



## Office of Energy Projects Energy Infrastructure Update *For September 2017*

### Natural Gas Highlights

- Transco received authorization to place into service Phase 1 of its Garden State Expansion Project in Burlington and Mercer Counties, NJ.
- Dominion received authorization to place into service its Leidy South Project which will transport 155 MMcf/d of capacity from Clinton, PA to points in Loudoun, VA.
- Northern received authorization to construct the Bakersfield Compressor Station Project, including 11,152 HP of compression and 1.45 miles of new pipeline with a 200 MMcf/d capacity in Pecos County, TX.
- Columbia received authorization to construct and operate its Central Virginia Connector Project which would provide 45 MMcf/d of capacity on its existing system in Goochland and Louisa Counties, VA.
- National Fuel received authorization to construct and operate its Line QP Project and to abandon by sale its Queen Storage Field and related facilities, all located in Forest and Warren Counties, PA.
- Delfin LNG received authorization to construct and operate certain onshore facilities in Cameron Parish, LA, to transport natural gas to Delfin LNG's planned LNG deepwater port export facility.
- Tennessee received authorization to construct and operate its Abandonment and Capacity Restoration Project, which would abandon pipeline facilities from Station 40 in Natchitoches Parish, LA, to Station 216 in Columbiana County, OH, and construct replacement facilities in OH and KY.
- National Fuel received authorization to abandon Colden Well 0925-I at its Colden Storage Field in Erie County, NY. This will not affect the capacity or deliverability of the field.
- Tres Palacios Gas Storage received partial authorization to amend the certificated working gas volume at its Tres Palacios Gas Storage Facility located in Matagorda, Colorado, and Wharton Counties, TX, with requirements to conduct additional tests of cavern integrity.
- Columbia received authorization to construct and operate Wellington Storage Wells 12599 and 12600 at its Wellington Storage Field in Lorain and Medina Counties, OH. The new wells will not change the certificated physical parameters of the field.
- National Fuel received authorization to abandon Henderson Well 3168 at its Henderson Storage Field in Venango County, PA. This will not affect the capacity or deliverability of the field.
- EcoElectrica received authorization to place into service its LNG Terminal Sendout Project, which will use an existing spare LNG vaporizer unit at its import terminal in Peñuelas, Puerto Rico, to increase deliverability by 93 MMcf/d for a total sendout of 279 MMcf/d.
- Texas Gas requests authorization to plug and abandon Well 17378 and associated lateral line and equipment at its Midland Storage Field in Muhlenberg County, KY.
- CIG requests authorization to abandon its Rawlins Processing Plant in Carbon County, WY. This includes abandonment by sale of related natural gas liquids assets to Sinclair Wyoming Refining Company.
- Texas Eastern requests authorization to offset and replace a 1,250 foot section of 20-inch pipeline beneath the Rahway River in Linden and Woodbridge, NJ.
- Jordan Cove requests authorization to site, construct, and operate its LNG Terminal on the North Spit of Coos Bay, OR. The terminal is designed to receive 1.17 Bcf/d of natural gas and produce approximately 1 Bcf/d of LNG for export.
- Pacific Connector requests authorization to construct a 1.2 Bcf/d pipeline to provide feedgas to the Jordan Cove LNG terminal. The pipeline would extend 229 miles from the interconnect with the Ruby and GTN pipelines in Klamath County, OR to Coos County, OR.



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### Natural Gas Activities in September 2017

Status	No. of Projects	Storage Capacity (Bcf)	Deliverability (MMcf/d)	Capacity (MMcf/d)	Miles of Pipeline	Compression (HP)
<b>Pipeline</b>						
Placed in Service	1			155	0.25	45,835
Certificated	5			2,545	16.12	258,003
Proposed	1			1,200	229	93,300
<b>Storage</b>						
Placed in Service	0	0	0			0
Certificated	0	0.0	0			0
Proposed	0	0.0	0			0
<b>LNG (Import &amp; Export)</b>						
Placed in Service	0	0	0			0
Certificated (Import/Export)	1	0	93			0
Proposed (Export)	1	10	1,000			0

