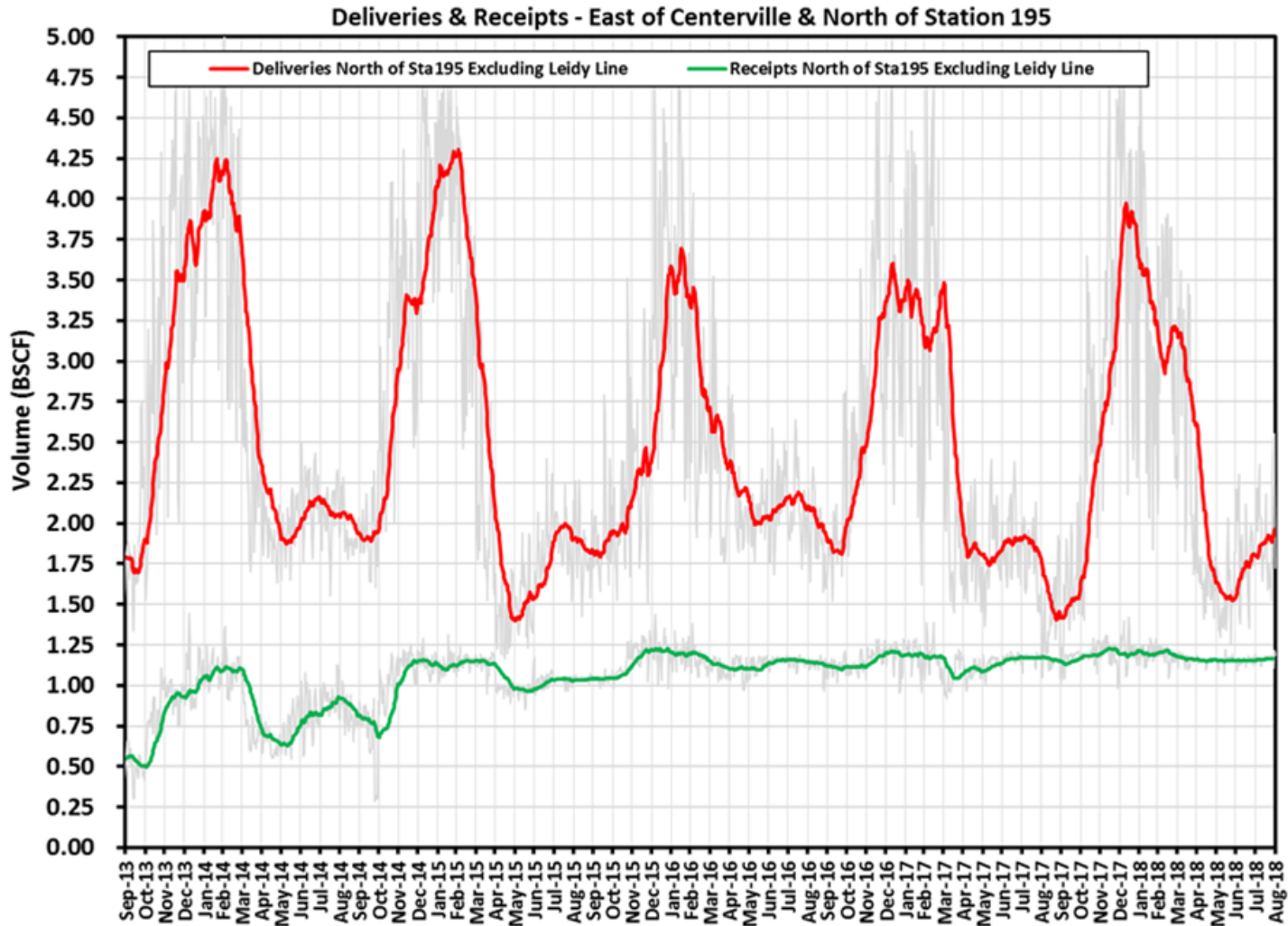


# System Throughput – Into North Market Area



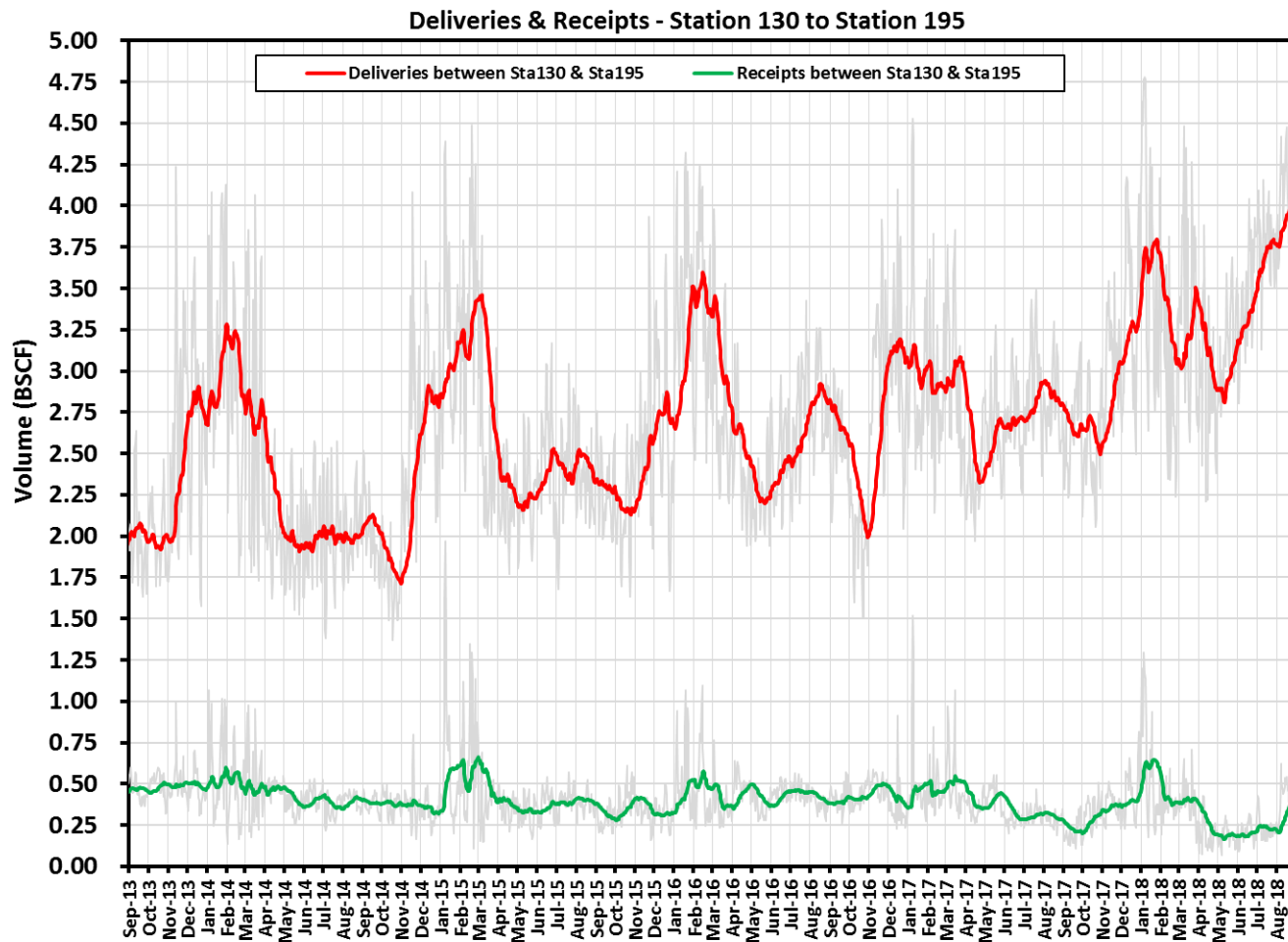
# System Load – Northern Market Area

## Growth in Northern Market Area



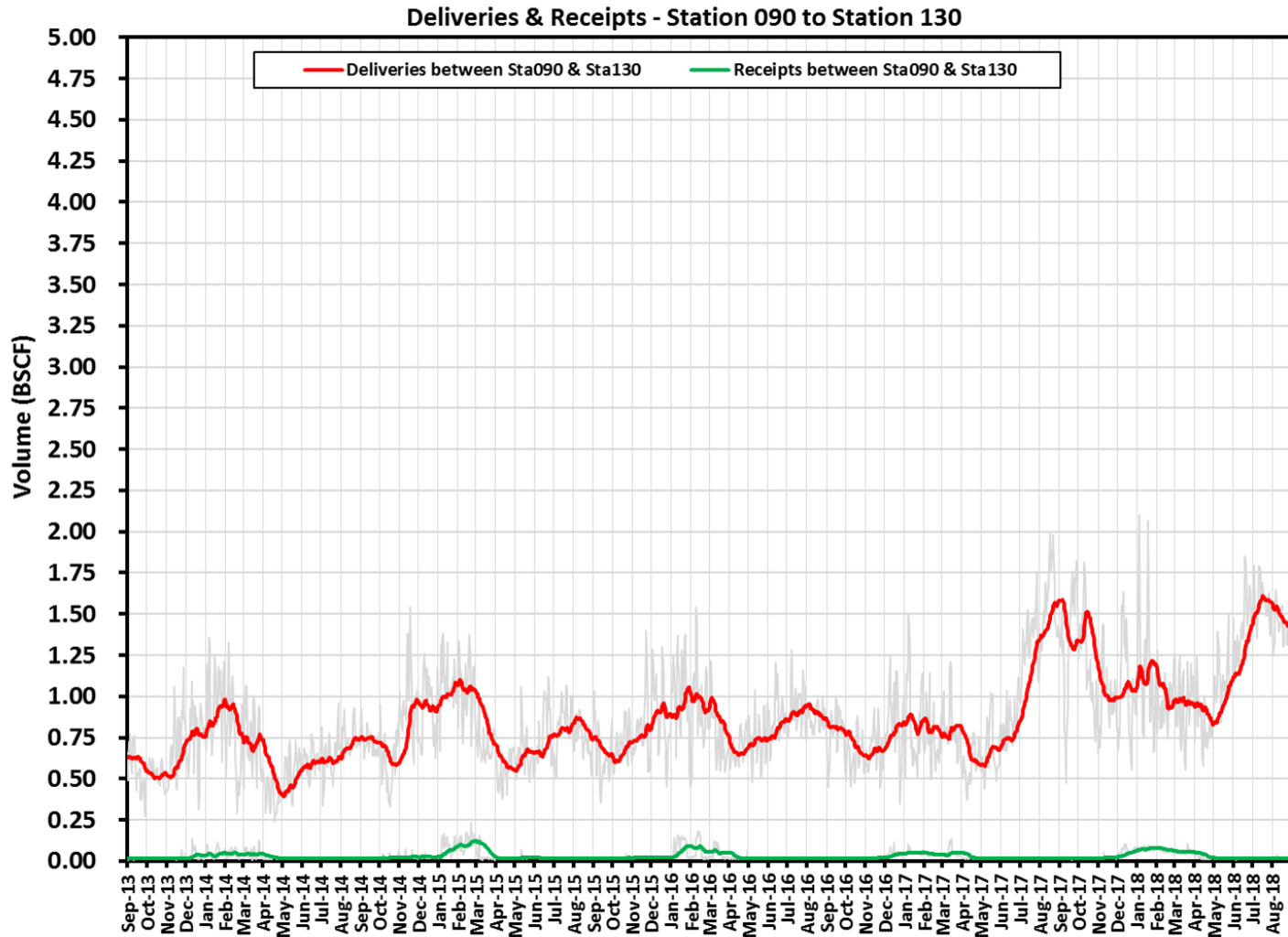
