Part 3

PART C

Direct Testimony Summary - Bernadette Johnson

Drilling Info, Inc. was engaged by the Staff of the Virginia State Corporation Commission and my key findings include:

1) The overall size of the portfolio of transportation assets is reasonable for the operation of the DEV fleet.
2) In last year's case summary DI had also concluded that the size of the portfolio was appropriate but pointed out that most of the generation fleet was vulnerable to extreme price spikes in Transco Z5 during peak winter days.
3) As DI predicted, the completion of Transco's Atlantic Sunrise expansion project provided significant relief to these extreme prices in Transco Z5 during Winter 18/19.
4) Any additional projects that can deliver gas into the Transco Z5 area will further alleviate any potential price spikes by providing an abundance of cheap Appalachian gas to the region from a diverse collection of routes.
5) DEV also appears to be conducting best efforts to maximize the value of the portfolio on behalf of its customers. DEV monetizes its unused portion of the portfolio according to best industry practices.
6) Any auditable details DEV can provide of transactions executed for these efforts would provide the Commission confidence that it is being conducted consistently.

PRE-FILED TESTIMONY

OF

BERNADETTE JOHNSON

BEFORE THE

STATE CORPORATION COMMISSION OF VIRGINIA

Case No. PUR-2019-00070

JULY 03, 2019

Q1. PLEASE STATE YOUR NAME AND OCCUPATION.

A1. My name is Bernadette Johnson, and I am Vice President, Strategy and Analytics for Drilling Info, Inc. ("Drilling Info").

Q2. PLEASE DESCRIBE YOUR BACKGROUND AND QUALIFICATIONS.

A2. I lead the Strategy and Analytics Group at Drilling Info, including all related consulting engagements and research efforts. Over my career in the energy industry, I have accrued extensive experience providing crude and natural gas fundamentals analysis and advisory services to various players in North American and global energy markets. My specific market experience spans: financial trading, production forecast and reserve analysis, infrastructure analysis, processing/gathering/refining analysis, storage valuation, and regional and benchmark price forecasting. My research and analysis has been utilized by numerous entities in the energy space for evaluating investments and specific transactions. Our client list includes several Fortune 500 companies, and our research was referenced and cited in the EIA Quadrennial Energy Review. I joined Drilling Info through the acquisition of products and services from Ponderosa Advisors in November

2016. As a founding partner at Ponderosa Advisors, I led the Energy Analytics team and was responsible for all related consulting engagements and market research efforts. Prior to joining Ponderosa Advisors, I was a Senior Research Analyst for Sasco Energy Partners in Westport, CT. In this role, I provided and managed fundamentals research for a team of financial traders active in natural gas, power, and oil futures markets. I began my career at Bentek Energy, as a 'Senior Energy Analyst, Natural Gas Market Fundamentals' and consulting project team lead. I hold a MS Degree in International Political Economy of Resources, and a BS Degree in Economics from the Colorado School of Mines.

Q3. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A3. Drilling Info was engaged by the Staff of the Virginia State Corporation Commission to:

1) Review the Application of DEV to revise its fuel factor, review the data provided by DEV in response to discovery, and ask discovery questions where appropriate.
2) Perform an analysis of whether the level of upstream gas pipeline capacity procured by DEV is justified based on its existing natural gas-fired generating fleet.
3) Evaluate Dominion Energy Virginia's procedures for monetizing the unused portion of its natural gas pipeline capacity portfolio on days when the system is not constrained.

Q4. PLEASE PROVIDE A SUMMARY OF YOUR FINDINGS.

A4.

1) The overall size of the portfolio of transportation assets is reasonable for the operation of the DEV fleet.

2) In last year's case summary DI had also concluded that the size of the portfolio was appropriate but pointed out that most of the generation fleet was vulnerable to extreme price spikes in Transco Z5 during peak winter days.

3) This was not a function of the size of the portfolio. In many cases DEV would be affected by the price spikes regardless of whether procuring via firm transport or spot market purchases.

4) Instead this was because most of the receipt and delivery locations were both in locations experiencing price spikes.

5) Burgeoning production in the Appalachian basin was constrained from reaching both Transco Zone 5 and Zone 6 thus impairing the value of transport between the two.

6) As overall demand for gas in VA (especially for power generation) grew, this situation became even more exacerbated.

7) As DI predicted, the completion of Transco's Atlantic Sunrise expansion project provided significant relief to these extreme prices in Transco Z5 during Winter 18/19.

8) Any additional projects that can deliver gas into the Transco Z5 area will further alleviate any potential price spikes by providing an abundance of cheap Appalachian gas to the region from a diverse collection of routes.

9) DEV also appears to be conducting best efforts to maximize the value of the portfolio on behalf of its customers. DEV monetizes its unused portion of the portfolio according to best industry practices.

10) Any auditable details DEV can provide of transactions executed for these efforts would provide the Commission confidence that it is being conducted consistently.

11) Evidence supporting these findings is found in the attached report.

Q5. PLEASE IDENTIFY THE SCHEDULES ATTACHED TO YOUR TESTIMONY.

A5. The following schedule is attached to my testimony as Attachment BJ-1:

- 2019 DEV Fuel Factor (Case Number PUR-2019-00070) - Final

My testimony will sponsor and support the report in its entirety.

Q6. DOES THIS CONCLUDE YOUR TESTIMONY?

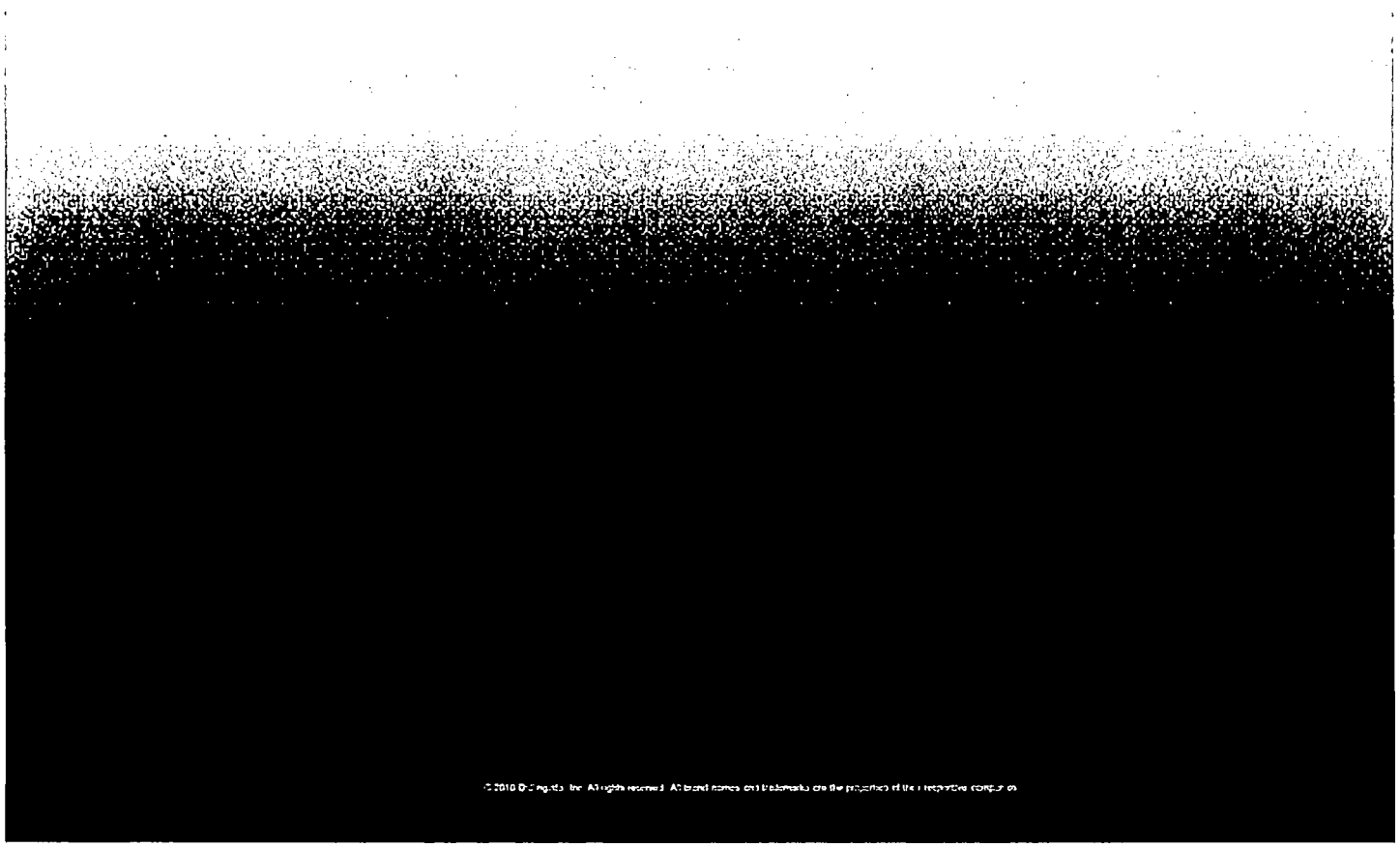
A6. Yes

SUMMARY REPORT & FINDINGS
Case No. PUR-2019-00070 – Virginia Electric and Power Company Fuel Factor

Written for: VA SCC | June 2019

Prepared by: Bernadette Johnson,
VP Market Intelligence

drillinginfo
better, faster decisions



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Introduction

The findings contained in this report are presented in accordance with the Statement of Work (SOW) #SCC-19-017-PUR between State Corporation Commission ("SCC") and DrillingInfo, Inc.

DrillingInfo reviewed the initial data and the Application of Dominion Energy Virginia ("DEV") to revise its fuel factor. As part of this review DrillingInfo performed a detailed analysis of whether the upstream gas pipeline capacity procured by DEV is justified based on its existing natural gas-fired generating fleet.

The findings of this report are the results of thoroughly analyzing publicly available data. In addition DrillingInfo has reviewed the various Interrogatories to DEV submitted via SCC. If warranted, DrillingInfo will amend the findings included herein, upon receipt of DEV's responses.

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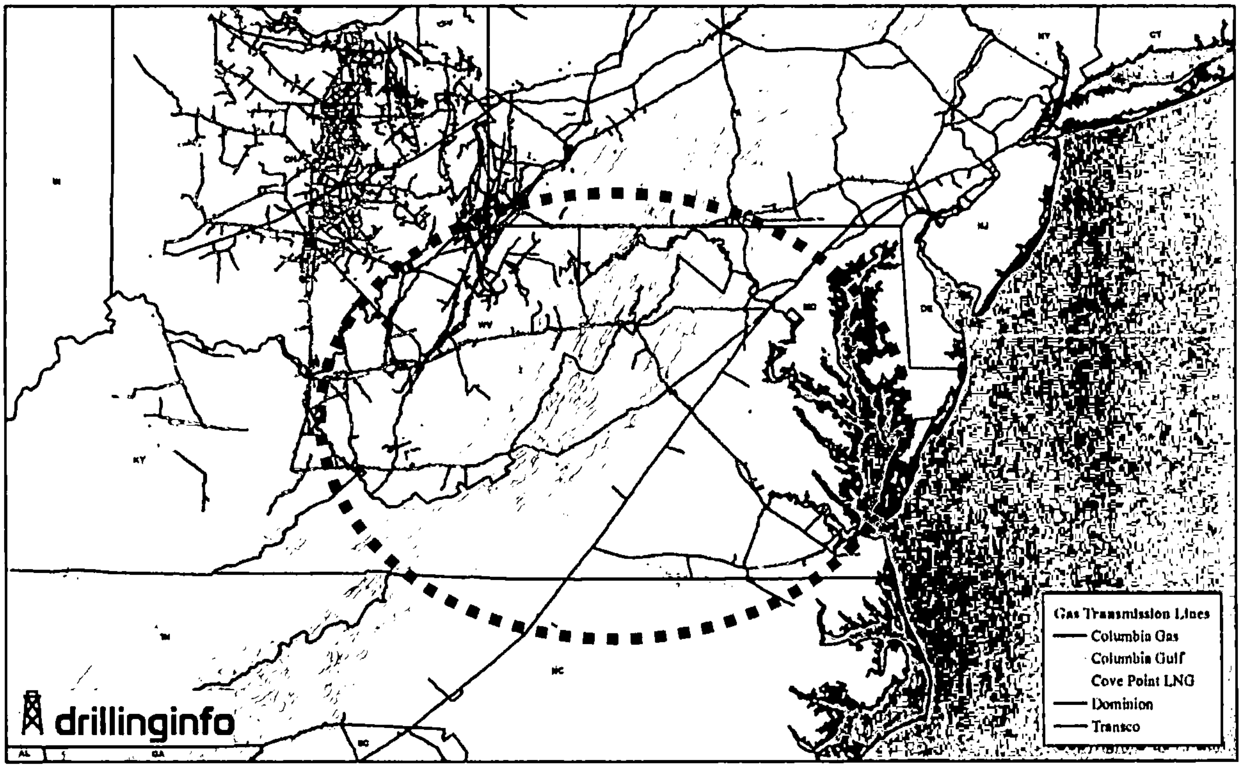
Macro View of Infrastructure

Four (4) interstate pipelines serve DEV's territory in the state of Virginia

- Transcontinental Pipeline (Transco)
- Dominion Transmission (DTI)
- Columbia Gas Transmission (TCO)
- Dominion Cove Point Pipeline (DCP)

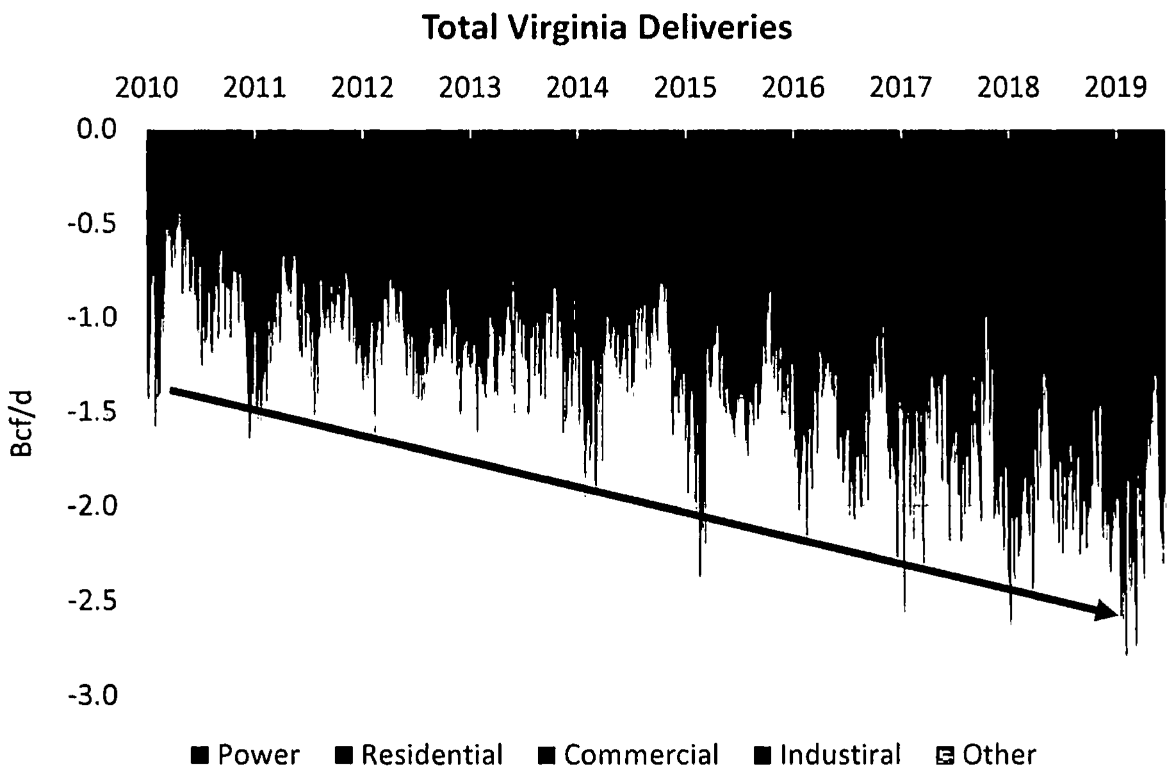


Macro View of Infrastructure

Natural gas deliveries into the state of Virginia have almost doubled over the past 8 years.

