TGP NE Customer Meeting

New York, NY May 3, 2018











Agenda

Welcome and Introductions

Erin Mortimer Sherri Glazebrook

Operations/Scheduling Update

Cathy Soape Hutton Brian Merchant

Commercial Update

Jim McCord

DART Update

Nominations Contracts Erin Mortimer Sherry Noack

Discussion and Feedback

All



TRANSPORTATION SERVICES ORGANIZATIONAL STRUCTURE

DIRECTOR-SCHEDULING
TRANSPORTATION/STORAGE SRVCS
HOUSTON HEADQUARTERS
SHERRI GLAZEBROOK

ANALYST-BUSINESS PROCESS SR II TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

MARY COLCLASURE

ANALYST-BUSINESS PROCESS SR I TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

RIZWAN PIRZADA

MANAGER-SCHEDULING
TRANSPORTATION/STORAGE SRVCS
HOUSTON HEADQUARTERS

KATIE CORNUTT

MANAGER-SCHEDULING TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

CATHY SOAPE

ANALYST-BUSINESS PROCESS SR II TRANSPORTATION/STORAGE SRVCS COLONIAL BROOKWOOD CENTER

NEIL MARTIN

MANAGER-SCHEDULING TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

DEBBIE VASQUEZ

DSRs

MANAGER-SCHEDULING TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

DEBBIE VASQUEZ

MANAGER-SCHEDULING TRANSPORTATION/STORAGE SRVCS

HOUSTON HEADQUARTERS

CATHY SOAPE

WEARs

REP-SCHEDULER SR I TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

VERONICA ESPARZA

REP-SCHEDULER SR II TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

BOB KAHLDEN

REP-SCHEDULER SR I TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

TAMARA SCHNEIDER

REP-SCHEDULER SR II
TRANSPORTATION/STORAGE SRVCS
HOUSTON HEADQUARTERS

DANA GOODMAN

REP-SCHEDULER SR II TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

SUSANA LOPEZ

REP-SCHEDULER SR II TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

DEB SHIPMAN

REP-SCHEDULER SR II
TRANSPORTATION/STORAGE SRVCS
HOUSTON HEADQUARTERS

ADAM HARRIS

REP-SCHEDULER SR II TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

ERIN MORTIMER

REP-SCHEDULER SR II TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

CARLA VANNOY

REP-SCHEDULER SR I

TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

MANDEY ALLEN

REP-SCHEDULER SR I TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

CHARLOTTE HAWKINS

REP-SCHEDULER III

TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

AHSAN MOHAMMAD

REP-SCHEDULER III TRANSPORTATION/STORAGE SRVCS COLONIAL BROOKWOOD CENTER

DAVID SOKIRA

REP-SCHEDULER SR I

TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

GINGER BRYAN

REP-SCHEDULER SR I TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

NICOLE LANG

REP-SCHEDULER SR II

TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

JILL OVERMAN

REP-SCHEDULER SR II TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

DEBBIE TWEEDY

REP-SCHEDULER SR I

TRANSPORTATION/STORAGE SRVCS COLONIAL BROOKWOOD CENTER

TODD DAVIS

REP-SCHEDULER SR II

TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

PHYLLIS MILLER

REP-SCHEDULER SR I

TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

JEREMY RAINWATER

REP-SCHEDULER SR I TRANSPORTATION/STORAGE SRVCS HOUSTON HEADQUARTERS

NORMA VILLARREAL



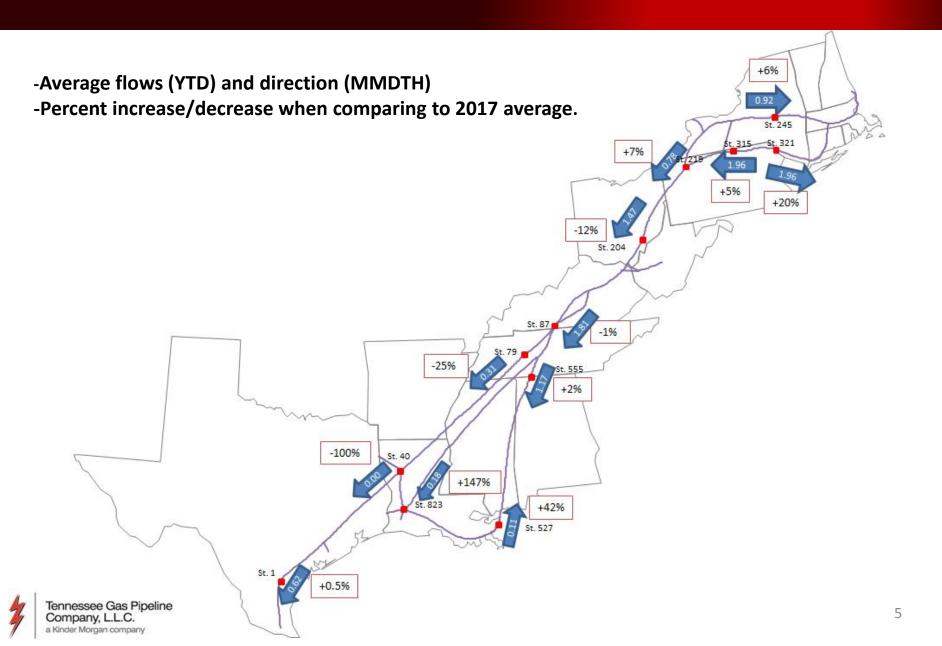
Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