# System Load – Mid-Atlantic Market Area STA 130-195

## Growth in Mid-Atlantic Market Area



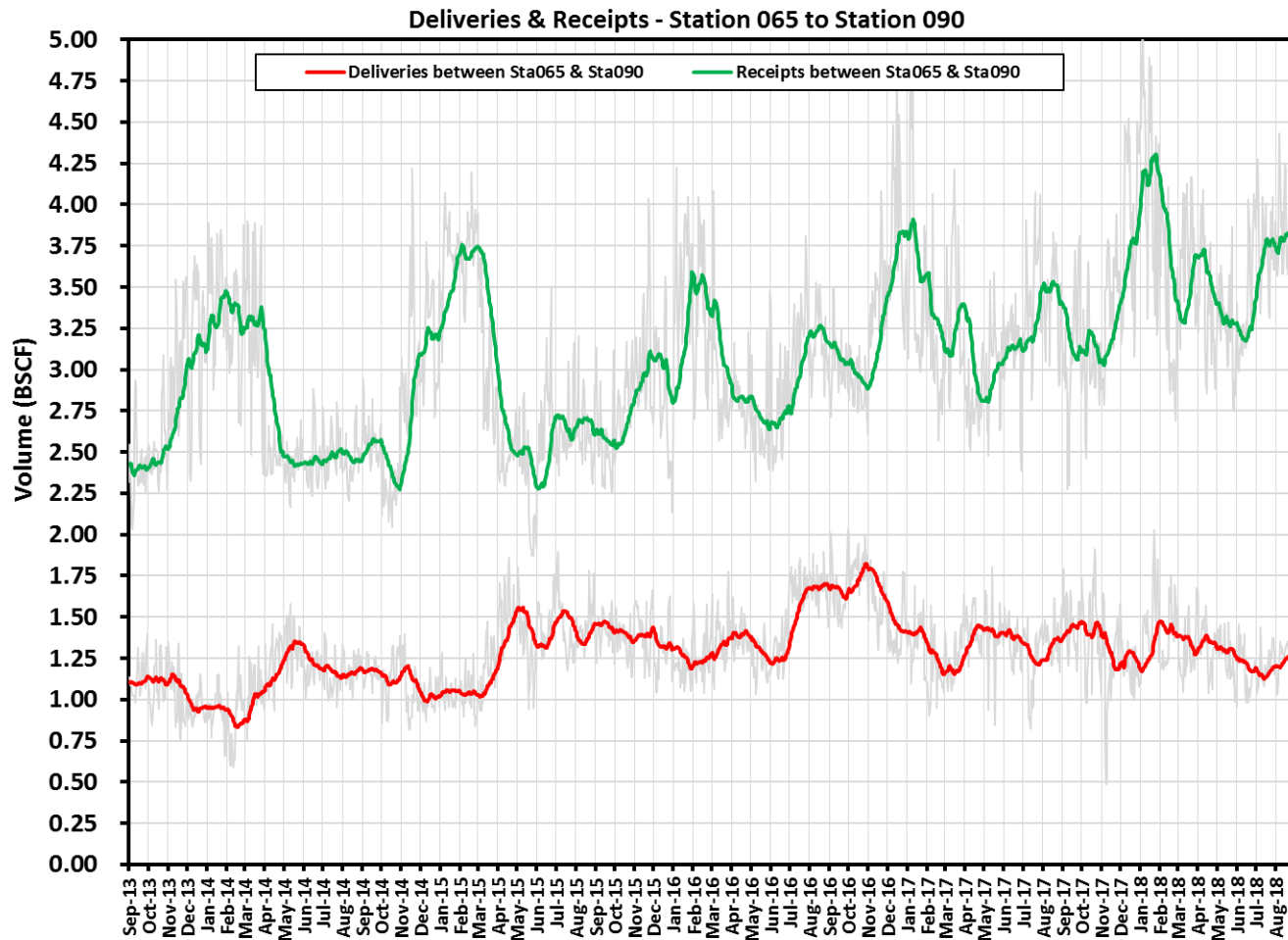
# System Load – Southern Market Area STA 90-130