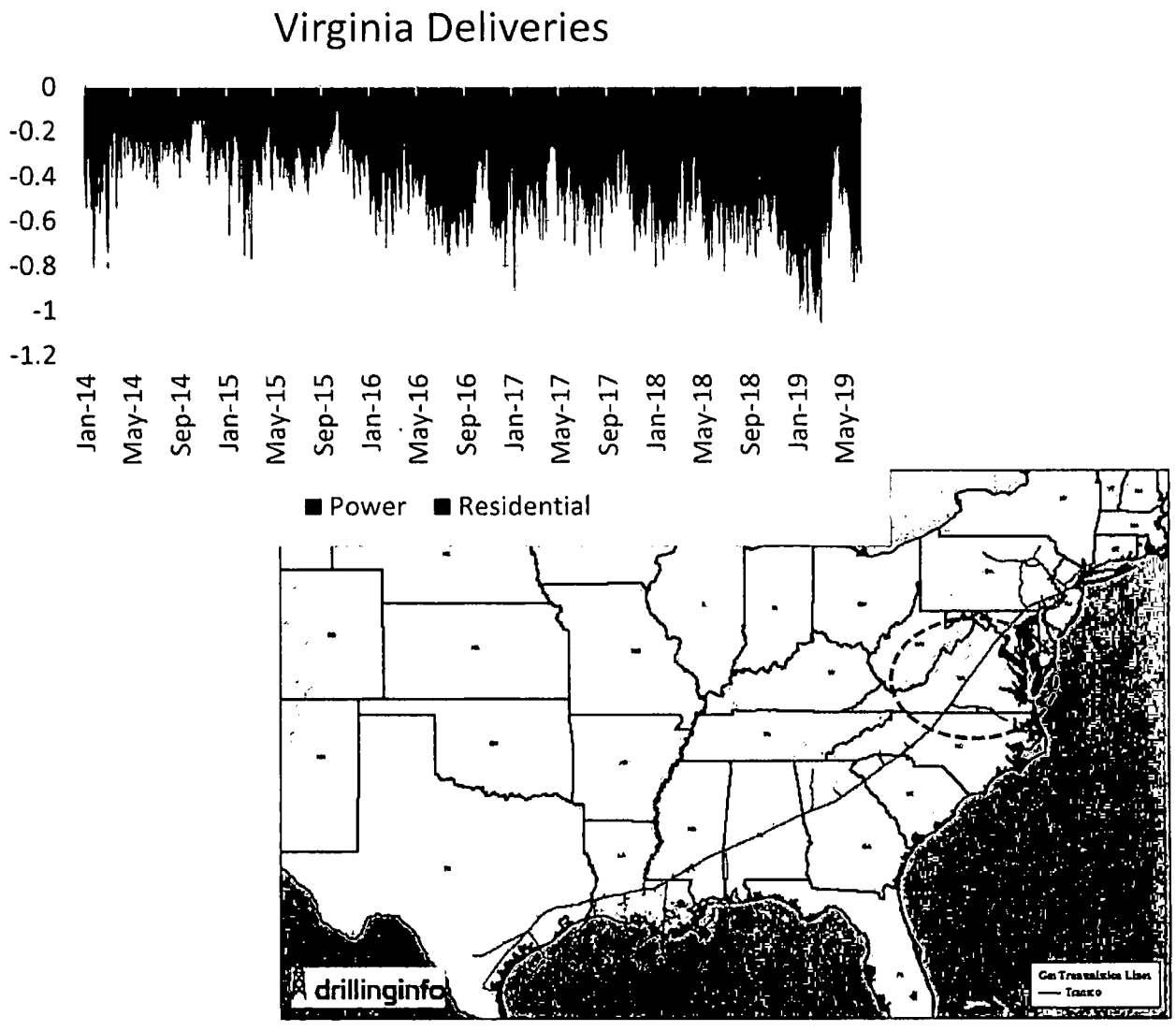
- Power demand is an important destination for gas heading to Virginia, representing 54% in 2018
- Natural gas also finds a home with Local Distribution Company (LDC) Citygates for residential and commercial customers and industrial end users.

Note: throughout this report, negative volumes on charts represent pipeline deliveries.



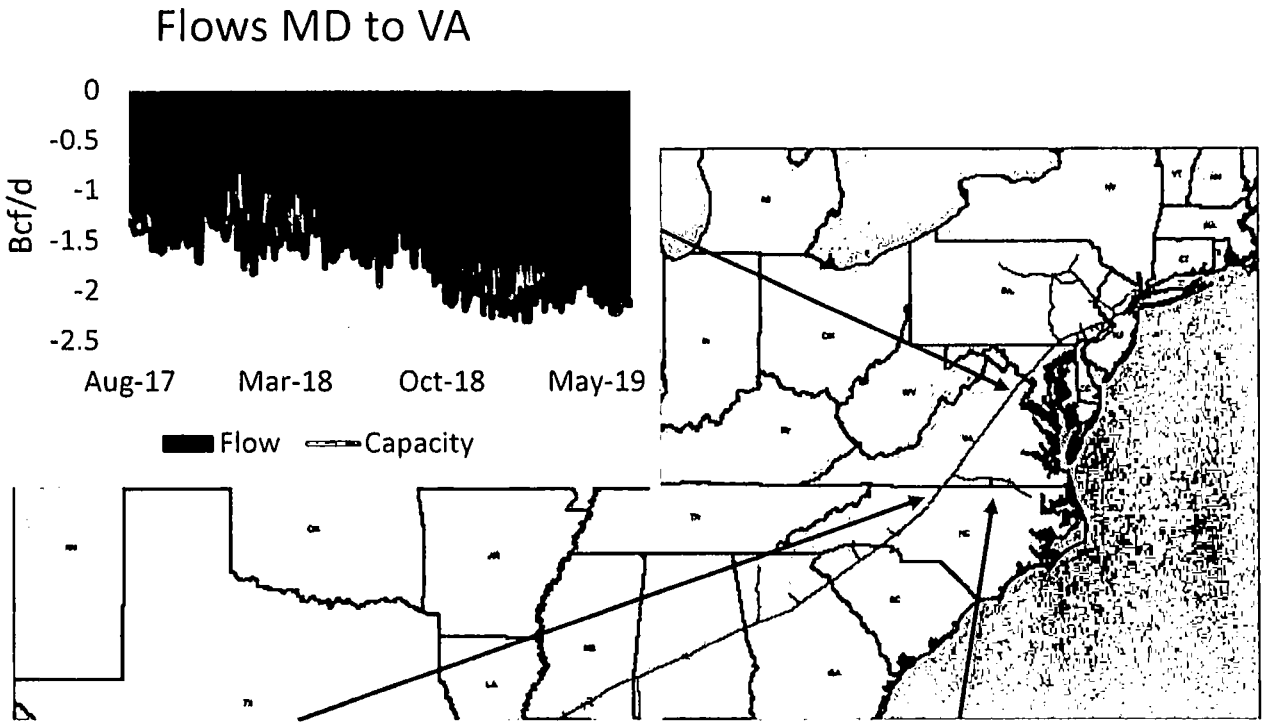
Transcontinental Gas Pipeline Co

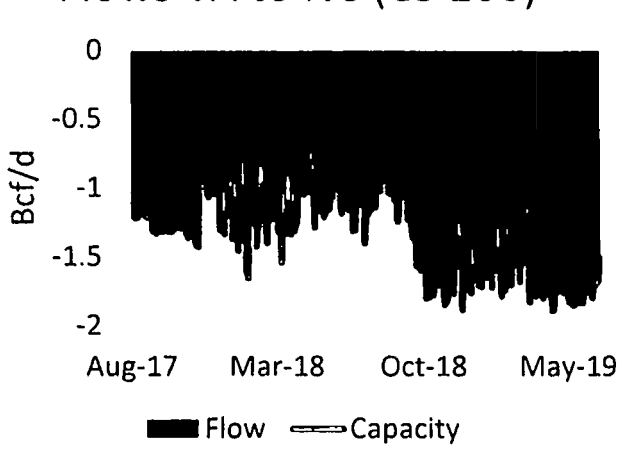
- Transco receives most of its gas from Alabama and Pennsylvania and delivers mainly to NC, VA, GA, NY, and NJ.
- In Virginia, Transco primarily delivers to Power Plants and Citygates.
- Recently deliveries to other pipelines including TCO, DTI, and DCP have also become common due to increased supply growth in the Marcellus/Utica basin.
- Power Plant deliveries represented ~75% of average 2018 consumption, the remaining 25% went to Citygates (for Residential/Commercial demand).

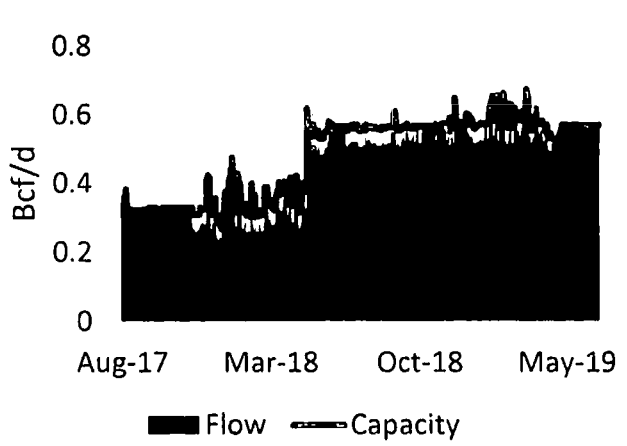


Transcontinental Gas Pipeline Co

- Due to burgeoning supply growth in the Marcellus/Utica, Transco (which historically flowed northbound through Virginia) now flows net south through the state.

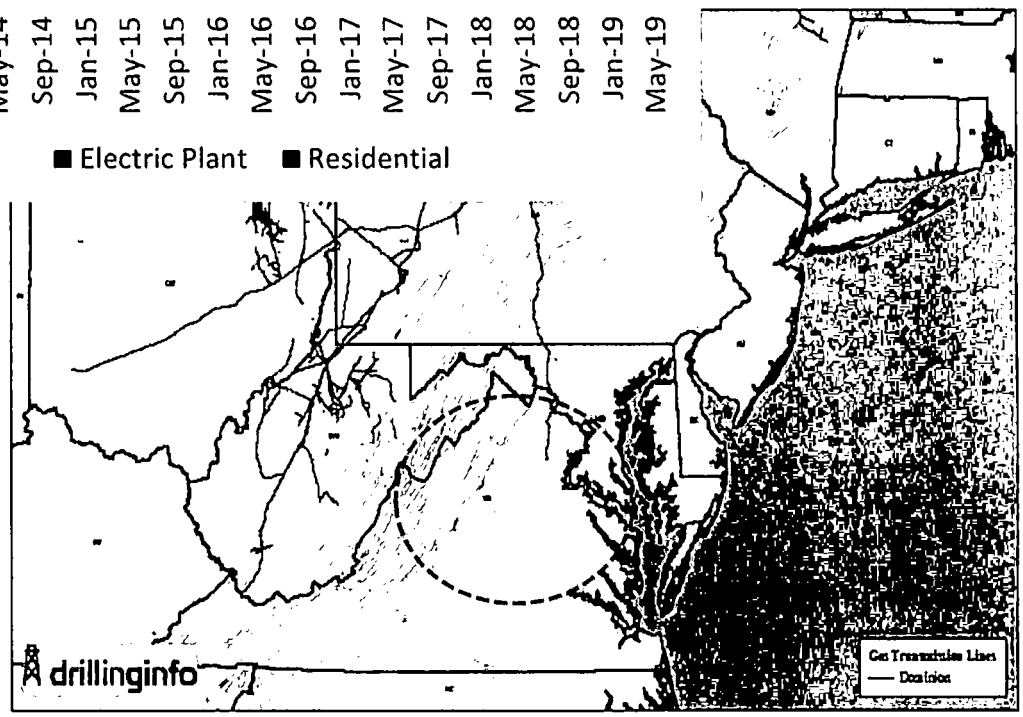






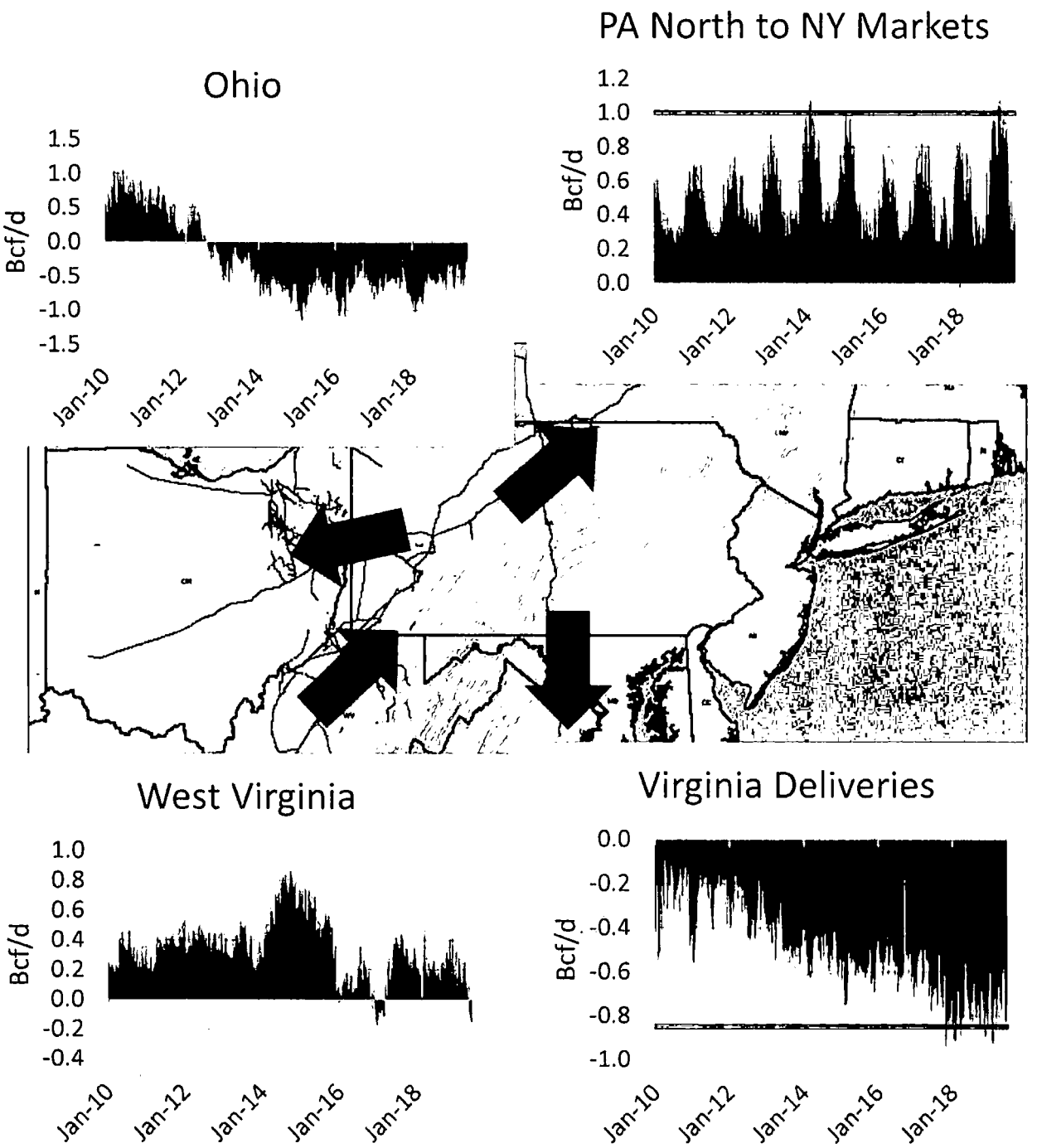
Dominion Gas Transmission (DTI)

- DTI receives most of its gas in Pennsylvania and makes deliveries to final destinations in NY, OH and VA.
- In Virginia, DTI delivers to Citygates, Power Plants and interconnects with other pipelines including TCO, Transco and DCP.
- Power Plant deliveries represented 34% of average 2018 consumption, while the remainder, 66%, went to Citygates (for Residential/Commercial demand).