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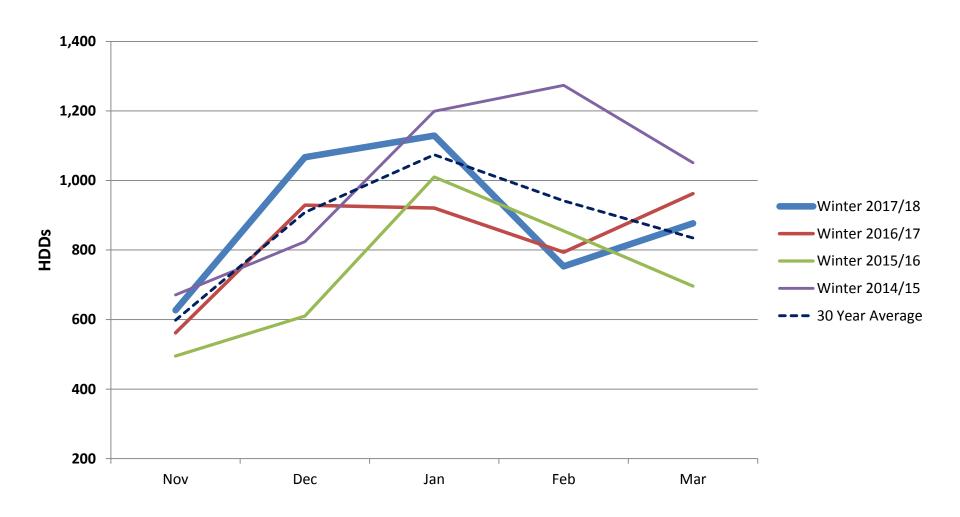
Winter Operations Look Back