## Growth in Southern Market Area



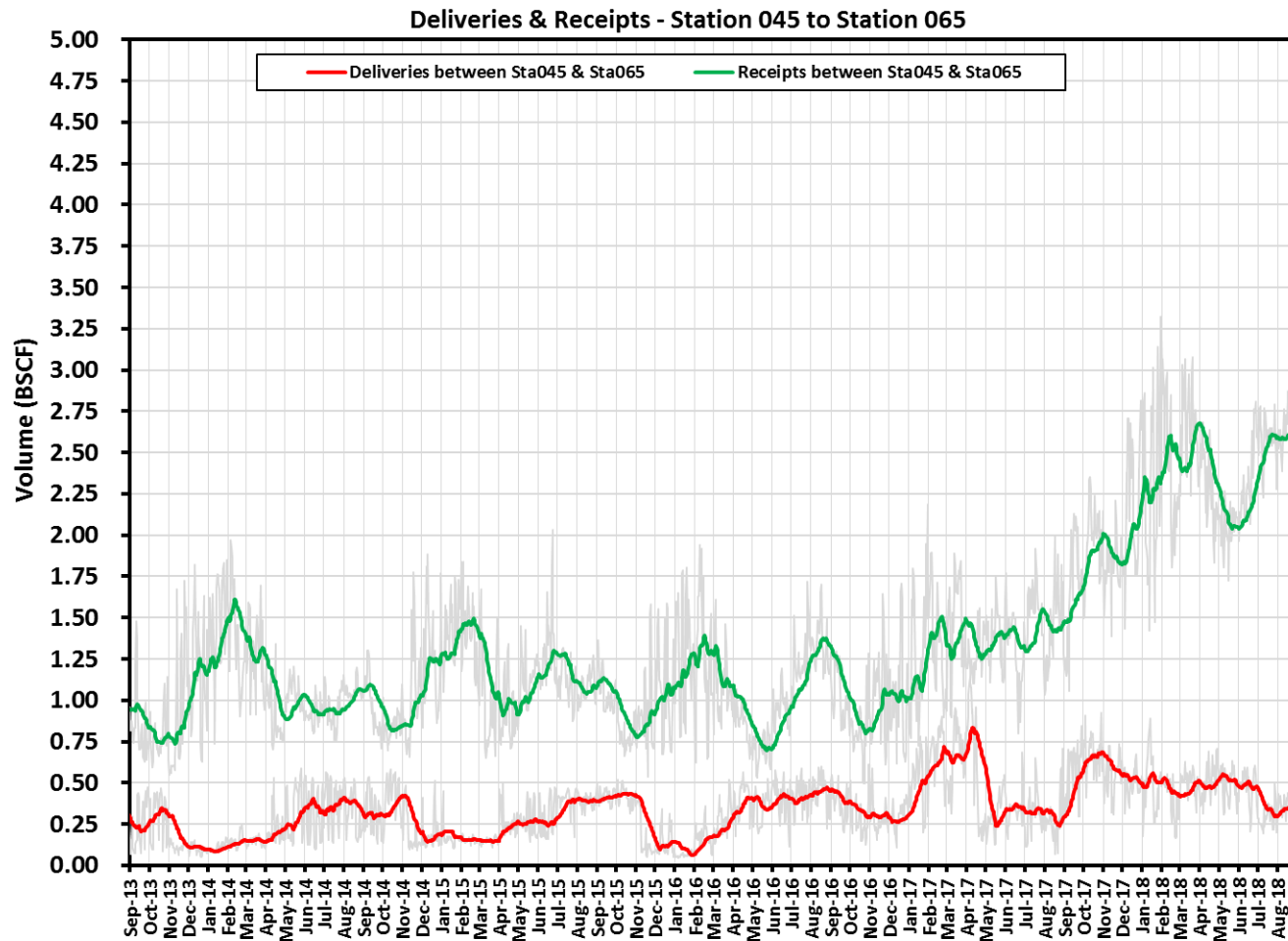
# System Load – MS/AL Market Area STA 65-90