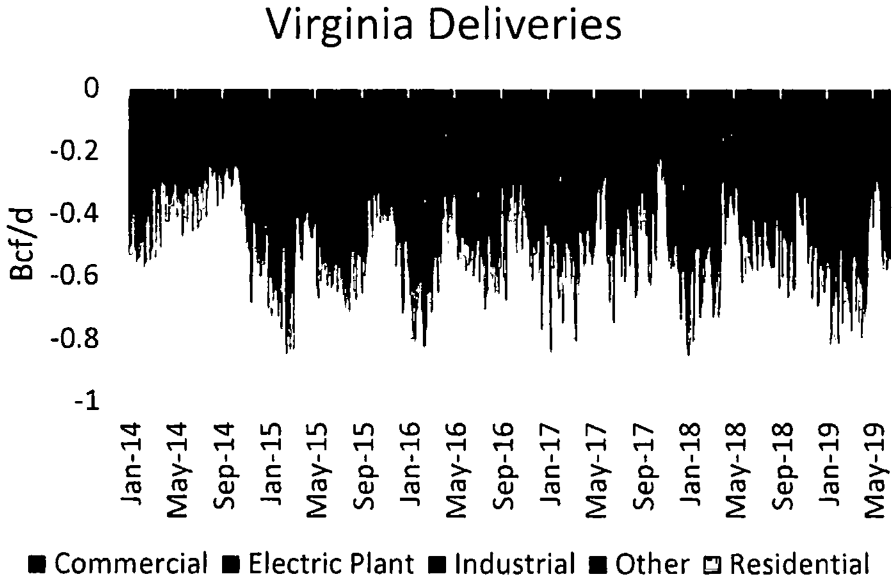
Dominion Gas Transmission (DTI)

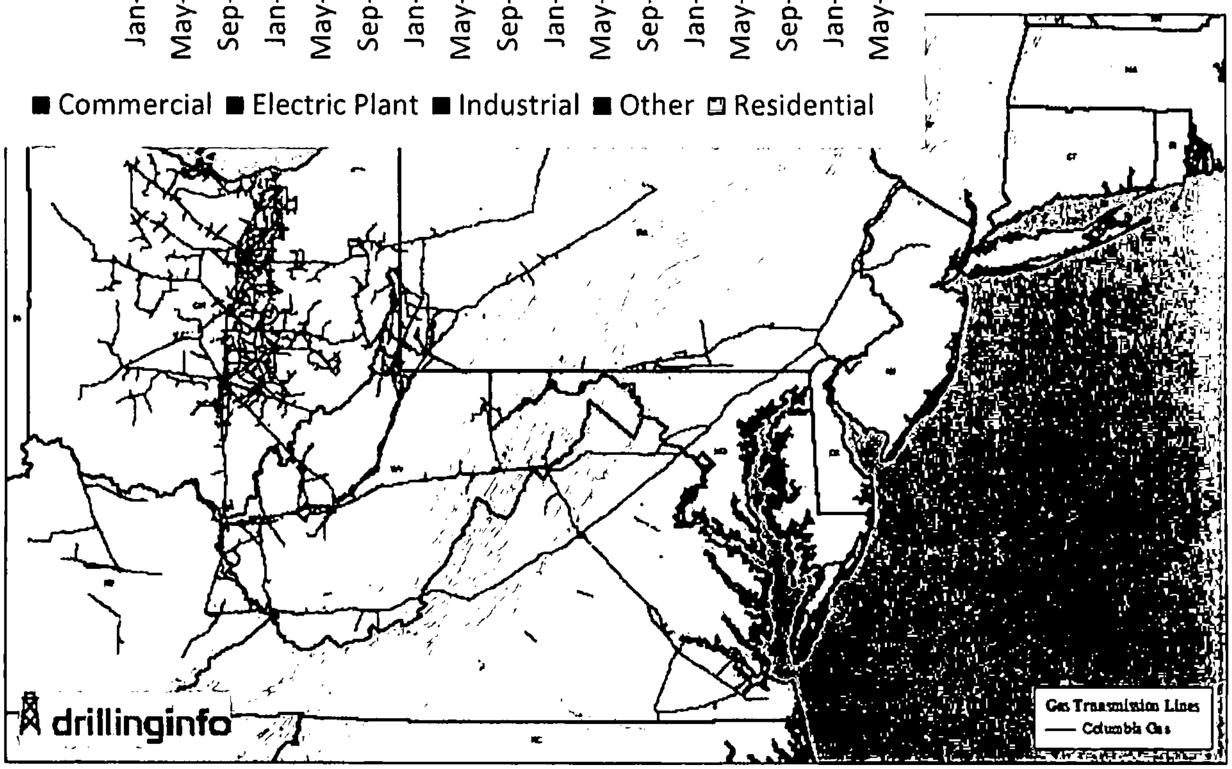
- Growth in Marcellus/Utica have reversed flows on DTI in Ohio
- Deliveries into VA are approaching capacity



Columbia Gas Pipeline (TCO)

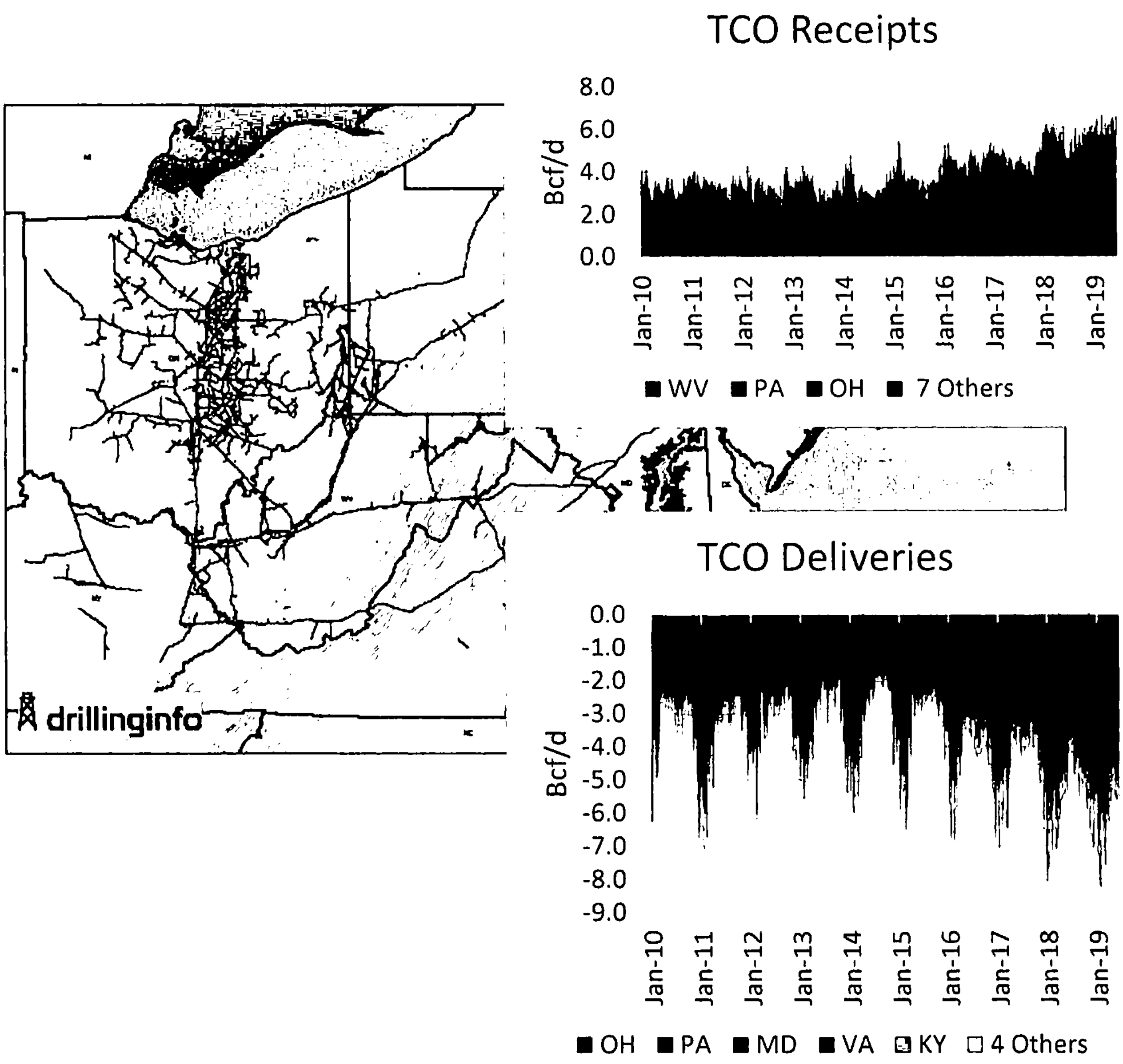
- Virginia is a key destination market for TCO with as much as 0.8 Bcf/d of gas delivered in the state of VA for consumption.
- In 2018, 46% of total consumption went to Citygates (for Residential/Commercial demand), 41% to Power, and 11% to other end users.





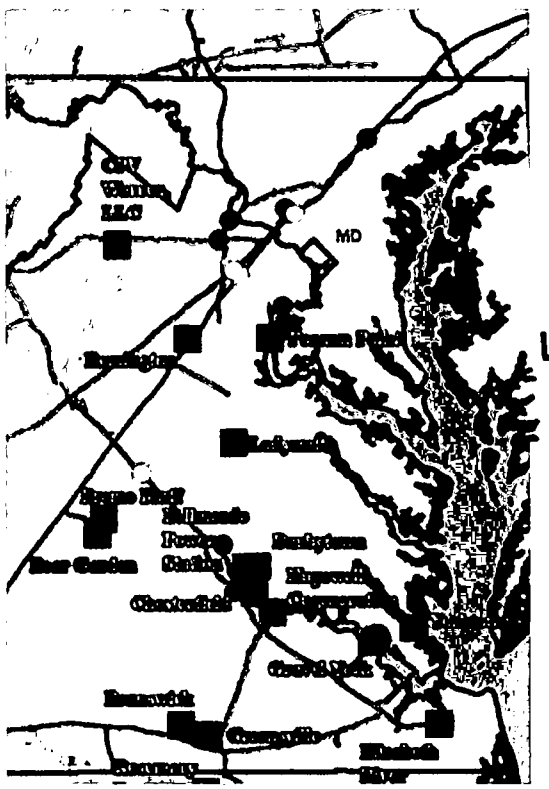
Columbia Gas Pipeline (TCO)

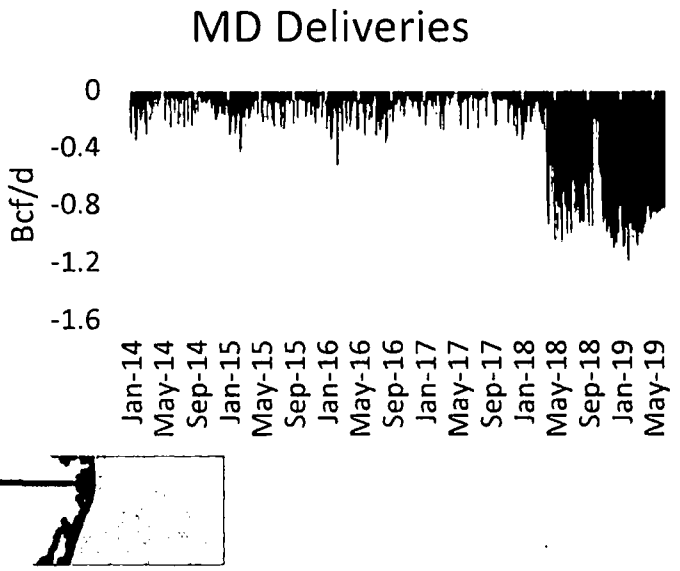
- Gas supply changed drastically as the Marcellus/Utica basin emerged.
- Traditionally, most gas was sourced from the interconnect at Leach with sister pipeline Columbia Gulf.
- Today, over 1 Bcf/d is now moving from TCO in the Northeast to Columbia Gulf pipeline to serve southern markets and LNG.

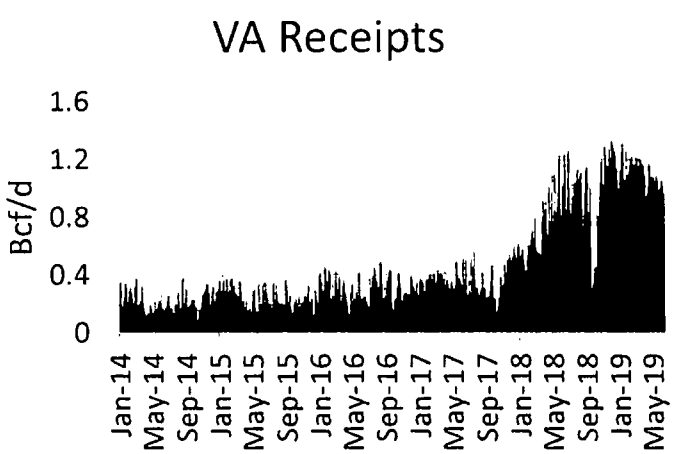


Dominion Cove Point Pipeline (DCP)

- Activity has increased on DCP as the Cove Point LNG Export Terminal came online in 2018.