TGP FLOWS

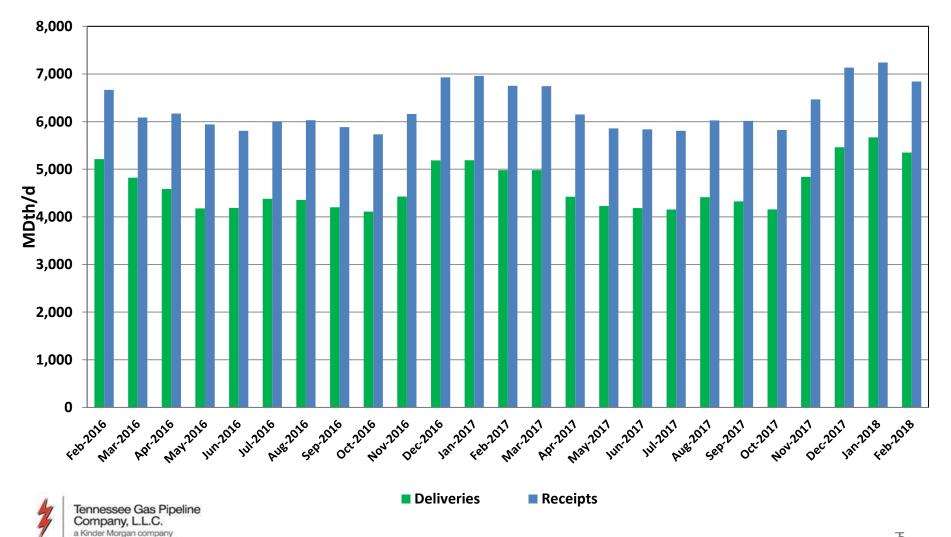


Winter 2017/18 Northeast Temperatures

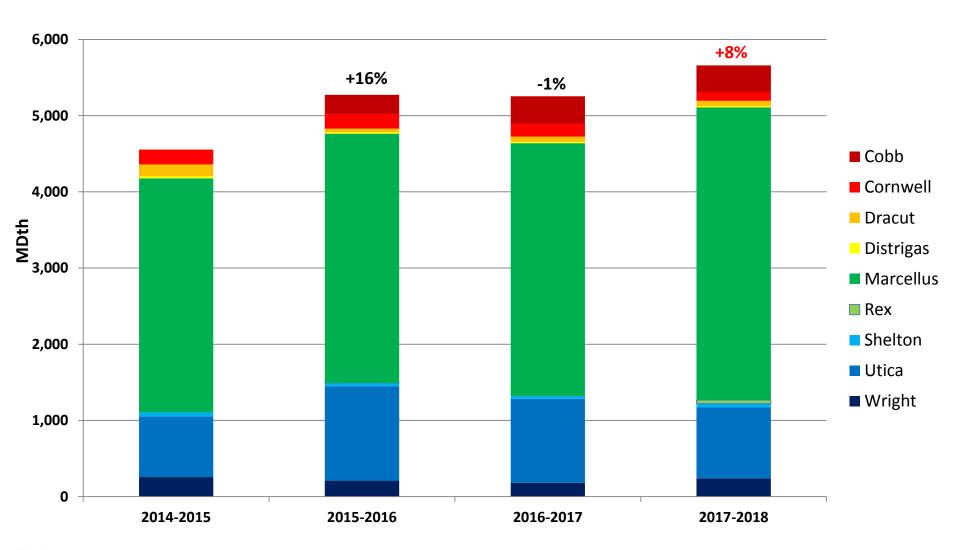




Average Daily Receipts and Deliveries in Zones 4, 5 and 6



Winter Northeast Supply Analysis





Winter System Wide Flows 2017/2018

	2015-2016	2016-2017	2017-2018	<u>Change</u>
LDC	1,659	1,724	1,880	+9%
Power	1,132	1,095	1,324	+21%
Pipeline Interconnects	4,938	5,170	5,371	+4%
Mexico	696	844	857	+1.5%
Other	365	300	215	-28%
TOTAL	8,790	9,133	9,647	+5.6%



TGP Top Flow Dates

System Wide Deliveries

Rank	Gas Day	MDth/d	Bcf/d
1	1/2/2018	12,045	11,638
2	1/4/2018	11,752	11,356
3	1/1/2018	11,572	11,180
4	1/6/2018	11,536	11,155
5	1/17/2018	11,516	11,120
6	1/5/2018	11,499	11,118
7	1/16/2018	11,379	10,992
8	1/13/2018	11,334	10,944
9	1/30/2018	11,309	10,924
10	12/15/2016	11,284	10,870

Storage Withdrawals

Rank	Gas Day	MDth/d	Bcf/d
1	1/23/2014	1,809	1,762
2	1/22/2014	1,728	1,683
3	2/11/2014	1,707	1,661
4	2/10/2014	1,670	1,626
11	1/4/2018	1,612	1,566

Power Plants

Rank	Gas Day	MDth/d	Bcf/d
1	1/17/2018	2,482	2,384
2	8/11/2016	2,402	2,304
3	8/12/2016	2,300	2,210
4	1/16/2018	2,282	2,197
5	8/10/2016	2,250	2,150



Winter 2016/2017 Restrictions

Restriction Point Highly Utilized TGP Paths	Percentage Days Restricted (November - March)	Percentage Days Restricted (November - March)	Percentage Days Restricted (November - March)	Percentage Days Restricted (November - March)
	2014/2015	2015/2016	2016/2017	2017/2018
Sta. 200/204	22.52%	64.47%	68.87%	68.21%
Sta. 245	100%	100.00%	99.33%	100.00%
Sta. 261	32.45%	68.42%	27.81%	81.46%
Sta. 267	5.29%	30.92%	55.63%	67.55%
MLV 268	0.00%	0.00%	0.00%	38.41%
MLV 273	0.00%	0.00%	17.22%	76.16%
Sta. 315 BH	100%	76.32%	96.69%	89.40%
Sta. 321	94.71%	86.18%	92.72%	92.05%
MLV 355 BH	5.96%	9.21%	5.30%	14.57%
Sta. 1 BH	11.26%	84.21%	0.00%	21.19%
Sta. 9 BH	0.00%	0.00%	43.71%	90.37%
Mahwah	64.24%	92.76%	88.08%	60.26%
Rivervale	80.79%	66.45%	80.79%	99.34%

OFO Winter Count

Nov - Mar

OFO Types	2014/15	2015/16	2016/17	2017/18
Monthly	0	6	2	2
Action	3	3	2	1
CD1	6	10	10	31
CD2	0	0	0	0
Balancing	7	2	11	6
Hourly	0	0	0	0
Total	16	21	25	38

Months include carry over OFOs



DART SCHEDULING TOOLS

No delivery nominations allowed to Dracut

No receipt nominations allowed at Mendon until ID1 (compared to EPSQ volumes)

No delivery nominations allowed at Wright/Shelton until ID1 (compared to EPSQ volumes)

Invalid nominations not allowed

Limitations of Storage Services/Linepack Services

No meter bounces allowed at power plants downstream (may be invoked)

EPSQ invoked on meters as needed

New restriction locations as needed

Imbalance Warnings

Monthly OFOs

Daily OFOs

Hourly OFOs – new screens coming

New Rate Card effective April 1, 2018



Summer Operations Preview



Summer Preview

Demand to remain strong across the system

Capacity Utilization on the 200/300 Line in Northeast should remain high

Marcellus and Utica Production to remain at High Levels

Southbound Flows

 Volumes through Station 87 should remain in the 2.0-2.2 Bcf/d as maintenance activities are completed

Exports to Mexico and Canada to remain strong

Storage Field Levels

- Northern Storage levels down from last year; better able to manage maintenance activities and handle market area supply swings
- Bear Creek Storage levels down from last year but on target; better able to handle higher power demand in the South