## Growth in MS/AL Market Area



# System Load – Market Area STA 45-65

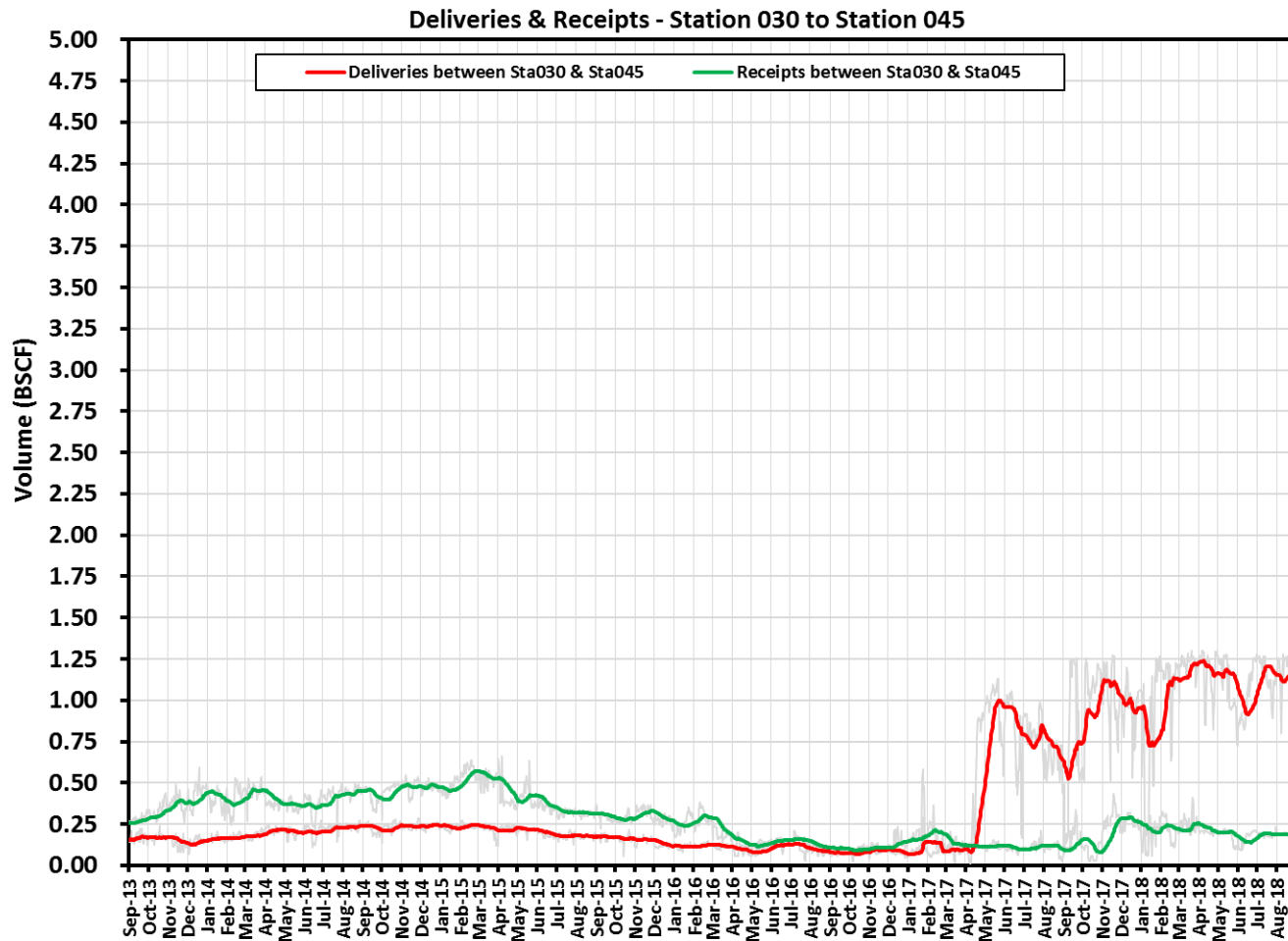
## Growth in Market Area





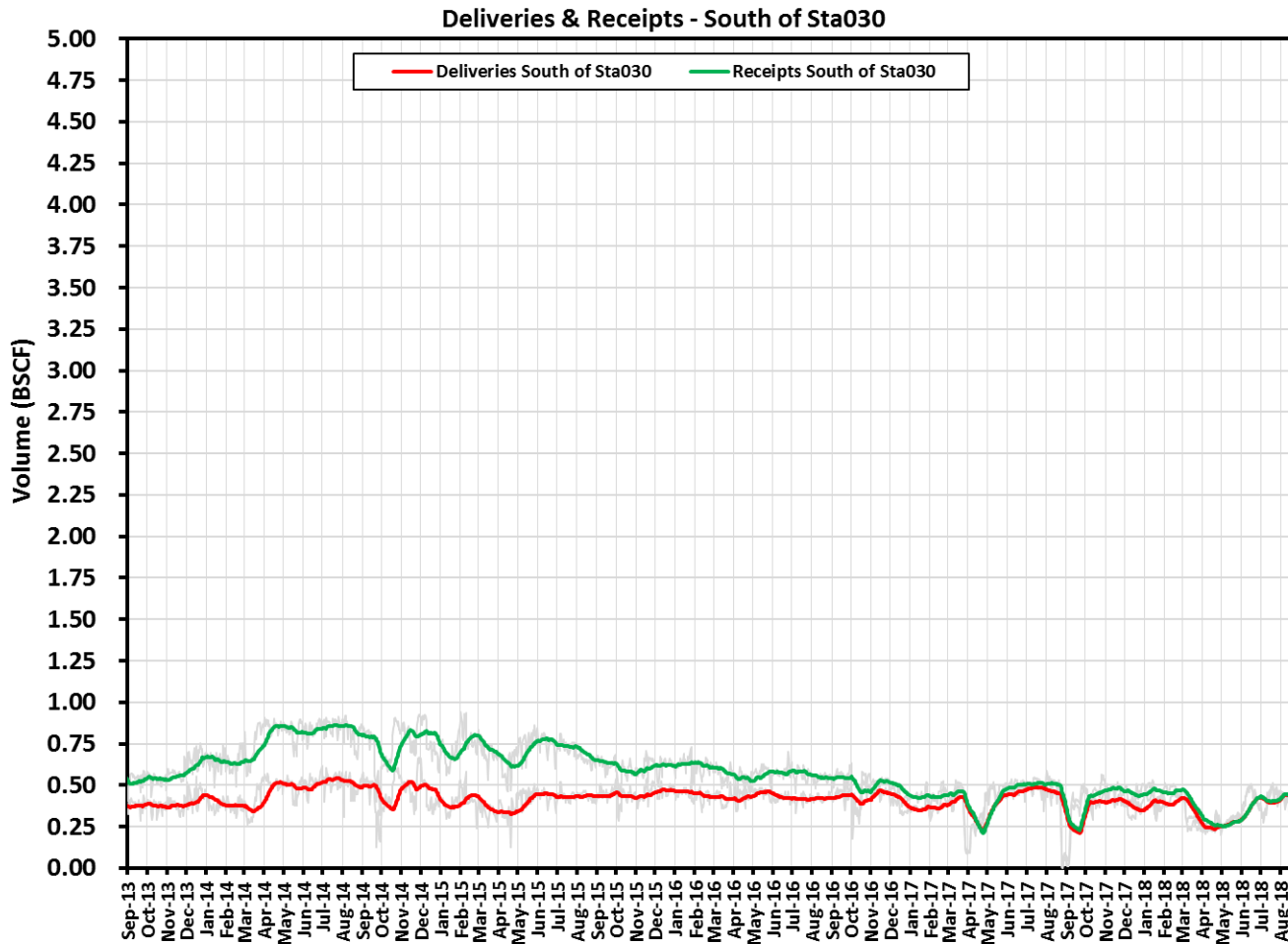