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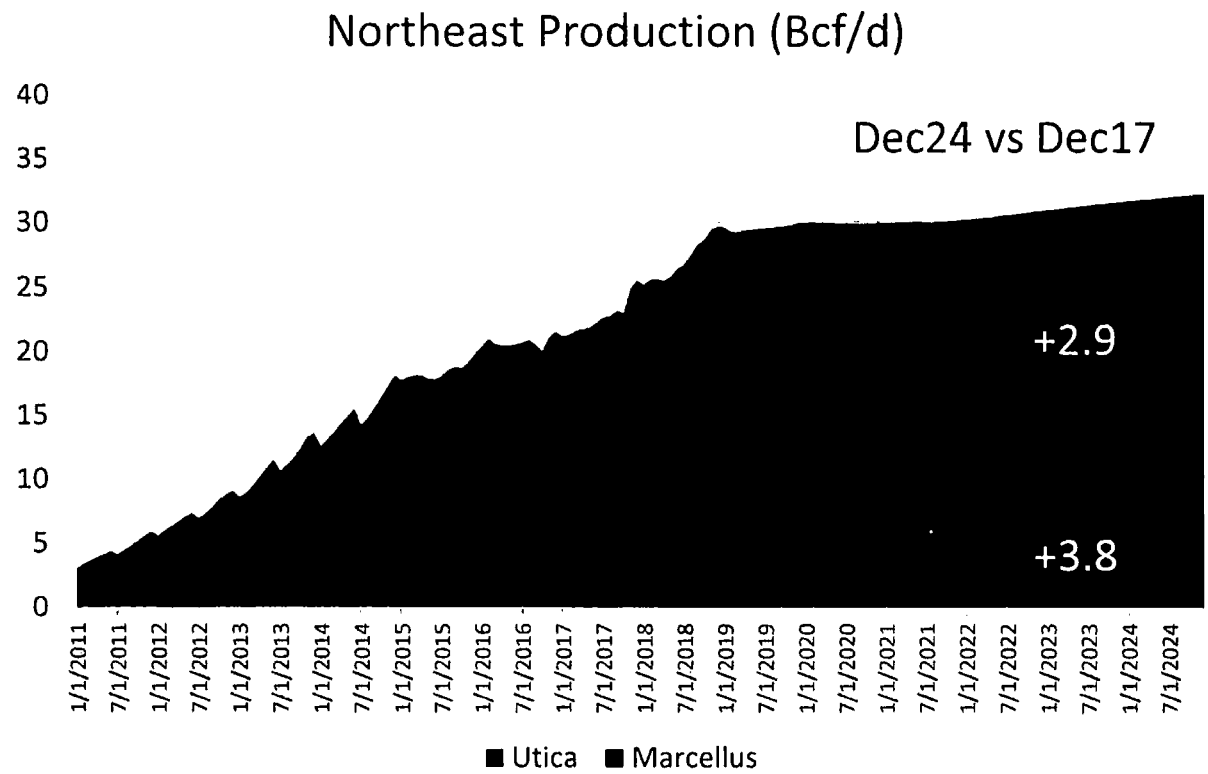
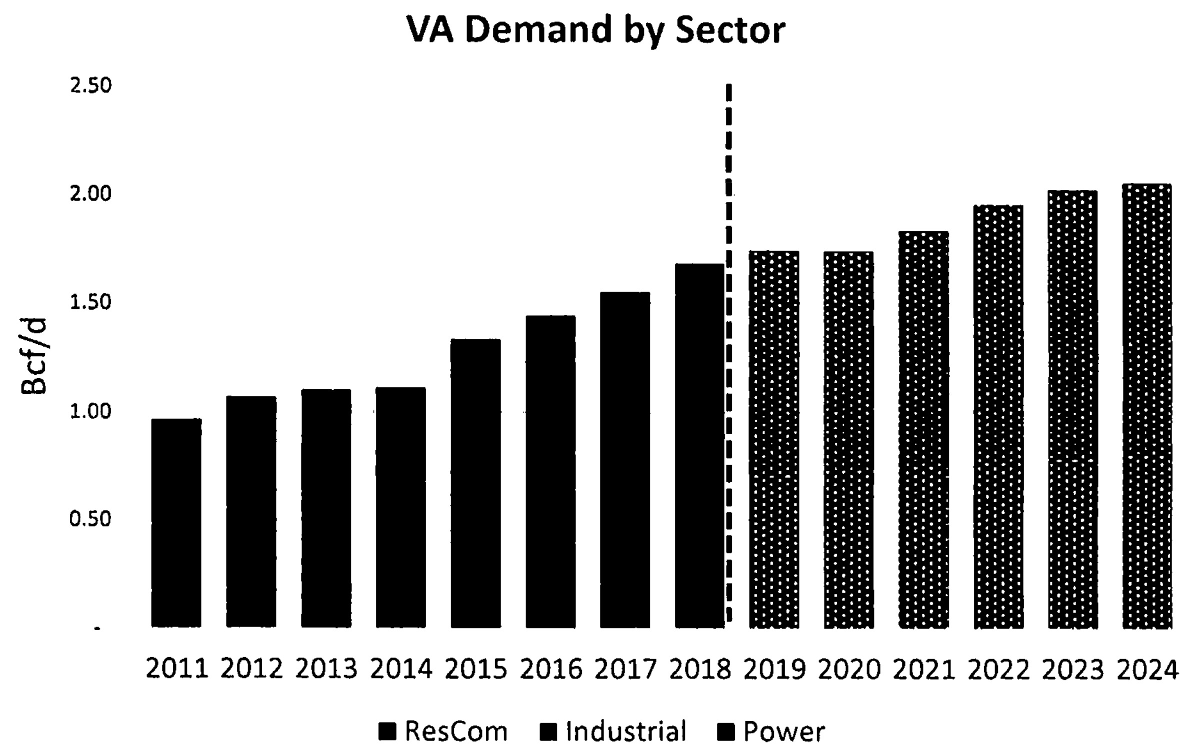
DrillingInfo Marcellus/Utica Production Forecast

- DI's proprietary production forecast indicates Northeast supply will grow by an almost 7 Bcf/d by 2024
- Continued growth is supported by persistently improving well economics due to efficiency gains and technological advances.
- Planned pipeline expansions also contribute to growth expectations.
- While production is expected to grow it will grow at a much slower rate compared to the previous 5 years as operators shift focus to "living within cash flows."



DrillingInfo Virginia Demand Forecast

- Power sector continues to lead demand growth in Virginia
- As coal units retire and total capacity of gas units in VA grows, this trend is expected to continue.

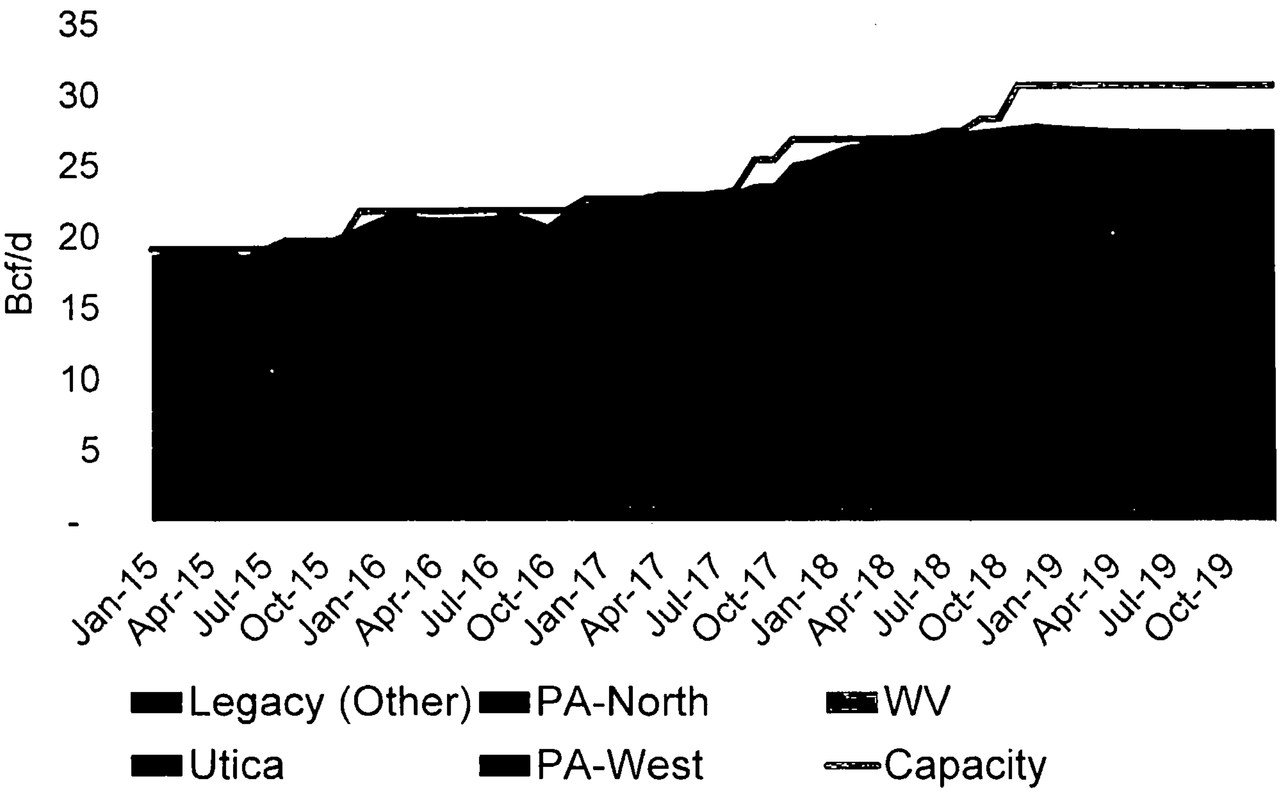


Northeast Pipeline Expansions

- In 2018, the following projects came online increasing Appalachian Basin export capability
  - Rover – Jun18 (3.25 bcf/d to Midwest/Canada)
  - Transco Atlantic Sunrise – Sep18 (1.7 bcf/d to Southeast)
  - NEXUS – Oct18 (1.5 bcf/d to Midwest/Canada)

- If development continues as planned, Atlantic Coast Pipeline and Mountain Valley Pipeline will provide further deliverability into Transco Z5:
  - Atlantic Coast Pipeline (ACP) – 1/1/2021
    - 1.5 Bcf/d from West Virginia to Virginia and North Carolina
  - Mountain Valley Pipeline (MVP) – 1/1/2020
    - 2.0 Bcf/d from West Virginia to Virginia

Northeast Production vs Takeaway Capacity



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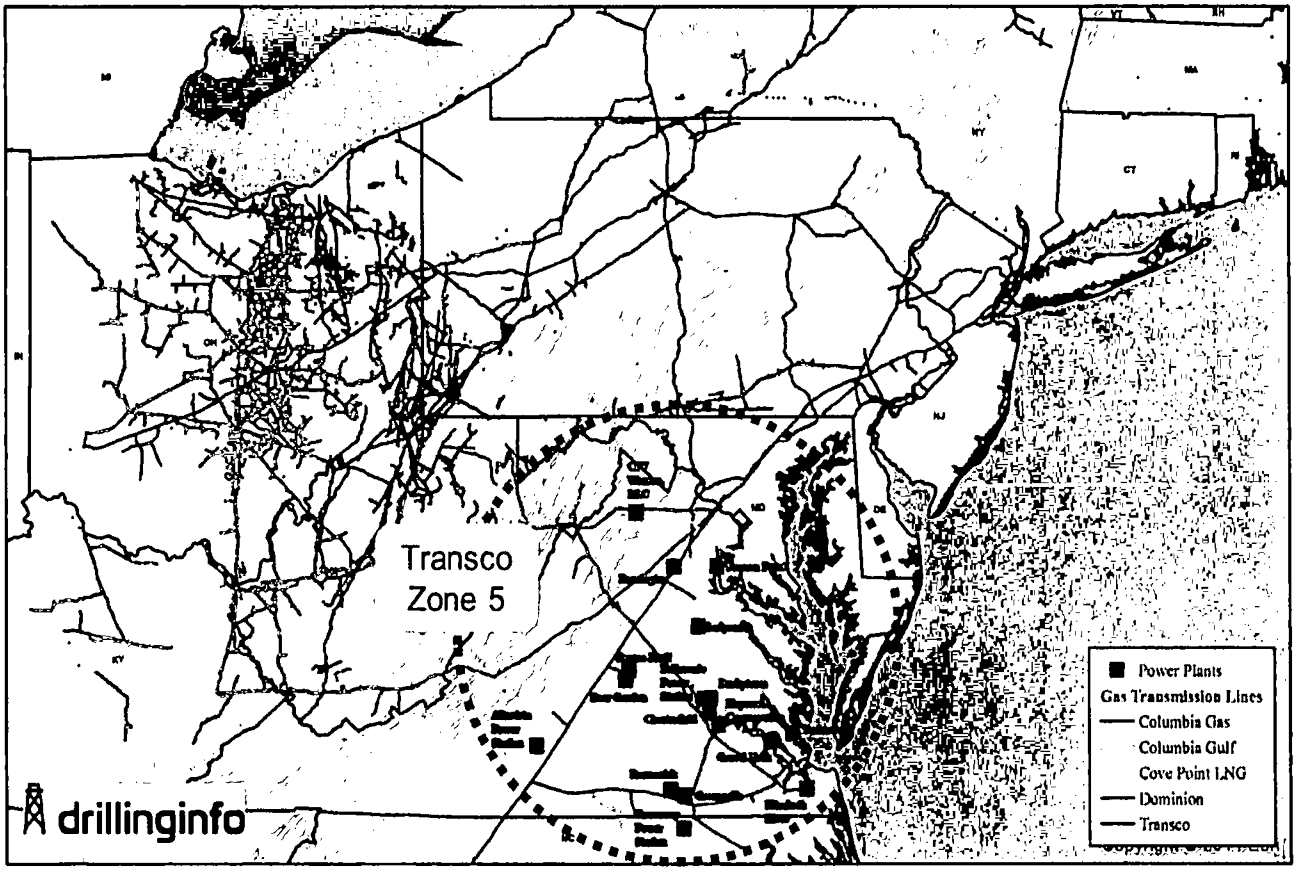
DEV Generation Assets

- The generation units listed below were considered for this analysis
- The list was compiled from documents provided to Staff by DEV.
- Only operational units (1-15) were analyzed in this exercise.
- Majority of DEV units have exposure to Transco Zone 5 gas pricing. See map on following page.