High level of system maintenance, repair, rebuild activity

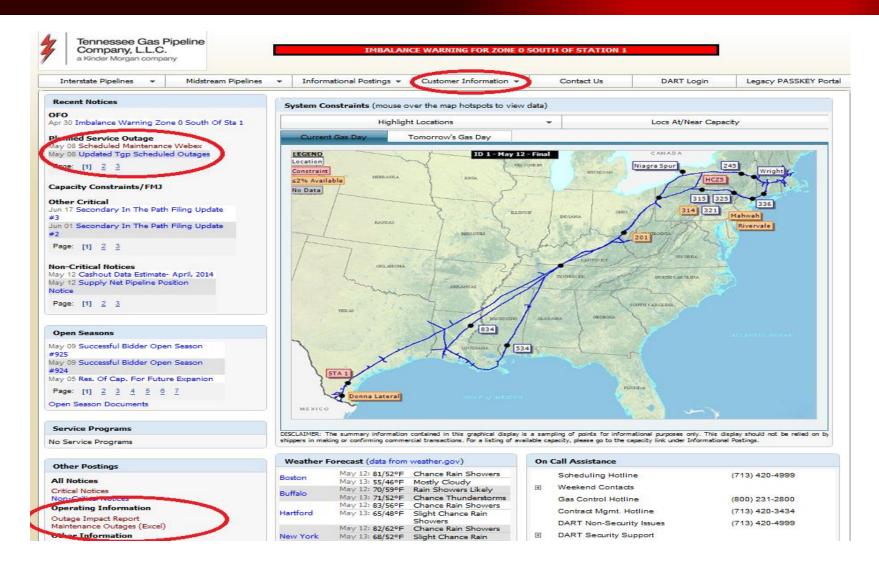
GETTING READY FOR WINTER



Pipeline Maintenance Reporting



EBB Website





Pipeline Maintenance Reporting on EBB

- Updated TGP Scheduled Outages Report (Word Document)
 - Posted under Planned Service Outages
 - Lists All Planned Scheduled Outages that may impact segment and/or meter capacity
 - Updated Weekly
- Maintenance Outages (Excel Document)
 - Posted under Operating Information
 - Same information that is noted in the Updated TGP Scheduled Outages Report
 - Located at the bottom of the EBB Main Page under Operating Information
 - Updated Weekly
- TGP Outage Impact Report
 - Posted under Planned Service Outages and Operating Information
 - Provides 7-Day Outlook and a 2/3-Month Weekly Outlook
 - Anticipated Segment Capacity due to Maintenance
 - Potential Restriction Levels due to Maintenance
 - Updated Weekly



Updated TGP Scheduled Outages Report

Portion of Report:

100 Line Outages

"MLV 1-1D to MLV 9-1S: Remediation

--1/18/18 through 6/15/18: This project will require taking the pipeline section out of service. This will limit throughput and may result in restrictions based on customer nominations. The meters listed below will be shut-in for the duration of the project. Potential in the path restrictions may be at risk. 421083 – DEVON GS/TGP PORT OF VICTORIA: DIP

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"MLV 1-2 to MLV 5-2: Pig runs - Cleaning 5/15/18, Cleaning 5/16/18, Gauge 5/17/18, MFL 5/24/18

--5/15/18 through 5/25/18: This activity will require operating at controlled flow rates. Customers may experience pressure fluctuations; however, no other service impact is anticipated. Potential in the path restrictions may be at risk.

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Maintenance Outage Report (Excel)

Portion of Report:

Start Date	End Date	Reason Changed	Prev. Start Date	Prev. End Date	Location	Leg	Zone	Maintenance Activity	Anticipated Impact	Potential Restriction Level	TOS Potential Restrictions	Meter(s) in Impacted Area
1/18/2018	6/15/2018				MLV 1-1D to MLV 9-1S	100	0	Remediation	This project will require taking the pipeline section out of service. This will limit throughput and may result in restrictions based on customer nominations. The meters listed below will be shut-in for the duration of the project.	SIP	Potential in the path restrictions may be at risk.	421083 – DEVON GS/TGP PORT OF VICTORIA: DIP
5/15/2018	5/25/2018				MLV 1-2 to MLV 5-2	100	0	Pig runs - Cleaning 5/15/18, Cleaning 5/16/18, Gauge 5/17/18, MFL 5/24/18	This activity will require operating at controlled flow rates. Customers may experience pressure fluctuations; however, no other service impact is anticipated.	SIP	Potential in the path restrictions may be at risk.	

TGP Outage Impact Report (7 day)

Portion of Report:

	TGP - Outage Impact Report Seven Day Forecast (updated 04/19/18)							-Primary Impact rectrictions may be necessary -Major Impact restrictions may be necessary -Minor Impact restrictions may be necessary depending on flow conditions -Little to no Impact, though minor outages may cause incremental reductions	
Station # / Lateral (FH)=forward haul	Maximum Operational Capacity	Saturday (4/21)	Sunday (4/22)	Monday (4/23)	Tuesday (4/24)	Wednesday (4/25)	Thursday (4/26)	Friday (4/27)	Primary Outage(s) that may impact Throughput
(BH)=backward haul	(Thousand Dth)		Ect. Op	erational Capac	ity (Operational	Impaot) - Thousa	and Dth		
Station 409 (Donna Line) (segment 490 FH)	562	470 (92)	470 (92)	470 (92)	470 (92)	470 (92)	470 (92)	470 (92)	MLV 400-1 (STATION 1) to MLV 409-1: Remediation (4/9/2018 - 4/27/2018)
Station 408 MLV 408 (segment 408 BH)	423	423	423	423	423	423	423	423	
Station 1 (segment 101 BH)	238	238	238	238	238	238	238	238	
Station 9 (segment 109 BH)	739	515 (224)	515 (224)	515 (224)	515 (224)	515 (224)	515 (224)	515 (224)	MLV 1-1D to MLV 9-1S: Remediation (M) (1/18/2018 - 6/15/2018), MLV 2-1 to MLV 4-1: Pressure Weld Replacement (3/13/2018 - 5/1/2018), Sta 3A: New Station Tie-In (100-1 line) (3/12/2018 - 4/30/2018)