# System Load – Market Area STA 30-45

## Growth in Market Area

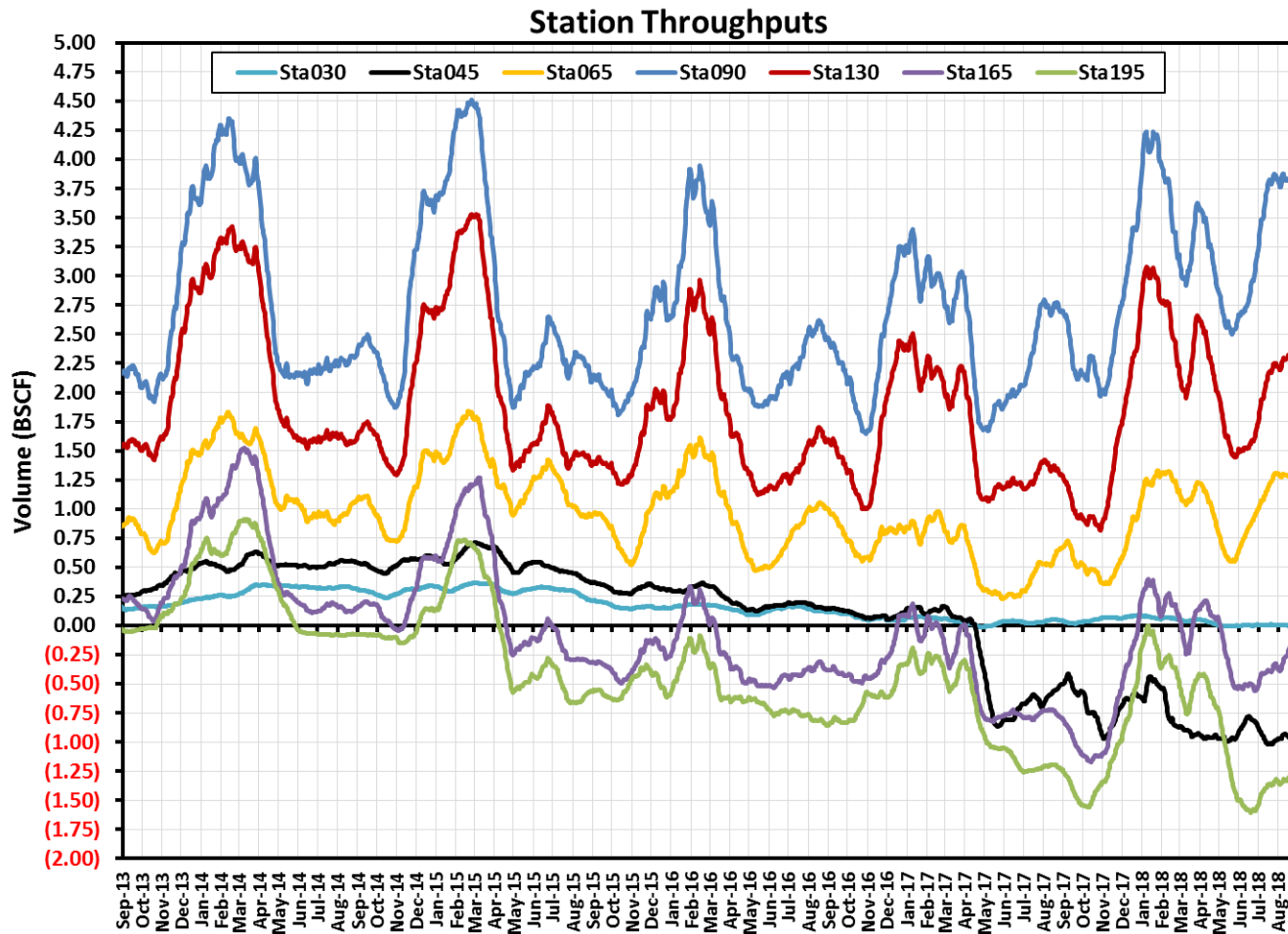


# System Load – Market Area South of STA 30

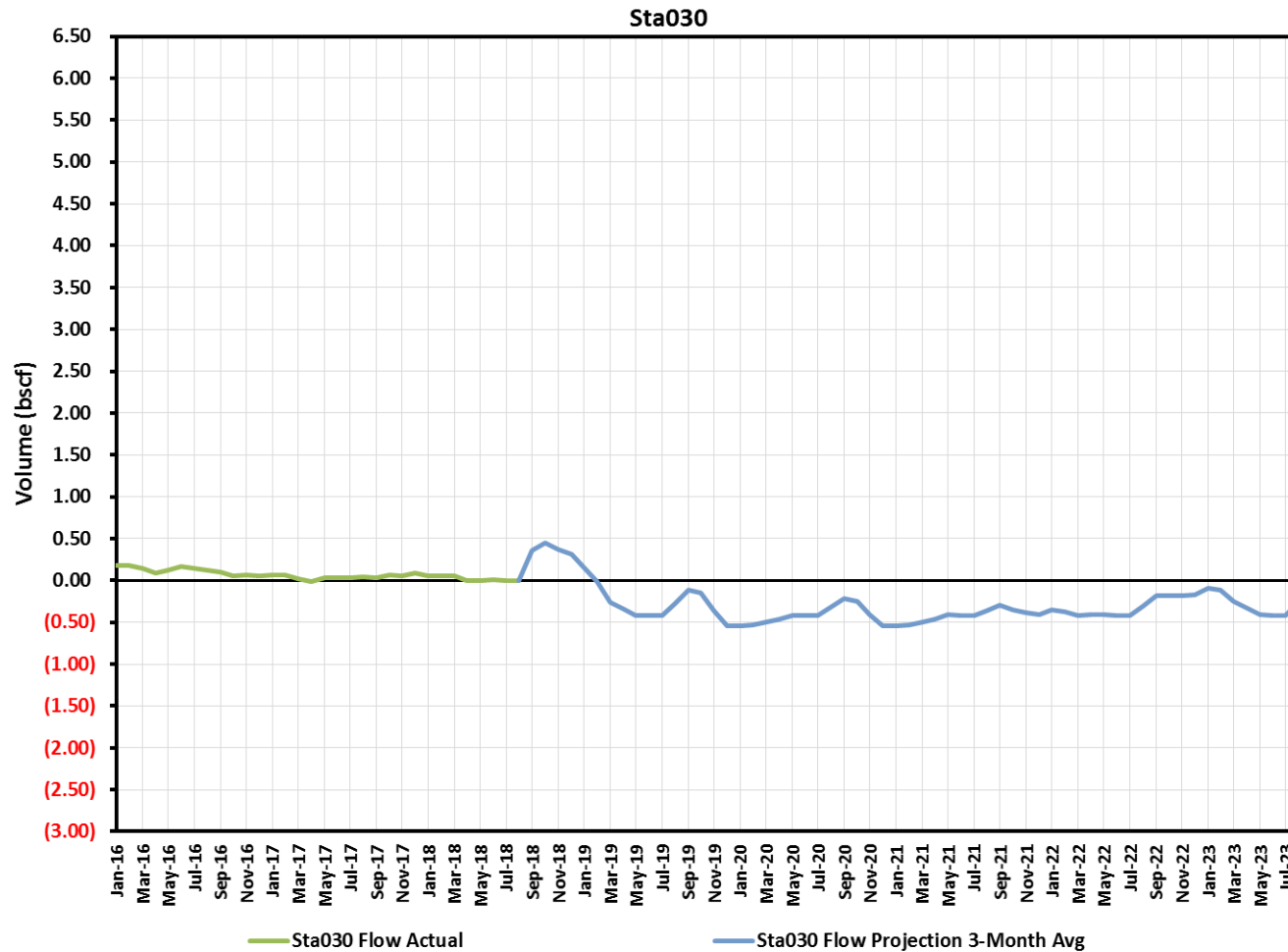