#	Name	Status	State	County	Pipeline	Price Loc	Primary Fuel	Secondary Fuel
1	Altavista	Operating	VA	Campbell	Transco	Transco Z5	Wood Waste Solids	Natural Gas
2	Bear Garden	Operating	VA	Buckingham	Transco	Transco Z5	Natural Gas	Distillate Fuel Oil
3	Brunswick Co.	Operating	VA	Brunswick	Transco	Transco Z5	Natural Gas	Waste Heat
4	Chesterfield CC	Operating	VA	Chesterfield	TCO/DETI/VNG	TCO Pool	Natural Gas	Distillate Fuel Oil
5	Darbytown	Operating	VA	Henrico	DETI/VNG	TCO Pool	Natural Gas	Distillate Fuel Oil
6	Elizabeth River	Operating	VA	Chesapeake	TCO	Transco Z5	Natural Gas	Distillate Fuel Oil
7	Greensville	Operating	VA	Greensville	Transco	Transco Z5	Natural Gas	Waste Heat
8	Gravel Neck	Operating	VA	Surry	TCO	Transco Z5	Natural Gas	Distillate Fuel Oil
9	Hopewell	Operating	VA	Hopewell	TCO	Transco Z5	Wood Waste Solids	Natural Gas
10	Ladysmith	Operating	VA	Caroline	DETI/VNG	TCO Pool	Natural Gas	Distillate Fuel Oil
11	Possum Point	Operating	VA	Prince William	Cove Point	Dominion S	Natural Gas	Distillate Fuel Oil
12	Remington	Operating	VA	Fauquier	Transco	Transco Z5	Natural Gas	Distillate Fuel Oil
13	Warren Co	Operating	VA	Warren	TCO	TCO Pool	Natural Gas	Distillate Fuel Oil
14	Yorktown	Operating	VA	York	DETI/VNG	Transco Z5	Residual Fuel Oil	Natural Gas
15	Gordonsville	Operating	VA	Louisa	Transco	Transco Z5	Natural Gas	Distillate Fuel Oil
16	Rosemary	Operating	NC	Halifax	Transco	Transco Z5	Natural Gas	Distillate Fuel Oil
[redacted]								

The majority of DEV Generation Assets are in or nearby to the Transco Zone 5 region.



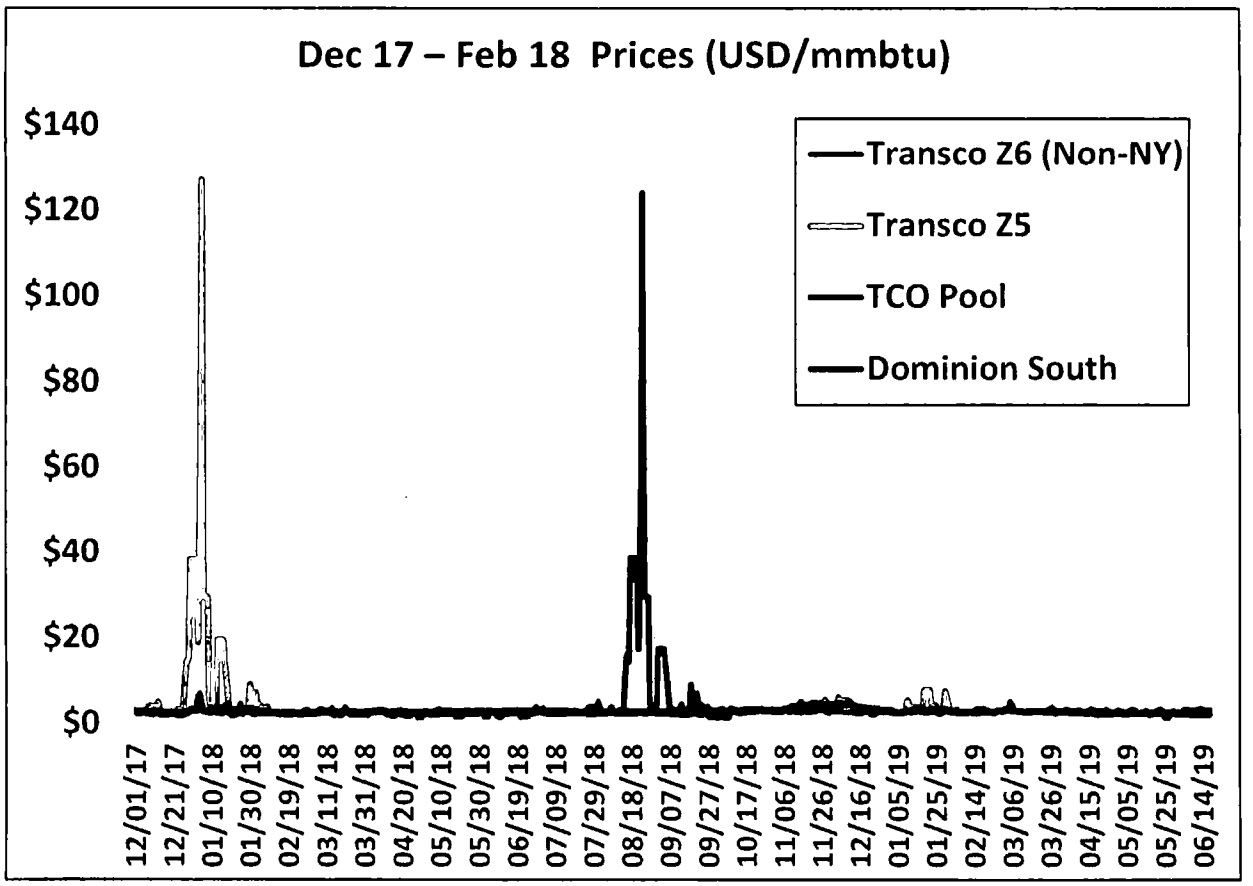
DEV Generation Assets are in Transco Zone 5 region

- DEV's transportation contracts primarily source gas from Transco Z5, Transco Z6 Non-NY, TCO Pool, Dominion-South.
- These locations typically trade within reasonable proximity of each other.
- However can experience significant disconnects during winter months as described on the next page.
- These disconnects as well as overall price spikes became less severe this past winter after Transco's Atlantic Sunrise expansion project came online.

Hub	2018 Average
Transco Z5	$ 4.29
Transco Z6 (Non-NY)	$ 4.11
TCO Pool	$ 2.92
Dominion South	$ 2.64

DEV Assets are exposed to Transco Zone 5 price spikes

- Prior to the in-service of Transco's Atlantic Sunrise expansion, the Transco pipeline experienced constraints at points north of Station 85 at the Mississippi/Alabama border on peak winter days.
- Atlantic Sunrise accommodates an additional 1.7 bcf/d of Appalachian production to into Transco and VA.



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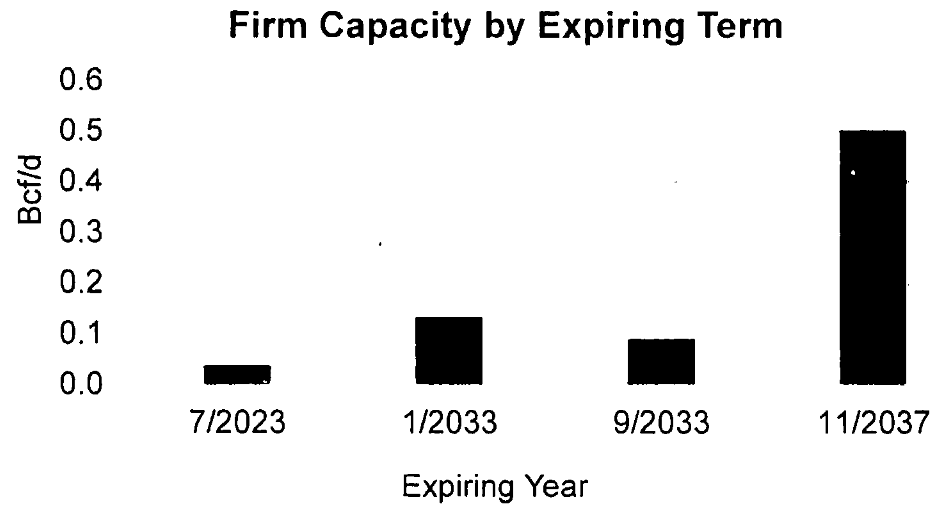
Summary of DEV's Transportation contracts

- Data curated by reviewing publicly available pipeline Index of Customers (IOC) filings and comparing to discovery provided to SCC by DEV.

PipelineName	Contract #	LocDesc	PointName	StartDate	EndDate	Total
Columbia Gas	NTS / 71024	Receipt	Leach/Lebanon	10/1/2001	10/1/2019	43,000
		Delivery	Chesterfield	10/1/2001	10/1/2019	43,000
	FTS (Oct-March) 139080	Receipt	Rockville	4/1/2014	4/1/2034	246,000
		Delivery	Warren Co.	4/1/2014	4/1/2034	246,000
	NTS (Apr -Sept) 139085	Receipt	TCO Pool	4/1/2014	4/1/2034	224,000
		Delivery	Warren Co.	4/1/2014	4/1/2034	224,000
	OPT 30 / 86648	Receipt	Lebanon	7/1/2006	12/1/2019	32,500
		Delivery	City of Richmond	7/1/2006	12/1/2019	32,500
	OPT 60 / 86649	Receipt	Leach	7/1/2006	12/1/2019	40,000
		Delivery	Elizabeth River	7/1/2006	12/1/2019	40,000
	OPT 60 / 150675	Receipt	Broad Run	3/1/2014	3/1/2020	25,000
		Delivery	Loudoun	3/1/2014	3/1/2020	25,000
Columbia Gulf	FT / 21053	Receipt	Rayne, LA	11/1/2011	10/31/2019	20,000
		Delivery	Leach, KY	11/1/2011	10/31/2019	20,000
Cove Point	FT / 0011	Receipt	Pleasant Valley/Loudoun	1/1/2014	4/1/2025	95,000
		Delivery	Possum Point	1/1/2014	4/1/2025	95,000
Dominion Energy Transmission	FTNN / 200159	Receipt	Storage	9/1/2016	5/1/2022	42,500
		Delivery	Quantico	9/1/2016	5/1/2022	42,500
	FT / 200548	Receipt	Cornwell	11/1/2009	10/1/2024	2,000
		Delivery	Quantico	11/1/2009	10/1/2024	2,000
	FT (April-Oct only) 200531	Receipt	Lebanon	11/1/2017	3/1/2023	40,000
		Delivery	Quantico	11/1/2017	3/1/2023	40,000
	FT / 200387	Receipt	Oakford	4/1/2014	10/1/2024	15,000
		Delivery	Quantico	4/1/2014	10/1/2024	15,000
	FT / 200498	Receipt	Lebanon	7/1/2009	4/1/2027	3,099
		Delivery	Leidy	7/1/2009	4/1/2027	3,099
	FT / 200709	Receipt	Leidy	10/1/2017	9/1/2037	45,000
		Delivery	Loudoun	10/1/2017	9/1/2037	45,000
Transco	FT / 9025055	Receipt	Leidy (Z6)	3/1/2005	Annual Evergreen	3,183
		Delivery	Panda Energy (Z5)	3/1/2005	Annual Evergreen	3,183
	FT / 9131723	Receipt	Cascade Creek (Z5)	11/1/2012	1/1/2033	132,000
		Delivery	Rockville (Z6)	11/1/2012	1/1/2033	132,000
	FT (March-Nov only) 9141408	Receipt	Sta 30 (Z1) telescoped	8/1/2013	7/1/2023	37,637
		Delivery	Leidy (Z6)	8/1/2013	7/1/2023	37,637
	FT - VSSE I / 9174931	Receipt	Sta 210 (Z6)	9/1/2015	11/1/2037	250,000
		Delivery	Brunswick (Z5)	9/1/2015	11/1/2037	250,000
	FT - VSSE II / 9197820	Receipt	Sta 210 (Z6)	12/1/2017	11/1/2037	250,000
		Delivery	Greensville (Z5)	12/1/2017	11/1/2037	250,000
	FT - Seneca AMA / 9216042	Receipt	Leidy (Z6)	10/1/2018	9/1/2033	90,000
		Delivery	Sta 85 (Z4)	10/1/2018	9/1/2033	90,000
VNG	Joint Use PT-1 Joint-Use PT-2	Receipt	Quantico	1990	Late 2021	42,500
		Delivery	Chesterfield	1990	Late 2021	42,500
		Receipt	Quantico	2009	10/1/2024	42,500
		Delivery	Ladysmith/Chesterfield	2009	10/1/2024	42,500

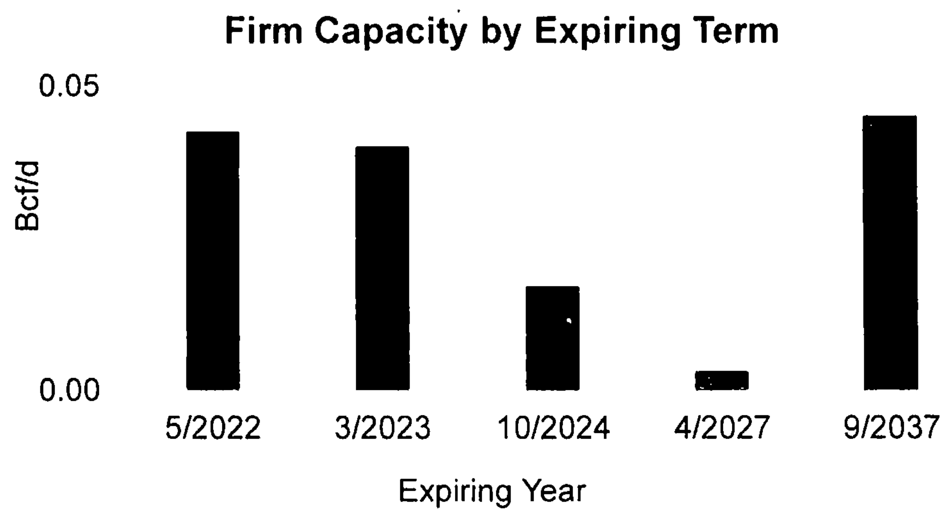
Transco Capacity

- DEV has ~763 MMcf/d of capacity on Transco through 7/2023
- Roughly 382 MMcf/d of DEVs Transco capacity is sourced from Transco Z5 and ~343 Z6 NNY. Delivery capacity on Transco in Z5 accounts for ~503 MMcf/d.
- Expirations:
  - **7/31/2023**: 37 MMcf/d from Stations 62,50,45,30 to Leidy-Dominion
  - **1/4/2033**: 132 MMcf/d from Cascade Creek to Rockville & BGE-Beaver Dam
  - **9/1/2033**: 90 MMcf/d from Leidy to Station 85 (Seneca AMA)
  - **11/30/2037**: 250 MMcf/d from Station 210 to Cascade Creek and 250 MMcf/d from Station 210 & Station 165 to Greensville Power
  - **Annual Evergreen**: 3 MMcf/d from Leidy to Panda Energy