TGP Outage Impact Report (Monthly)

Portion of Report:

			Capacity Impa 018 (updated 0			-Primary impact restrictions may be necessary -Major impact restrictions may be necessary -Minor impact restrictions may be necessary depending on flow conditions -Little to no impact, though minor outages may cause incremental reductions	
Station # / Lateral	Est Nominal Design Capacity (Thousand Dth.)	Week 1 (4/30 - 5/6)	Week 2 (5/7 - 5/13) But Operational 6	Week 3 (5/14 - 5/20) Specify (Operational In	Week 4 (5/21 - 5/27) each - Thousand Db	Week 5 (5/28 - 6/3)	Primary Cutage(s)
Station 409A (Alamo) (segment 492 FH)	242	242	185 (57)	242	242	242	Sta 409A: Annual ESD Test (5/7/2018 - 5/11/2018)
Station 409 (Donna Line) (segment 490 FH)	562	562	505 (57)	562	562	562	Sta 409A: Annual ESD Test (5/7/2018 - 5/11/2018)
MLV 406 (segment 406 BH)	423	423	423	423	423	423	
Station 1 (segment 101 BH)	238	238	238	238	238	238	
Station 9 (segment 109 BH)	739	515 (224)	500 (239)	430 (309)	430 (309)	630 (109)	MLV 1-1D to MLV 9-10: Remediation (M) (1/18/2018 - 6/15/2018), MLV 1-2 to MLV 5-2: Pig runs - Cleaning 5/15/18, Cleaning 5/15/18, Gauge 5/17/18, MFL 5/24/18 (M) (5/15/2018 - 5/12/2018), MLV 2-1 to MLV 4-1: Pressure Weld Replacement (3/13/2018 - 5/1/2018), Gta 3A: New Station Tie-in (100-2 line) (5/17/2018 - 5/14/2018), Gtb 3A: New Station Tie-in (100-2 line) (5/17/2018 - 5/14/2018)