## Growth in Market Area



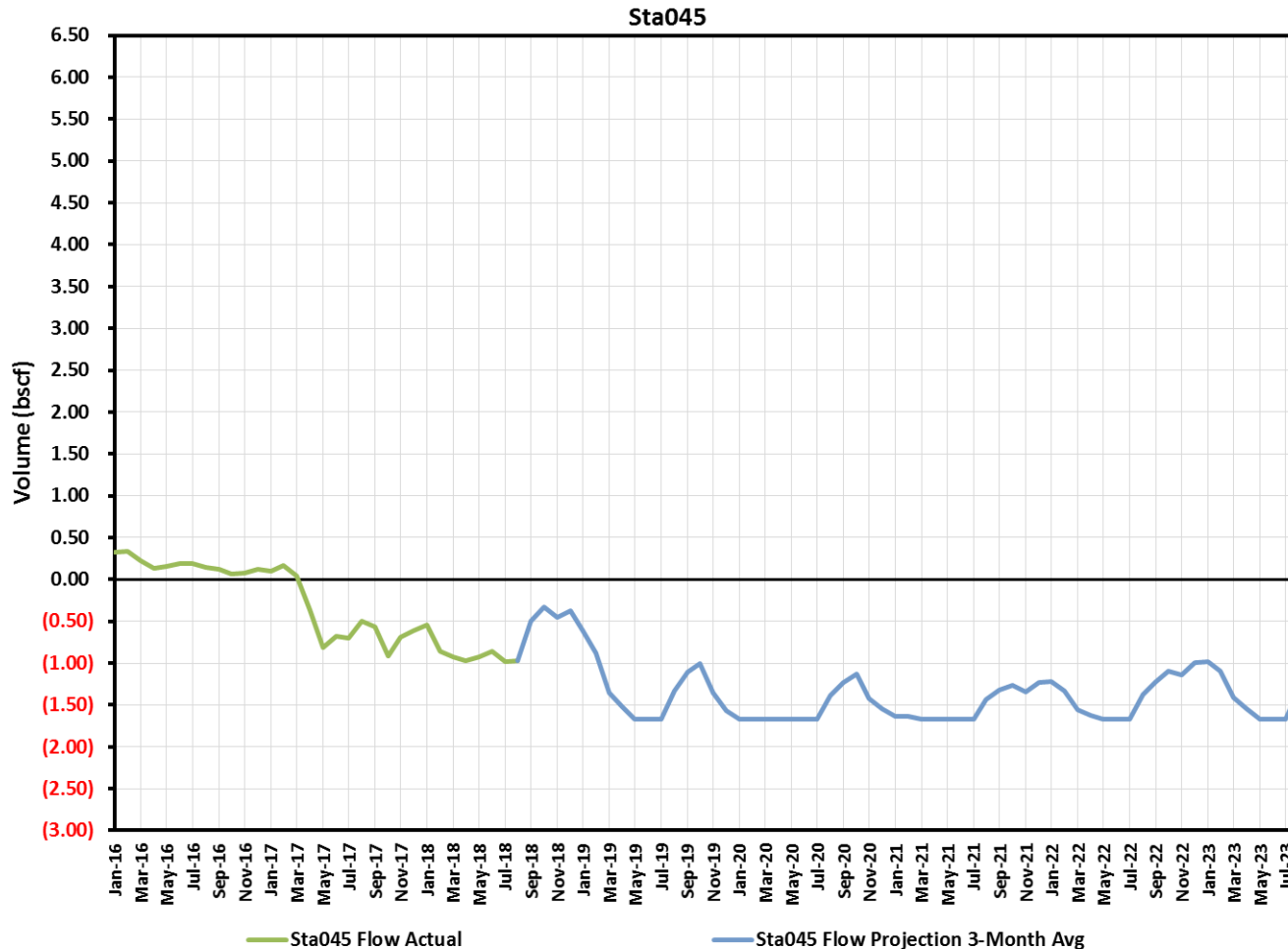
# System Throughput - Mainline



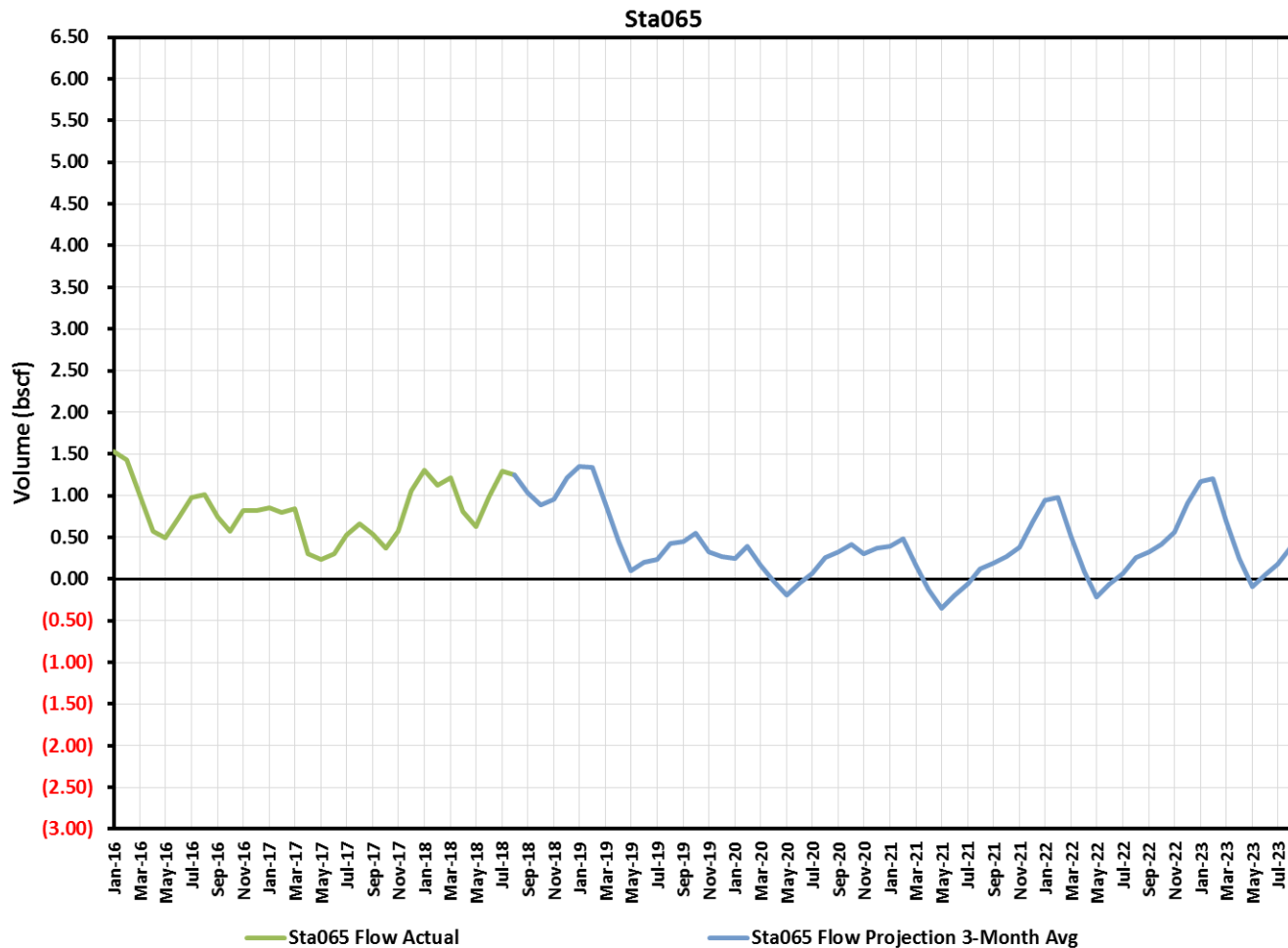
# Station 30 – Physical Flow Projection



# Station 45 – Physical Flow Projection