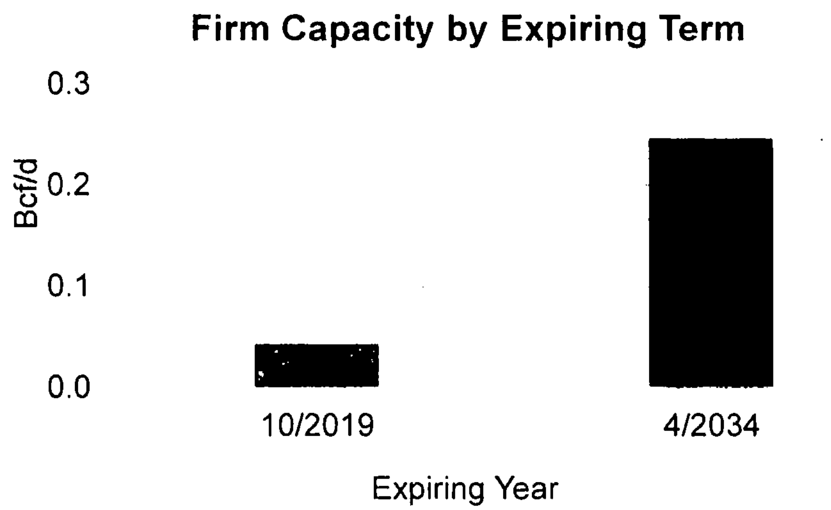
Dominion (DTI) Capacity

- 148 MMcf/d of capacity expiring at different times
- A majority of DEVs DTI capacity is sourced from Transco Z6 Non-NY, Dominion South, and TCO Pool. Nearly all gas is delivered into Transco Z5.
- Storage contract for DTI Storage for 42.5 MMcf/d through 3/31/2022
- Near Term Expirations:
  - **5/31/2022:** 42.5 MMcf/d from Oakford & DTI Storage Point to Quantico and DTI Storage Point
  - **3/31/2023:** 40 MMcf/d from Oakford to Quantico
  - **10/31/2024:** 2 MMcf/d from Cornwell/Broad Run to Quantico and 15 MMcf/d from Oakford to Quantico



Columbia Gas (TCO) Capacity

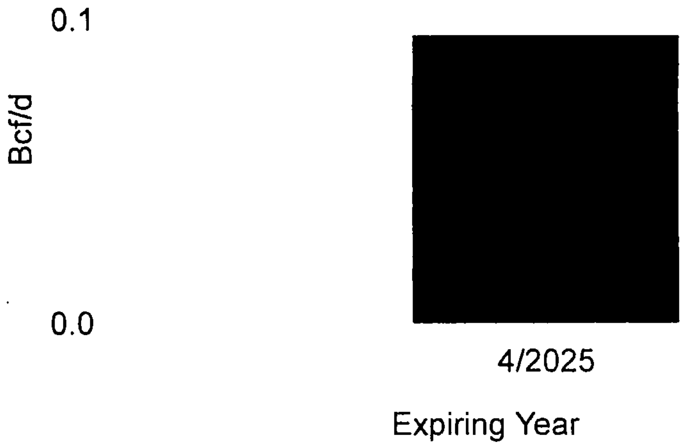
- ~0.04 Bcf/d of Columbia Gas capacity will expire in 2019, and the remaining ~0.25 Bcf/d expiring in 2034
- A majority of DEVs capacity on TCO is sourced from TCO Pool and Dominion South and delivered to the Warren plant in Dominion South.
- 2019 Expirations
  - **October**: 43 MMcf/d from TCO-Leach/ PEP Lebanon to Gelp Columbus and Chesterfield Power



Dominion Cove Point (DCP) Capacity

- 95 MMcf/d of capacity on Cove Point expires 4/30/2025
- FT used to feed Possum 6
- IT used to feed Possum 3 & 4
- All of DEVs capacity on DCP is sourced from Transco Z5 and delivered to Transco Z5
- Expirations:
  - **4/30/2025**: 95 MMcf/d from Columbia Loudon (25 MMcf/d), Dominion Loudoun (45 MMcf/d), and Transco Pleasant Valley (25 MMcf/d) to Possum Point Plant

Firm Capacity by Expiring Term



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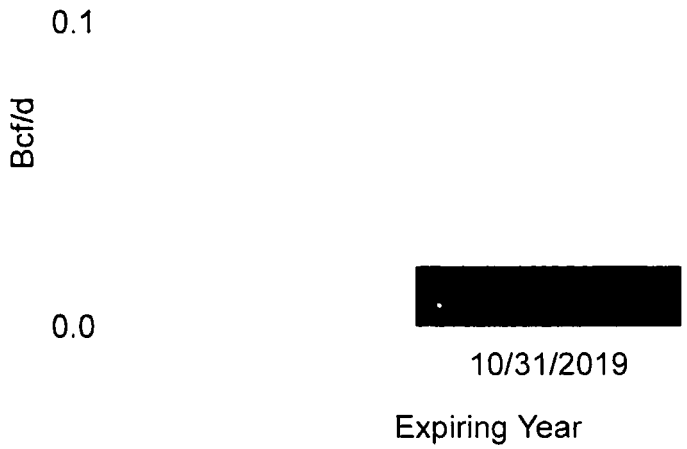
Columbia Gulf Capacity

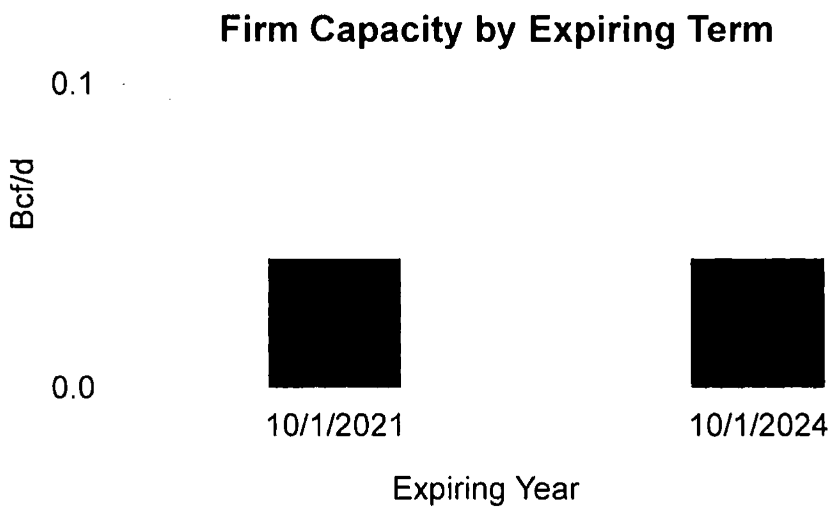
- 20 MMcf/d of capacity on Columbia Gulf expires 10/31/2019
- All of DEVs capacity on Columbia Gulf is sourced from Louisiana near Henry Hub, and delivered to TCO Pool
- Expirations:
  - **10/31/2019:** 20 MMcf/d from Rayne, LA to Leach

Firm Capacity by Expiring Term



Virginia Natural Gas (VNG) Capacity

- Total of 85 MMcf/d capacity on VNG
- All of DEVs capacity on VNG is sourced from Transco Z5 and delivered to Transco Z5
- Expirations:
  - **Late 2021:** 42.5 MMcf/d from Quantico to Chesterfield
  - **10/1/2024**: 42.5 MMcf/d from Quantico to Ladysmith and Chesterfield



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Zone 5 Delivered Power Plants vs. Capacity

- DEV has 1.2 Bcf/d of capacity on interstate pipelines.
- Total average daily burn at DEV plants is 0.55 Bcf/d thus the total portfolio is typically 45% utilized.
- From the data provided by DEV, the non-coincident peak burn is ~1.5 bcf/d. This is also supported by the total peak flow estimated in the table below which uses plant capacity * heat rate.
- Heat rate efficiencies do decline as generators approach peak burn, but this provides a conservative view of maximum possible burn.
- In theory, if all generators peaked at the same time for 24hrs the demand would be 125% of portfolio deliverability.
- DI considers the portfolio to be reasonably sized. The ongoing cost of firm transportation to accommodate the rare absolute maximum day would be higher than procuring in the daily market.

#	Power Plant	Zone 5?	Max Flow (MMcf/d)	Average Flow (MMcf/d)	Capacity (MW)	Peak Flow at Avg HR (MMcf/d)	Notes
1	Altavista	Yes	0	0	0	0	Secndry Gas
2	Bear Garden	Yes	105	70	622	94	
3	Brunswick County Power	Yes	235	166	1,472	237	
4	Chesterfield CC	No	83	56	495	85	
5	Darbytown	No	32	0.34	368	107	
6	Elizabeth River CT	Yes	55	5	389	109	
7	Gravel Neck	Yes	21	2	428	100	
8	Greensville Power Station	Yes	258	116	1,588	256	
9	Hopewell - Polyester	Yes	0	0	0	0	Secndry Gas
10	Ladysmith Peaking	No	147	13	915	210	
11	Possum Point CC	No	145	64	615	103	
12	Remington	Yes	101	16	748	175	
13	Rosemary	Yes	0	0	186	41	
14	Warren County Power Station	No					
15	Yorktown	Yes	0	0	0	0	Secndry Gas
16	Gordonsville Power Plant	Yes			268	79	
DEV Power Plant Summary			1,182	508		1,596	

*Max and Average flows are based on time period 7/1/2018 through 4/30/2019

Pipeline Capacity Summary

- DEV has sufficient transport on Transco to serve the power plants on the system.
- Power plant demand on TCO exceeded DEVs firm transport (FT) capacity 27 times from 7/1/2018 to 4/30/2019, causing spot market purchases.
- Roughly 220 MMcf/d of capacity on TCO is used to serve the Warren Co plant, leaving 43 MMcf/d of FT capacity to serve the remaining plants when Warren is at full capacity. Warren ran at or over 90% capacity 31 times from 7/1/2018 to 4/30/2019.
- DEV has sufficient capacity on DETI. There has been a couple instances where demand exceeded FT capacity, however, this was only by a few MMcf/d in each instance.
- DEV has 95 MMcf/d of capacity on Cove Point. The capacity was exceeded by demand 23 times from 7/1/2018 to 4/30/2019, with deliveries to Possum Point peaking at 145 MMcf/d.

Pipeline	Power Plant	Pipeline	7/2018 – 8/2018 Avg Flow MMcf/d	12/2018 – 3/2019 Avg Flow MMcf/d	Peak Flow MMcf/d	Total Pipeline Capacity MMcf/d	Estimated # Days over FT Capacity
Transco						763	0
	Bear Garden	Transco	92	69	105		
	Brunswick	Transco	197	193	235		
	Greensville	Transco	19	214	258		
	Remington	Transco	31	2	101		
	Rosemary	Transco	0	0	0		
	South Anna	Transco	5	7	48		
TCO						289	27
	Chesterfield	TCO	5	32	43		
	Elizabeth River	TCO	10	0	55		
	Gravel Neck	TCO	2	0	21		
	South Anna	TCO	23	7	48		
	Warren Co.	TCO	201	188	220		
DETI						148	2
	Chesterfield	DETI	69	39	83		
	Darbytown	DETI	0	0	33		
	Ladysmith	DETI	24	2	147		
	Yorktown	DETI	0	0	7		
Cove Point						95	23
	Possum Point	Cove Point	88	54	145		

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Monetization of Unutilized Capacity

- In response to Staff's interrogatory regarding DEV's procedure for monetizing the unused portion of its capacity, the company provided the following explanation:
  - Each day, the Company supports gas-fired generation offers into PJM using its firm pipeline capacity portfolio. When the Company determines there is unused firm pipeline capacity, after considering generation offers, awards, flexibility and system constraints, it can offer this capacity either in the release or third-party sales market(s). Capacity release or third-party sales decisions are based on various factors including, but not limited to: timing, market availability and perceived market value for the unused firm capacity. All monetization revenues are returned to the Company's customers on a one for one basis, as a fuel rate offset.
- This explanation aligns with common industry practice and indicates a best-efforts practice exists to extract maximum value of the transportation portfolio on behalf of DEV's customers.
- The various factors identified in the statement that affect DEV's ability to monetize the portfolio are outside of the company's control but need to be monitored constantly in order to act on promptly when available.
- Staff may recommend the Commission require (if not already doing so) that DEV report annually on proceeds generated from monetizing the unused portion of its capacity.

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Summary

- The overall **size** of the portfolio of transportation assets is reasonable for the operation of the DEV fleet.
- In last year's case summary DI had also concluded that the size of the portfolio was appropriate but pointed out that most of the generation fleet was vulnerable to extreme price spikes in Transco Z5 during peak winter days.
- This was not a function of the size of the portfolio. In many cases DEV would be affected by the price spikes regardless of whether procuring via firm transport or spot market purchases.
- Instead this was because most of the receipt and delivery locations were both in locations experiencing price spikes.
- Burgeoning production in the Appalachian basin was constrained from reaching both Transco Zone 5 and Zone 6 thus impairing the value of transport between the two.
- As overall demand for gas in VA (especially for power generation) grew, this situation became even more exacerbated.
- As DI predicted, the completion of Transco's Atlantic Sunrise expansion project provided significant relief to these extreme prices in Transco Z5 during Winter 18/19.
- Any additional projects that can deliver gas into the Transco Z5 area will further alleviate any potential price spikes by providing an abundance of cheap Appalachian gas to the region from a diverse collection of routes.
- DEV also appears to be conducting best efforts to maximize the value of the portfolio on behalf of its customers. DEV monetizes its unused portion of the portfolio according to best industry practices.
- Any auditable details DEV can provide of transactions executed for these efforts would provide the Commission confidence that it is being conducted consistently.