Commercial Update

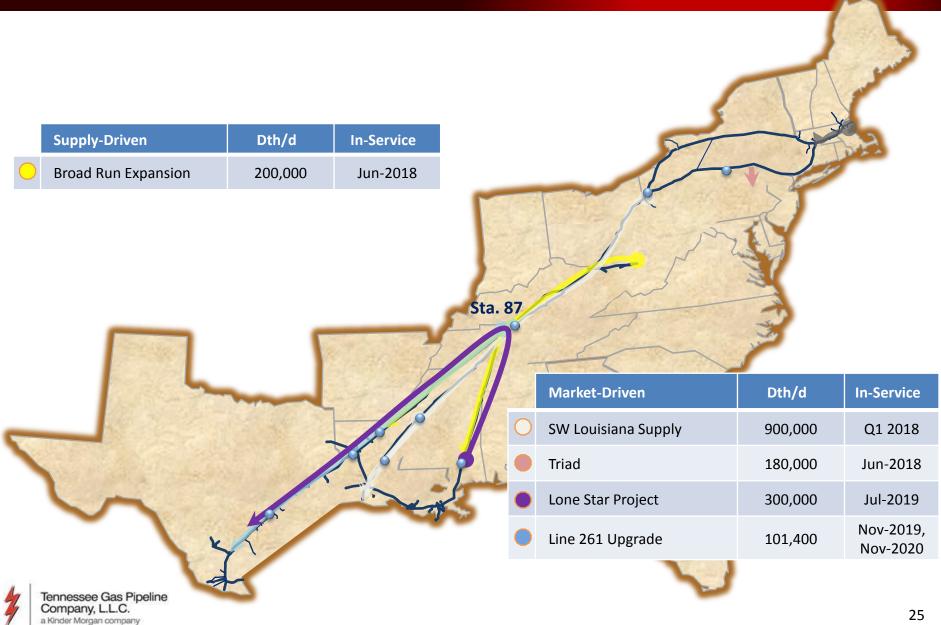


TGP's Recent Development Projects

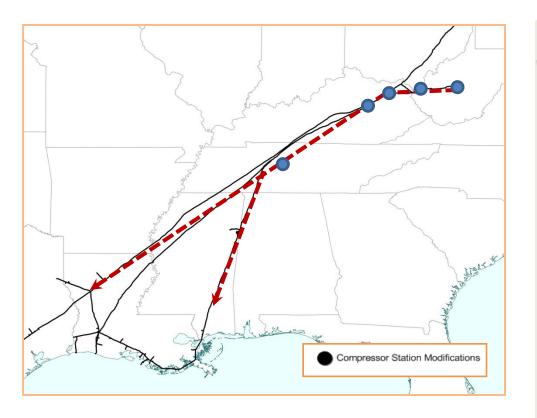
Name	Volume (Dth)	Shippers	Effective Date	Progress
Susquehanna West	145,000	StatOil	Sept 2017	In-service
Connecticut Expansion	72,100	Connecticut Natural, Southern Connecticut, Yankee	Nov 2017	In-service
Orion (Marcellus to Milford)	135,000	South Jersey Resources South Jersey Gas; Cabot	Dec 2017	In-service
Triad (Invenergy)	180,000	Lackawanna Energy (Invenergy)	June 2018	Facilities Complete (Commercial Contracts June 2018)
Southwest Louisiana Supply Project (Cameron LNG)	900,000	Mitsui, Mitsubishi	March 2018	In-service
Broad Run Flexibility Broad Run Expansion	590,000 200,000	Antero Resources	Nov 2015 June 2018	590,000 Dth/d – In-service 200,000 Dth/d – Under Construction
Lone Star	300,000	Cheniere	July 2019	Under Construction Certificate received Dec 15, 2017 Full NTP received Jan 16, 2018
Line 261 Upgrade	101,400	Columbia Mass, Holyoke	Phased in- service 2019- 2021	Regulatory/Permitting Phase



TGP Active Projects



Broad Run Expansion Project – *Under Construction*

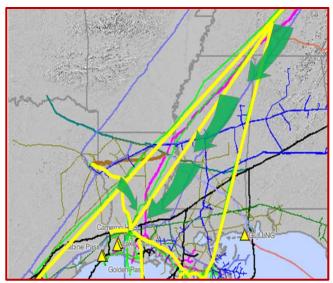


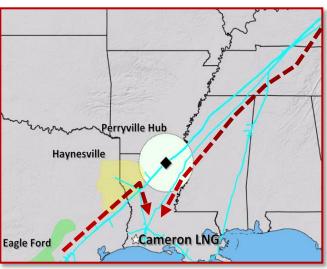
Details

- Commercial Driver:
 - SW Marcellus/ Utica production to Gulf Coast markets
- Capacity: 200,000 Dth/d
- Customer: Antero Resources
- Estimated In-service: June 2018
- Project Scope:
 - New compression/HP replacement at 2 existing stations (S114 and S106)
 - New compression at 4 greenfield stations (S118,S119, S875 and S563)
- Current Status:
 - Docket CP15-77-000
 - FERC Certificate Received September 6, 2016
 - ➤ NTP received June 30,2017



Southwest Louisiana Supply Project





Details

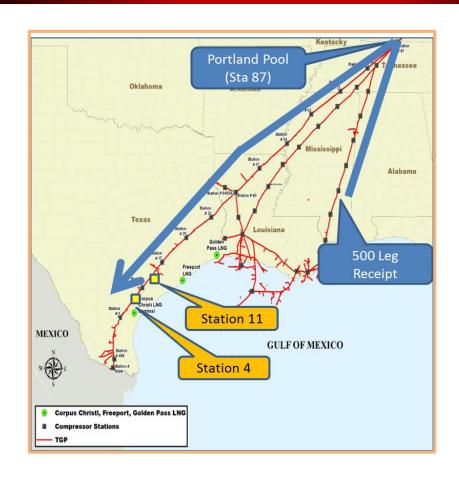
- Commercial Driver: Supply from multiple basins to Cameron LNG Export Facility
- > Capacity: 900 MDth/d
- Customer: Mitsubishi, MMGS
- Estimated In-service: Q1 2018
- Project Scope:
 - Station reversals: S847, S834, S827 and S823
 - ➤ 18,000 HP of new compression
 - ➤ 2 new laterals (3.8 miles) for enhanced supply access to Perryville/Delhi
 - ➤ 5 new pipeline interconnects: MEP, Tiger, Gulf South, Gulf Crossing, Line CP
- Project Status:
 - > FERC application filed October 26, 2015
 - > FERC Certificate Received December 15, 2016
 - Received Full NTP February 27, 2017

Lone Star – *Under Construction*

Details

Commercial Driver:

- Supply for new Corpus Christi LNG export project
- > Capacity: 300,000 Dth/d
- > Customer: Cheniere
- > Estimated In-service: July 2019
- > Project Scope:
 - 2 new compressor stations (3A and 11A)
- Current Status:
 - Docket CP16-496-000
 - > FERC filing August 19, 2016
 - Certificate received December 15, 2017
 - Received full NTP January 16, 2018
- > Corpus Christi Liquefaction Status
 - Under construction 77.4% complete as 4Q2017
 - Train 1 COD 1Q 2019
 - Train 2 COD 3Q 2019