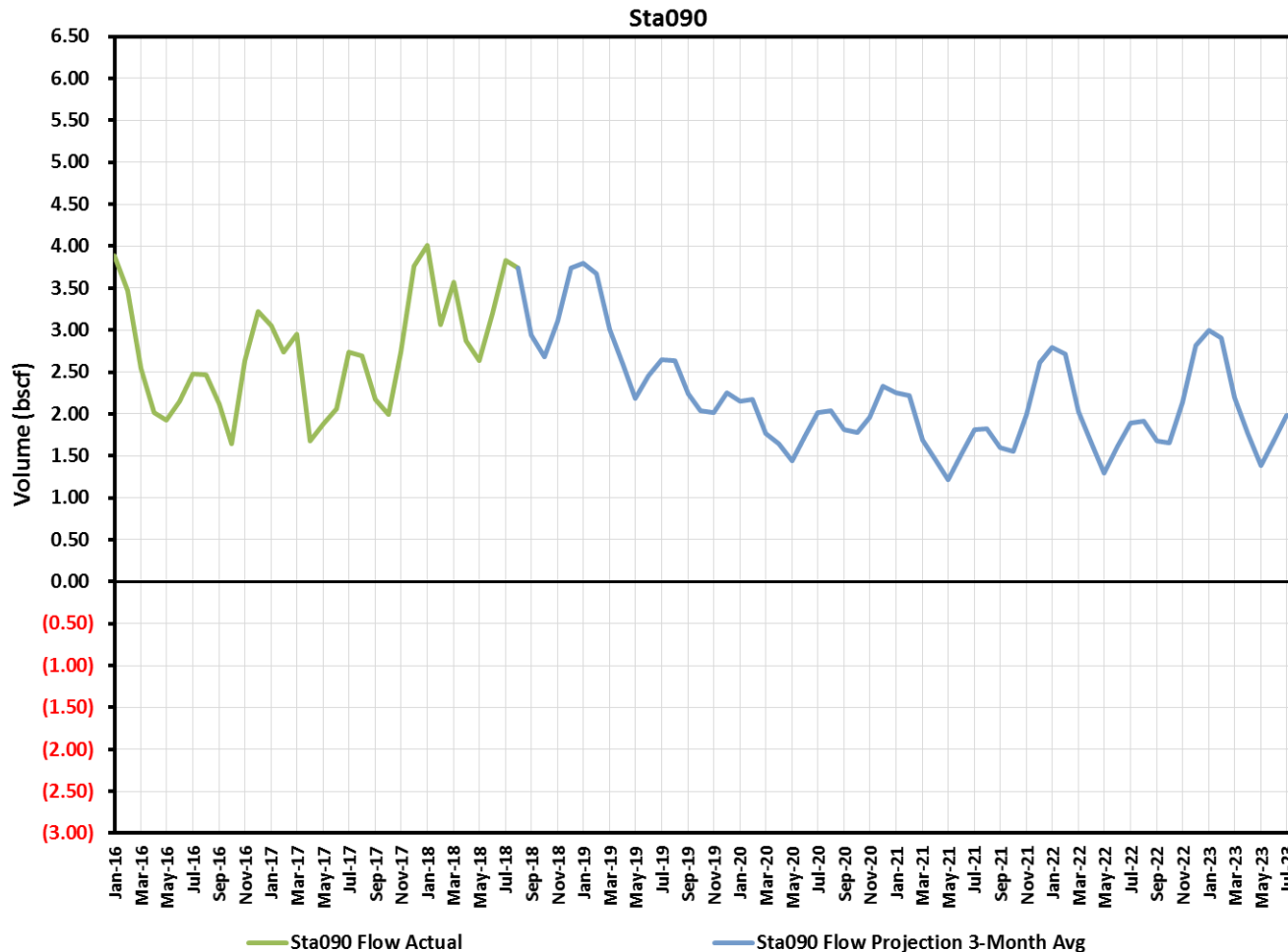


# Station 65 – Physical Flow Projection

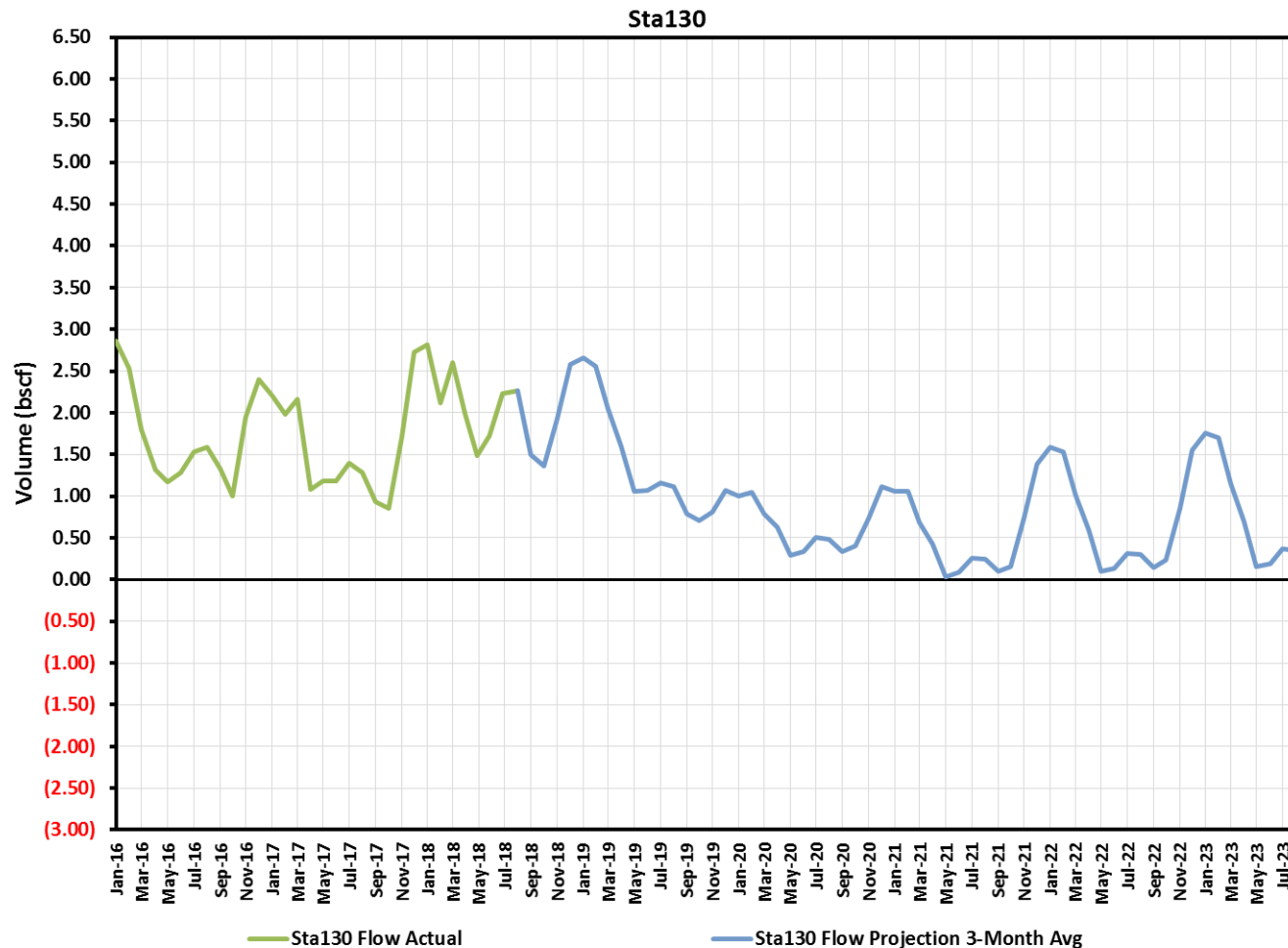




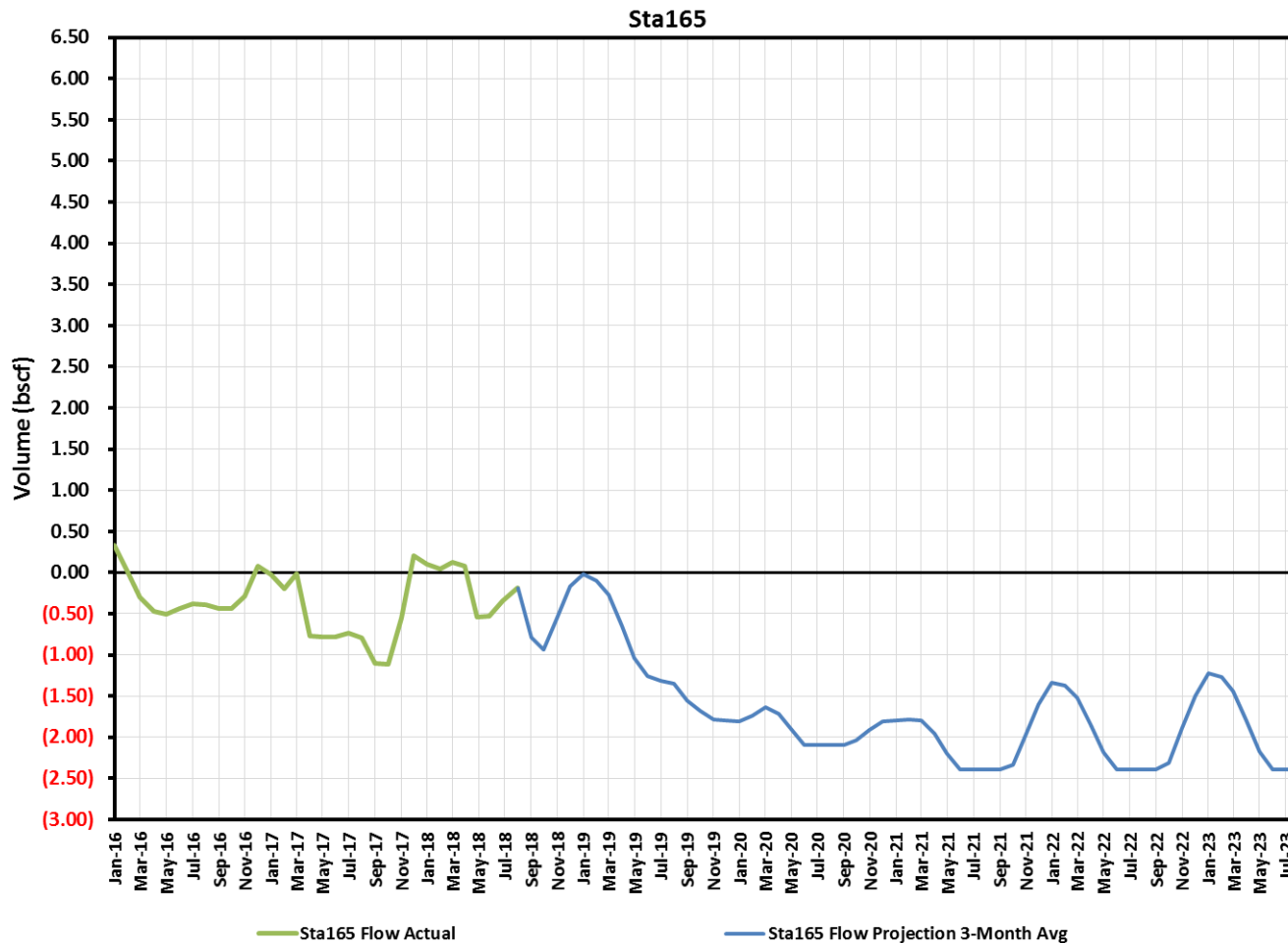