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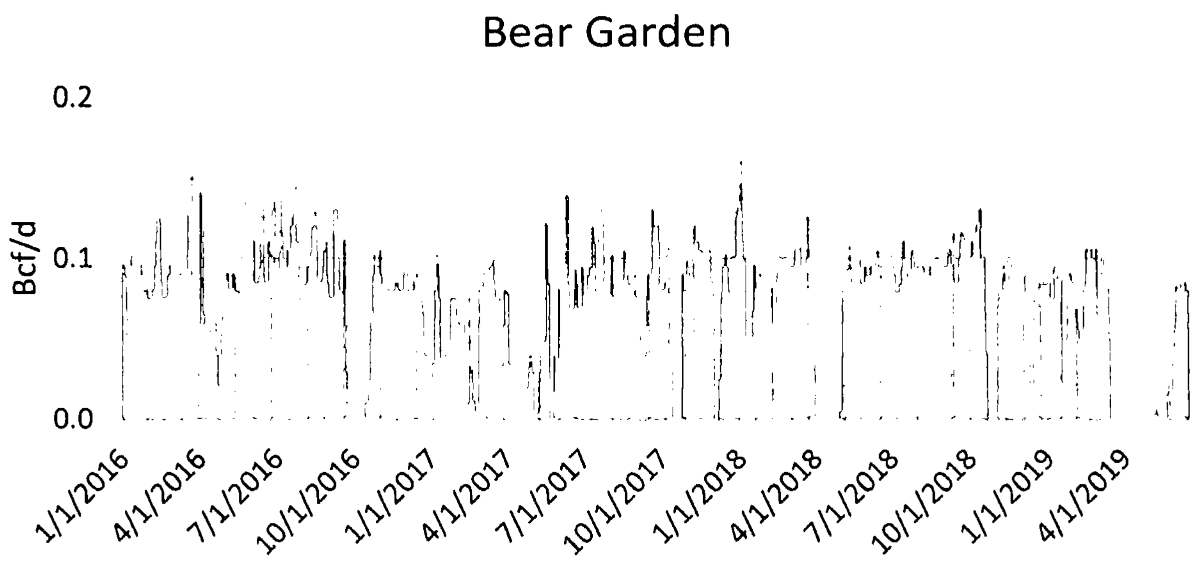
Individual power plant burns

- The following pages include data for plants available in pipeline's Energy Bulletin Boards (EBBs)

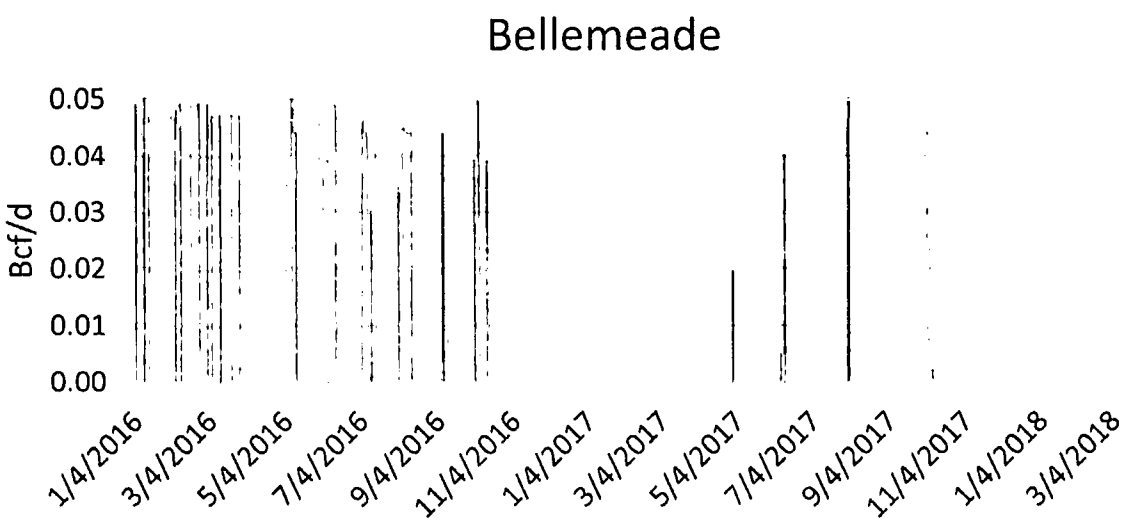
Bear Garden power plant

- Bear Garden located in Buckingham County, Virginia
- Pipeline Access: Transco
- Max Flow : 160 MMcf/d (42% peak util.)
- Peak Utilization = 42%



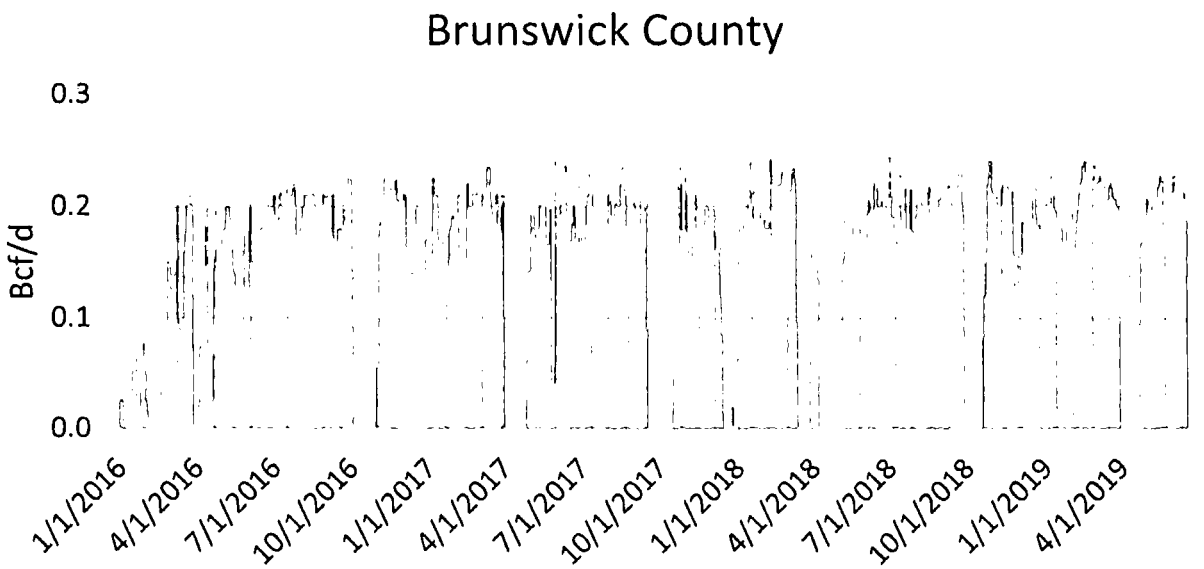
Bellemeade power plant

- Bellemeade located in Richmond County, Virginia
- Plant currently Out of Service
- Pipeline Access: Columbia Gas
- Max Flow: 53.5 MMcf/d
- Seasonal Utilization: Winter = 14%, Summer = 44%



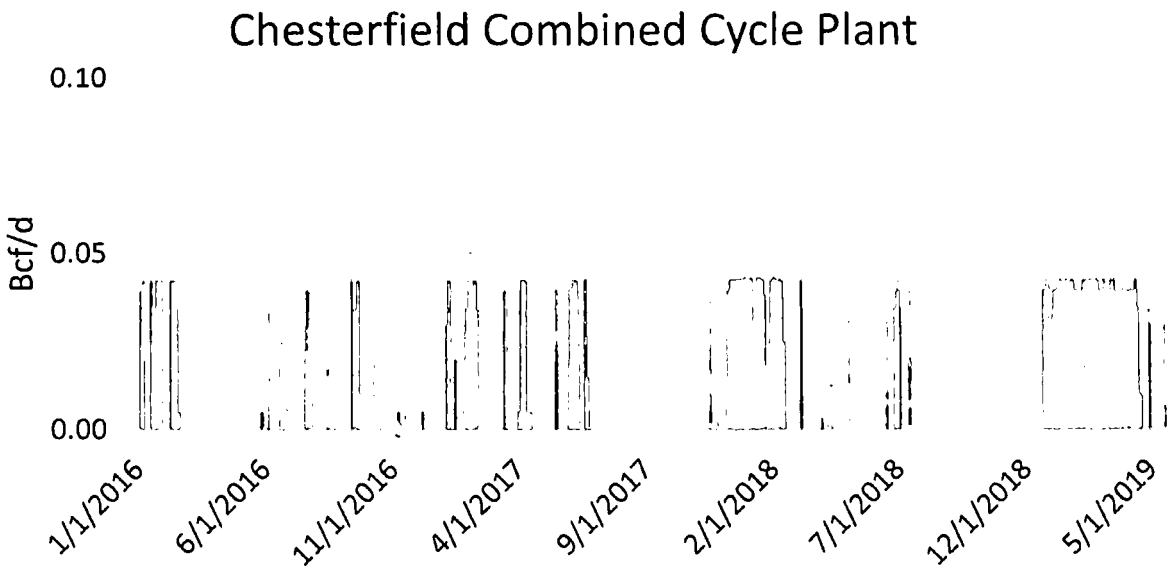
Brunswick County power plant

- Brunswick located in Brunswick County, Virginia
- Pipeline Access: Transco
- Max Flow: 250 MMcf/d
- Peak Utilization = 72%



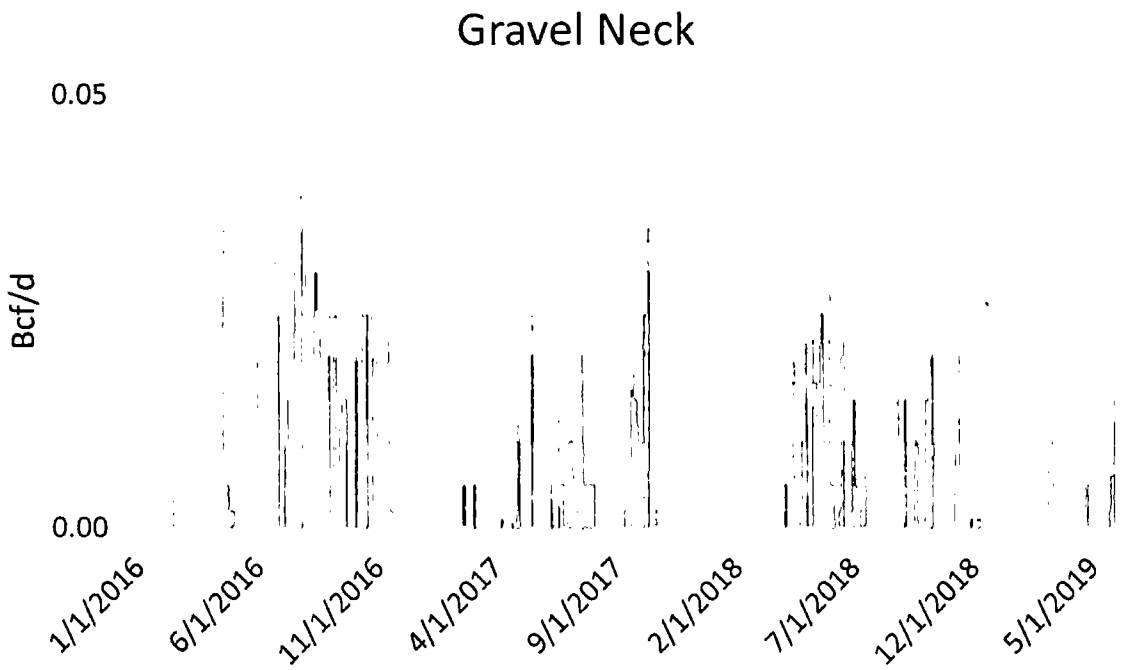
Chesterfield CC power plant

- Chesterfield located in Chesterfield County, Virginia
- Pipeline Access: Columbia Gas
- Max Flow: 52 MMcf/d
- Peak Utilization = 73%



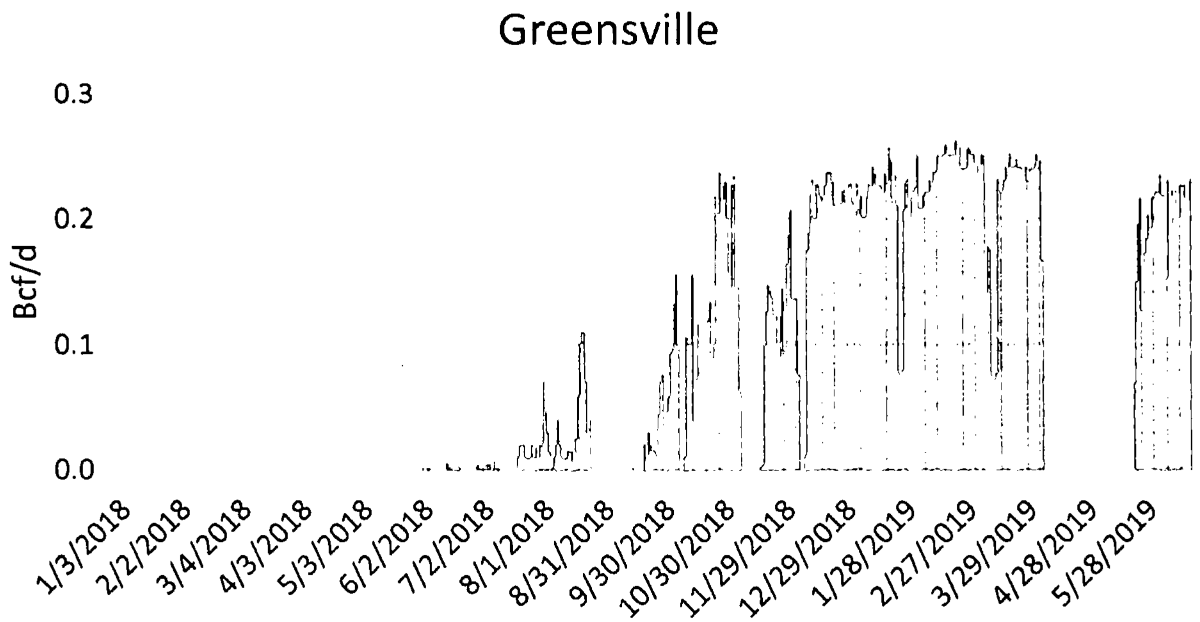
Gravel Neck power plant

- Gravel Neck located in Surry County, Virginia
- Pipeline Access: Columbia Gas
- Max Flow: 45 MMcf/d
- Peak Utilization = 64%



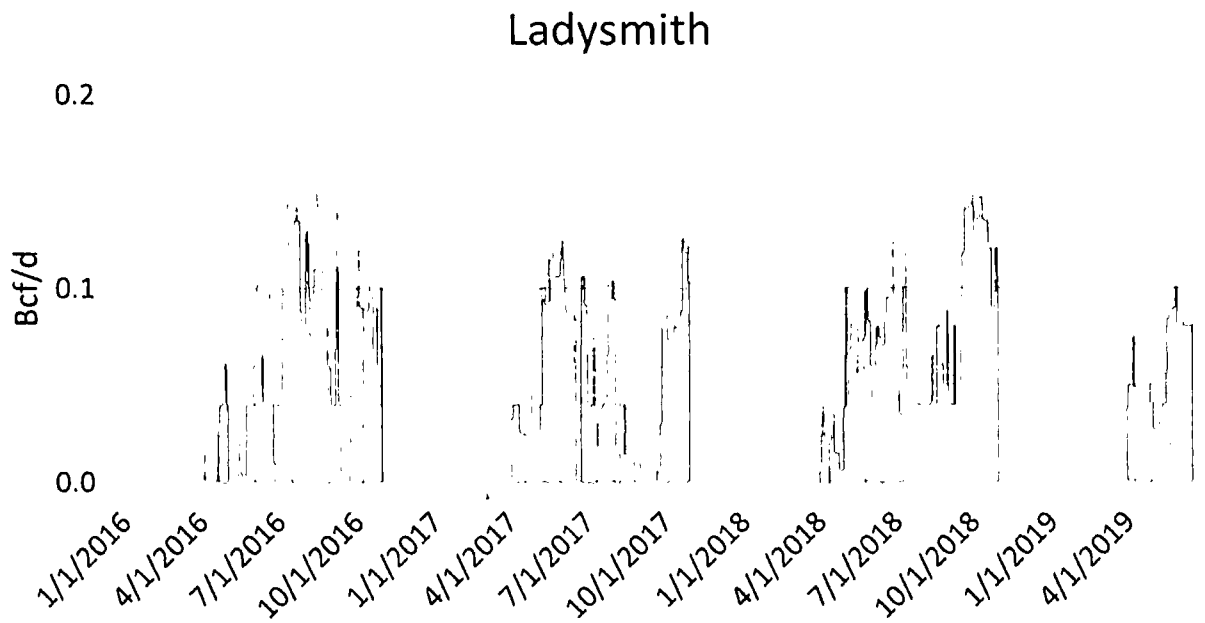
Greensville power plant

- Greensville located in Greensville County, Virginia
- Pipeline Access: Transco
- Max Flow: 261 MMcf/d
- Peak Utilization = 71%