Line 261 Upgrade – Regulatory /

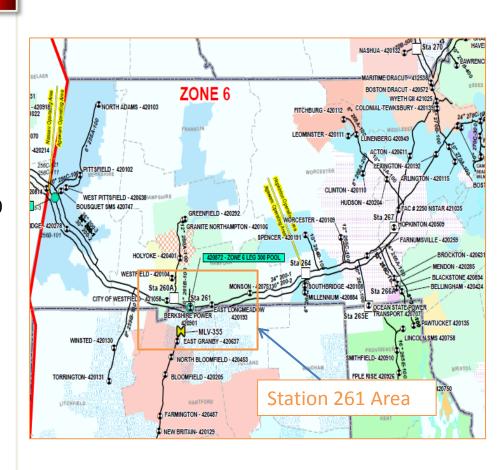
Permitting Phase

Details

- Commercial Driver:
 - Residential/commercial gas demand growth
- > Capacity: 101,400 Dth/d
- Customer: Columbia Gas of Mass (96,400)

Dth/d) / Holyoke (5,000 Dth/d)

- > Phased In-service 2019-2021 timeframe
- Project Scope:
 - New delivery meter
 - HP Replacement at Station 261
 - ☐ 2 miles of looping Springfield Lateral



DART Nominations/Contract Update



DART Modifications – Noms/Confs

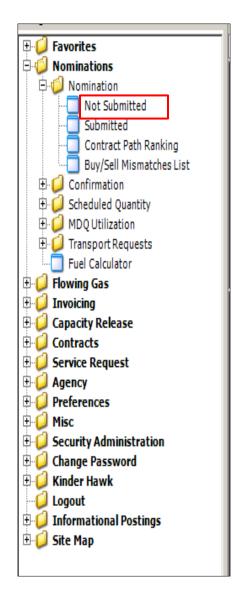
Request Description	Status
Confirmations for subsequent cycles	Complete
Ability to edit/modify submitted nomination batch	Complete
Contract Path Tab – Add row #	3 rd Quarter
Enhance Subscription to Critical Notices for subcategory	
options	Complete

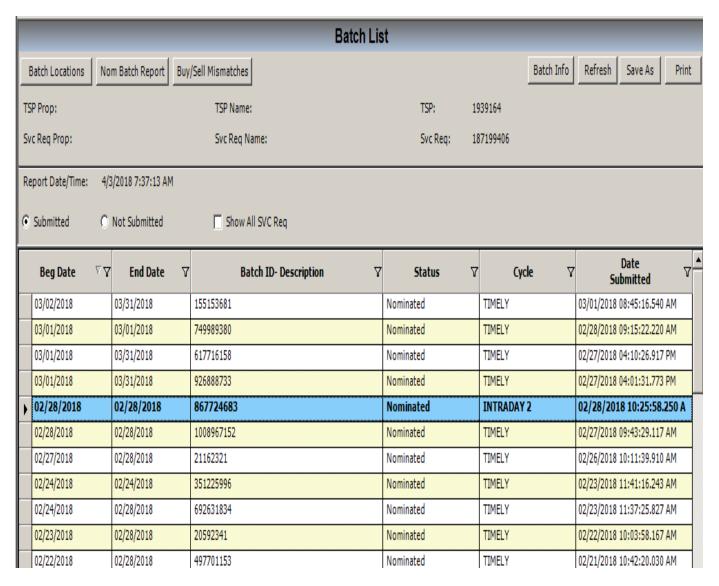


New Copy Batch Feature

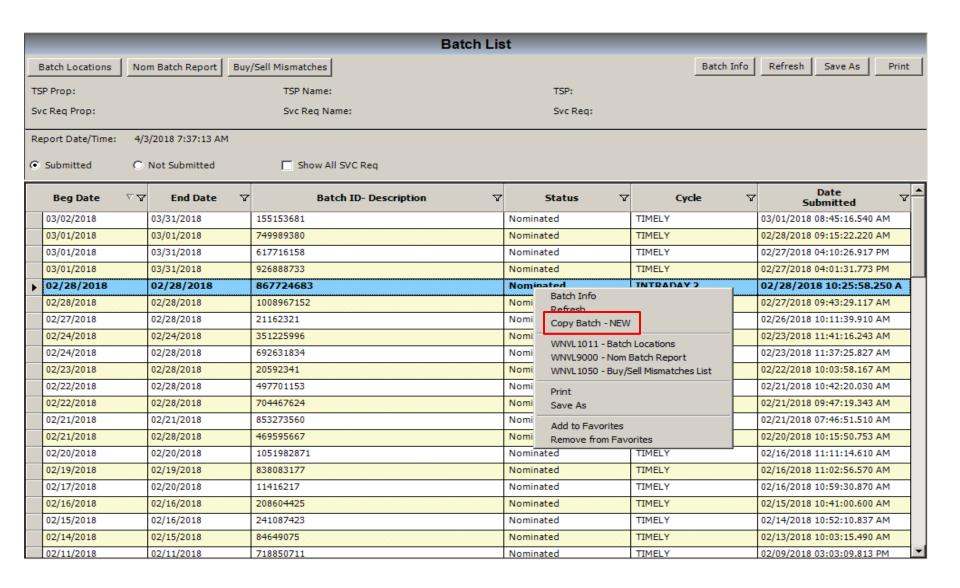
- Enhancement to allow copy of a "Nominated" batch into a new draft
- Shortcut to modify a nomination that is already submitted
- Most useful tool for making changes to a recently submitted nom (ex: volume or party change)