# Station 90 – Physical Flow Projection



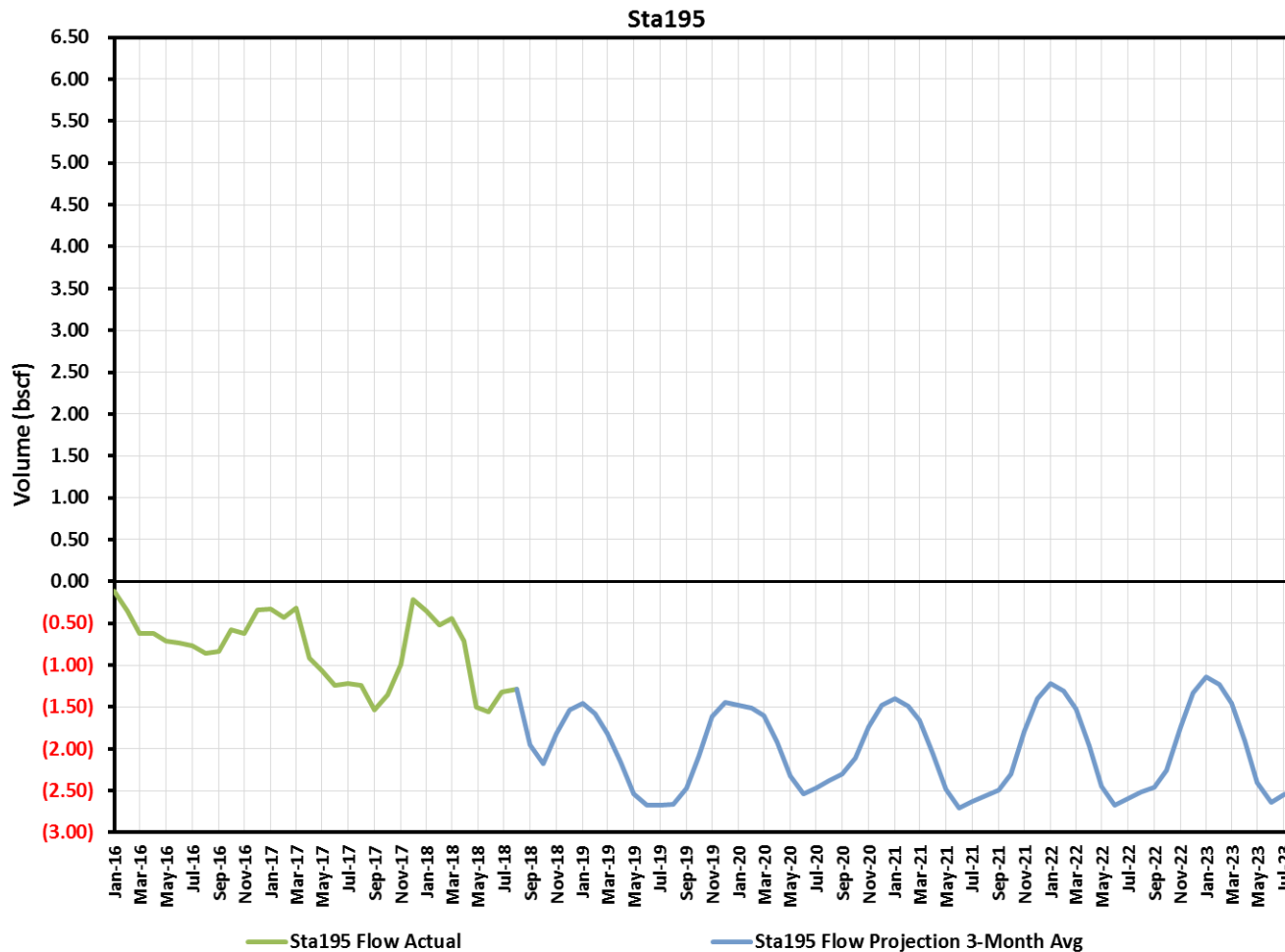
# Station 130 – Physical Flow Projection



# Station 165 – Physical Flow Projection



# Station 195 – Physical Flow Projection



# Questions?