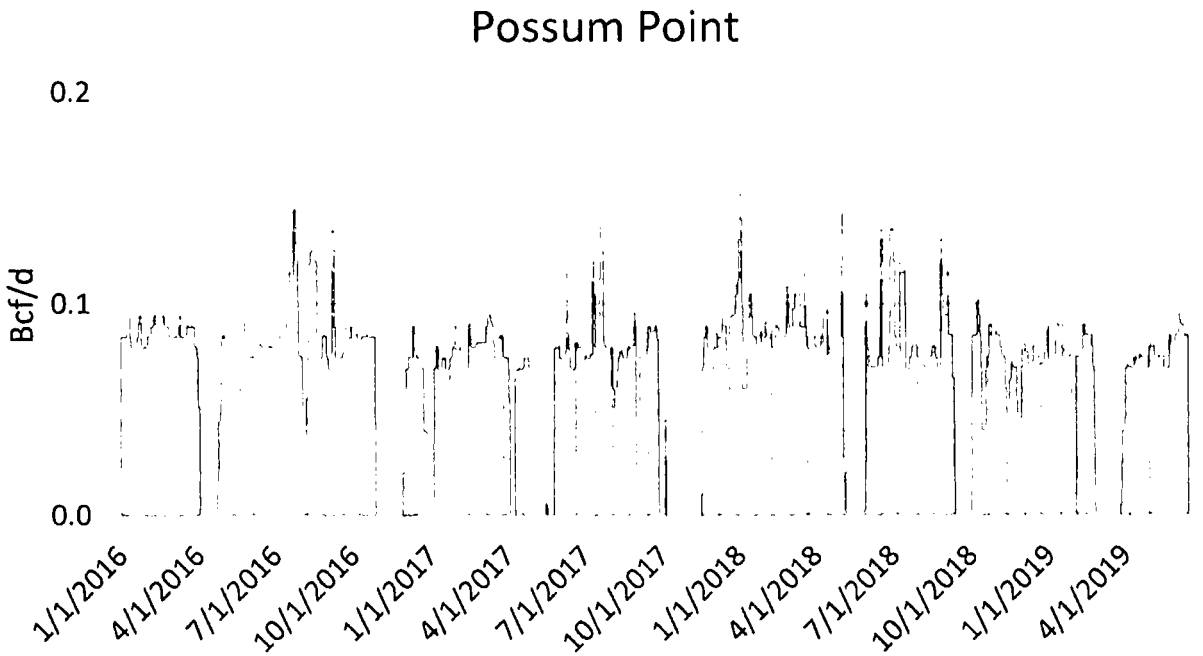
Ladysmith peaking plant

- Ladysmith located in Caroline County, Virginia
- Pipeline Access: DTI
- Max Flow: 168 MMcf/d
- Peak Utilization = 100%



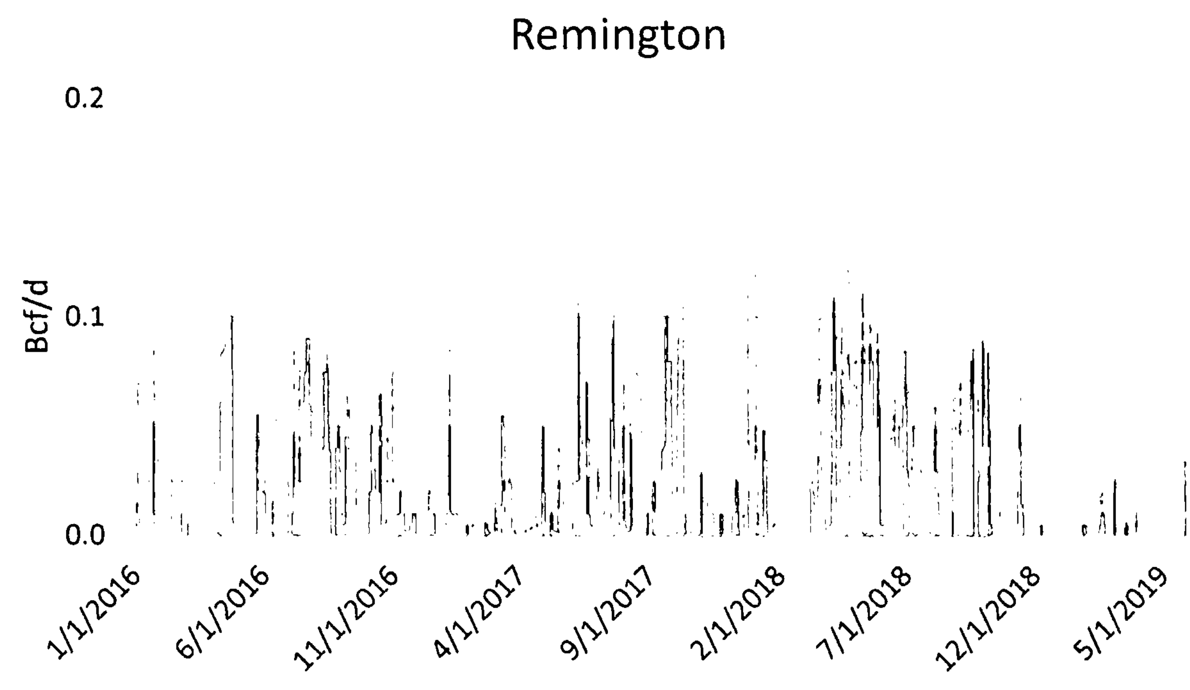
Possum Point plant

- Possum Point located in Prince William County, Virginia
- Pipeline Access: Dominion Cove Point
- Max Flow: 152 MMcf/d
- Peak Utilization = 78%



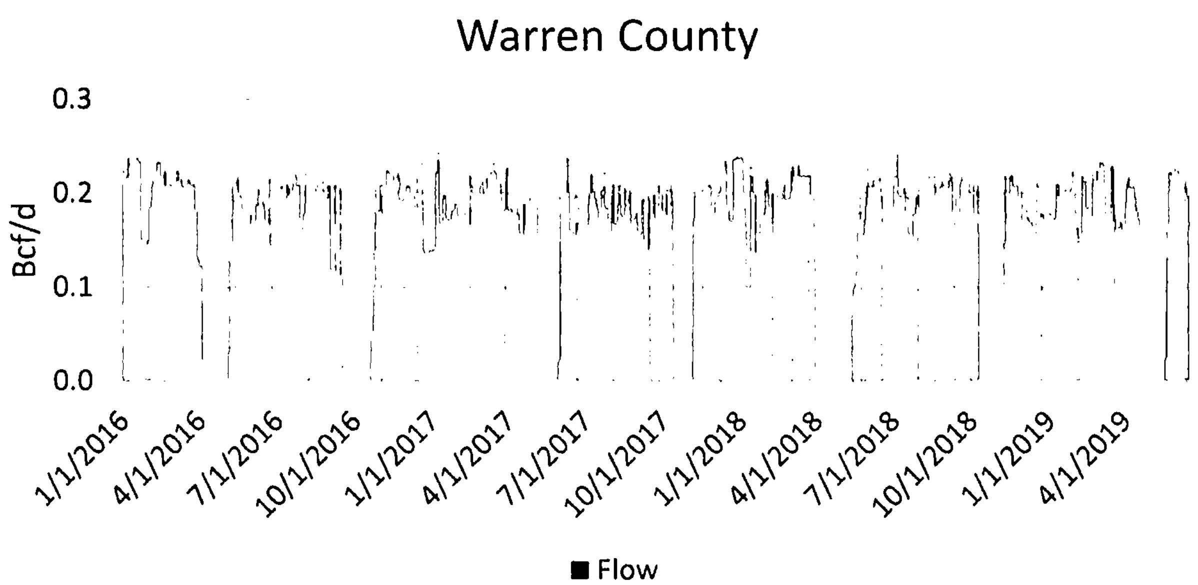
Remington power plant

- Remington located in Fraquier County, Virginia
- Pipeline Access: Transco
- Max Flow: 128 MMcf/d
- Peak Utilization = 21%



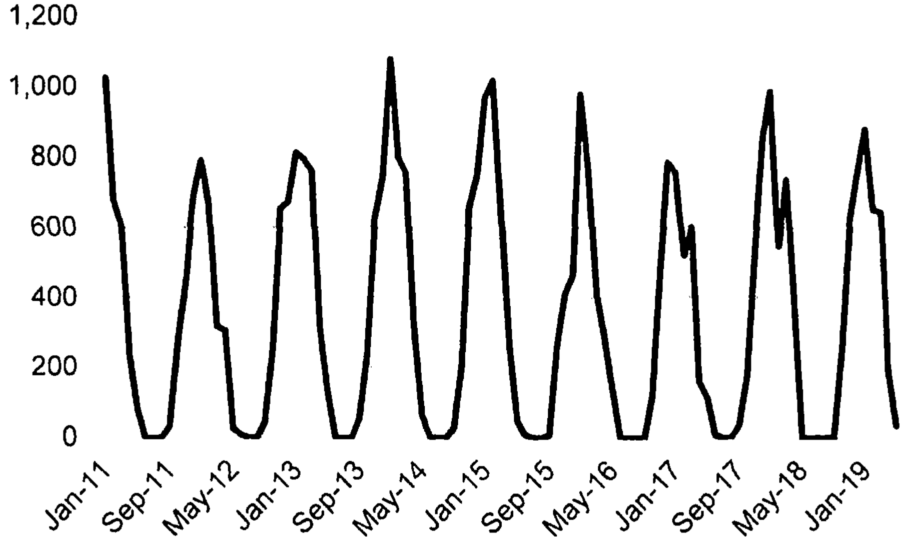
Warren County power plant

- Remington located in Warren County, Virginia
- Pipeline Access: Columbia Gas
- Max Flow: 246 MMcf/d
- Peak Utilization = 99%

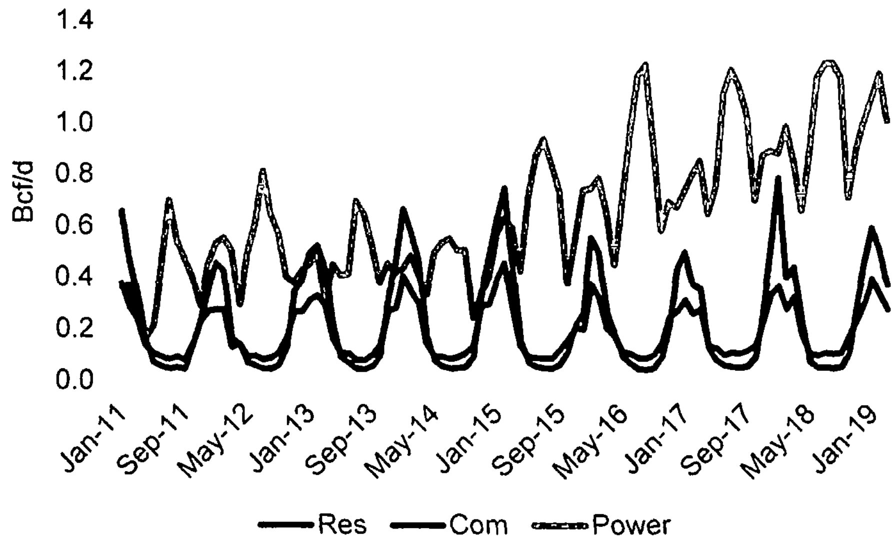


Historical demand and weather in Virginia

VA Heating Degree Days (HDD)



VA Demand by Sector



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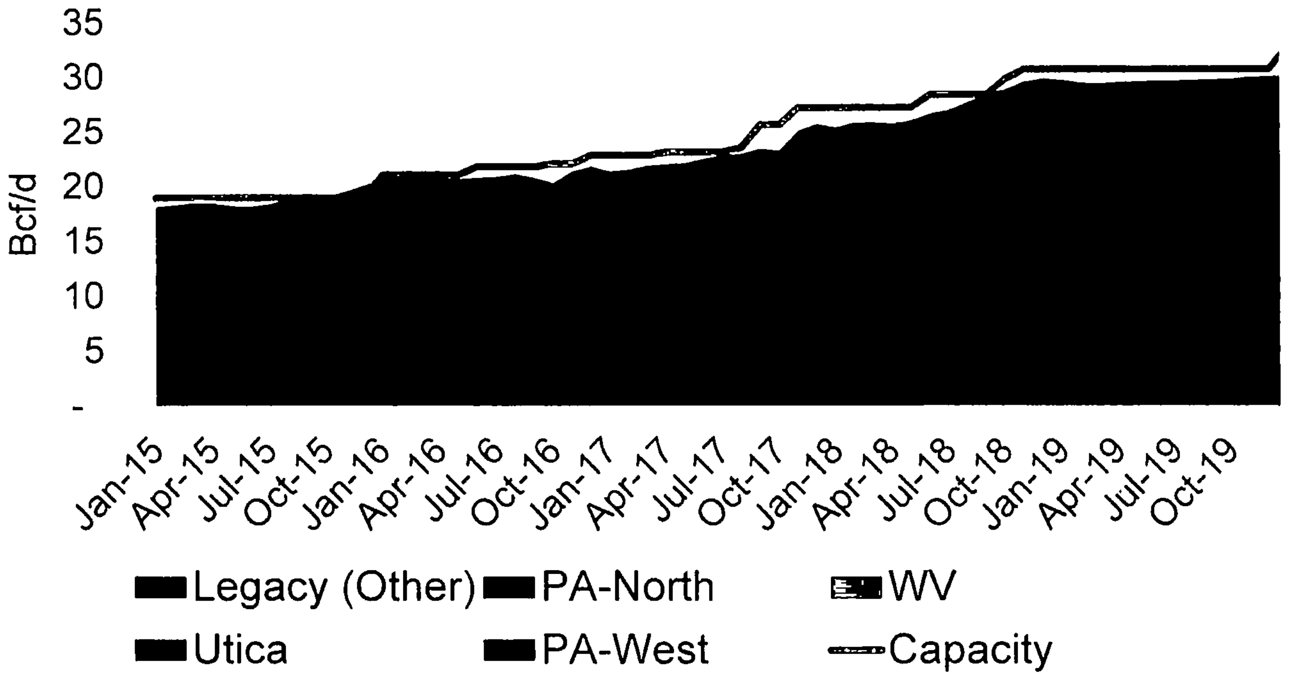
Northeast Pipeline Expansions

Project Name	Pipeline	Capacity (Bcf/d)	Status	In-Service	Source	Destination
Mountain Valley Pipeline	Mountain Valley Pipeline	2.00	Under Construction	1/1/2020	WV	VA
Atlantic Coast Pipeline	Atlantic Coast Pipeline	1.50	Under Construction	1/1/2021	WV	VA,NC
Constitution Pipeline	Constitution Pipeline	0.65	FERC Approved	2021+	PA	NY
Norther Access	National Fuel	0.49	FERC Approved	1/1/2022	PA	NY
PennEast	PennEast Pipeline Co.	1.00	FERC Approved	2021	PA	NJ
NE Supply Enhancement	Transco	0.40	FERC Approved	2021+	PA	NJ/NY
TOTAL		6.04				



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