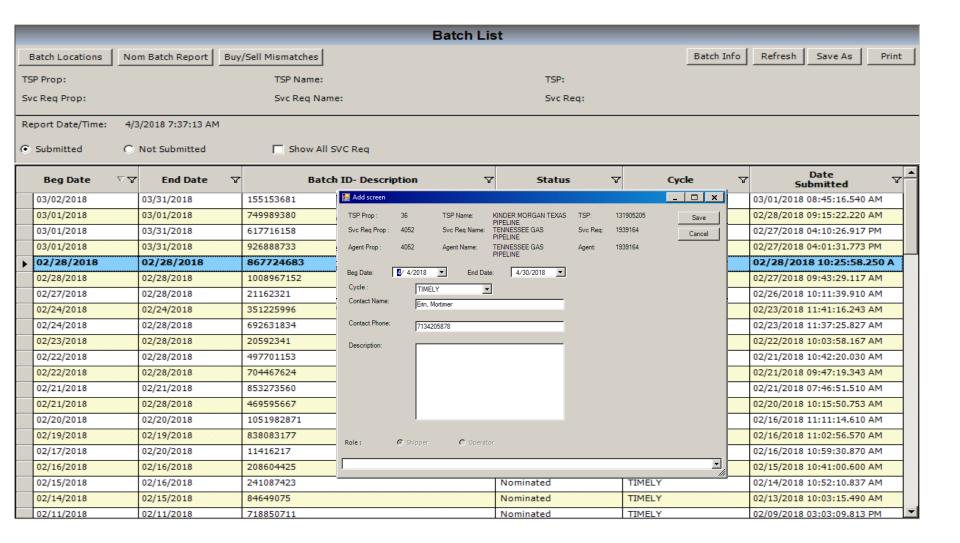


Go to Nominations folder Select 'Submitted' to retrieve screen with list of nomination batches in 'Nominated' status Select nomination batch row



Right click on selected batch and pop up box will display Select new option in menu called 'Copy Batch – "New"'

This option will create a duplicate of the nomination batch selected...i.e. locations, volumes, etc.



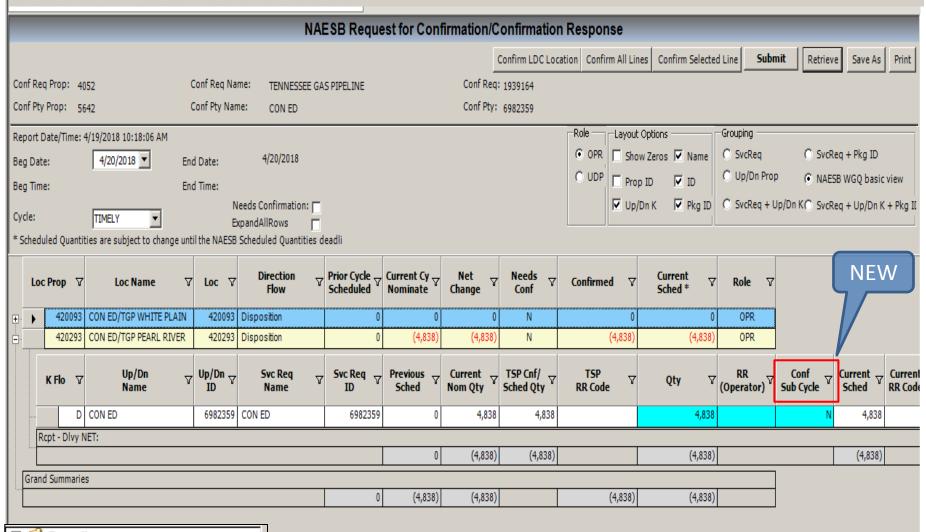
Select "Copy Batch" and enter desired nomination date and cycle to create duplicate batch in draft. This new draft will include all original nomination inputs of locations, transaction types, volumes, etc.

Once an existing batch is copied, a nomination may be easily modified to resubmit for same date cycle or to build for a future cycle.

New Conf Sub Cycle Feature

- NAESB feature allowing confirming parties to set volumes for consecutive cycles in the gas day
- Gives confirming parties flexibility to pick and choose which NAESB cycles to set volumes





Favorites
Nominations

Confirmation
Confirmation
Maintain Confirmation by Excep
CDP Profile
TGP - Imbal Calc Operational an
CIG - Confirmation Balancing Ex
Scheduled Quantity

Go to Confirmations and select 'Confirmation' screen. Select meter transaction to confirm and expand. New feature will display 'Conf Sub Cycle'.

DART Modifications – Contracts

Other Upcoming Capacity Release Enhancements	Status
	Complete
Re-release Indicator	
Ability to release 100% of primary available quantity with	
the click of a button	Complete
Ability to copy an offer with one click instead of two	Complete
Automatically delete the zero when clicking in the Max	
Offer Quantity box instead of manually deleting	Complete
Add more filters to the All Offers/Awards screen	Complete
Other Upcoming Capacity Release Enhancements	Status
Offer an un-editable format for the Capacity Release	User Test – May
Award Audit Report in addition to the Excel format	implementation
	User Test – June
Capacity Release Offer Upload	Implementation



Discussion And Feedback