Source: Staff Database

### Natural Gas Activities through September 30, 2017 January through September 30, 2016

Status	No. of Projects	Storage Capacity (Bcf)	Deliverability (MMcf/d)	Capacity (MMcf/d)	Miles of Pipeline	Compression (HP)
<b>Pipeline</b>						
Placed in Service through September 30, 2016	18 24			7,175.9 4,609.3	482.55 274.6	358,649 129,695
Certificated through September 30, 2016	31 46			15,113.1 14,382.5	1,557.51 1,136.5	1,039,667 1,251,340
<b>Storage</b>						
Placed in Service through September 30, 2016	1 0	7.5 0	600.0 0			9,500 0
Certificated through September 30, 2016	1 0	0 0	10.0 0			0 0
<b>LNG (Import &amp; Export)</b>						
Placed in Service through September 30, 2016	1 1	0 0	700 700			0 0
Certificated (Import/Export) through September 30, 2016	1 4	0 10.2	93 3,181			0 0

Source: Staff Database



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### Hydropower Highlights (nonfederal)

- FFP Missouri 15, LLC was issued an original license for the 5.0 MW Morgantown Lock and Dam Hydroelectric Project No. 13762, located at the U.S. Army Corps of Engineers' (Corps) Morgantown Lock and Dam facility on the Monongahela River, in the City of Morgantown, Monongalia County, WV.
- FFP Missouri 16, LLC was issued an original license for the 6.0 MW Opekiska Lock and Dam Hydroelectric Project No. 13753, located at the U.S. Army Corps of Engineers' (Corps) Opekiska Lock and Dam facility on the Monongahela River, near the community of Everettsville, Monongalia County, WV.
- Town of West Stockbridge filed a small-hydro exemption from licensing application for the proposed 0.009 MW Shaker Mill Dam Hydroelectric Project No. 13371. The project would be located at the Shaker Mill Dam on the Williams River, in the Town of West Stockbridge, Berkshire County, MA.

### Hydropower Project Activities in September 2017

Status	Conventional		Pumped Storage		Hydrokinetic		Total No. of Projects	Total Capacity (MW)
	No.	Capacity (MW)	No.	Capacity (MW)	No.	Capacity (MW)		
<b>Filed</b>								
License	0	0	0	0	0	0	0	0
10-MW Exemption	1	0.009	0	0	0	0	1	0.009
Capacity Amendment	0	0	0	0	0	0	0	0
Conduit Exemption	0	0	0	0	0	0	0	0
<b>Issued</b>								
License	2	11.000	0	0	0	0	2	11.000
10-MW Exemption	0	0	0	0	0	0	0	0
Capacity Amendment	0	0	0	0	0	0	0	0
Conduit Exemption	0	0	0	0	0	0	0	0
<b>Placed in Service</b>								
License	0	0	0	0	0	0	0	0
10-MW Exemption	0	0	0	0	0	0	0	0
Capacity Amendment	0	0	0	0	0	0	0	0
Conduit Exemption	0	0	0	0	0	0	0	0

Source: Staff Database

### Hydropower Project Activities Year to Date (through September 30, 2017)

Status	Conventional		Pumped Storage		Hydrokinetic		Total No. of Projects	Total Capacity (MW)
	No.	Capacity (MW)	No.	Capacity (MW)	No.	Capacity (MW)		
<b>Filed</b>								
License	1	1.500	0	0	0	0	1	1.500
10-MW Exemption	1	0.009	0	0	0	0	1	0.009
Capacity Amendment	3	1.770	0	0	0	0	3	1.770
Conduit Exemption	0	0	0	0	0	0	0	0
<b>Issued</b>								
License	14	258.900	0	0	0	0	14	258.900
10-MW Exemption	1	0.360	0	0	0	0	1	0.360
Capacity Amendment	3	5.120	0	0	0	0	3	5.120
Conduit Exemption	0	0	0	0	0	0	0	0



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Status	Conventional		Pumped Storage		Hydrokinetic		Total No. of Projects	Total Capacity (MW)
	No.	Capacity (MW)	No.	Capacity (MW)	No.	Capacity (MW)		
<b>Placed in Service</b>								
License	2	79.000	0	0	0	0	2	79.000
10-MW Exemption	0	0	0	0	0	0	0	0
Capacity Amendment	0	0	0	0	0	0	0	0
Conduit Exemption	0	0	0	0	0	0	0	0

Source: Staff Database

### Electric Generation Highlights

- Albany Green Energy LLC's 58 MW Proctor & Gamble Biomass Project in Dougherty County, GA is online. The power generated is sold to Georgia Power Company under long-term contract.
- Arizona Electric Power Coop. Inc.'s 20 MW Apache Solar 1 Project in Cochise, AZ is online.
- Sierra Southwest Coop. Services' 20 MW Arizona Daily Starbig Solar Project in Cochise, AZ is online.
- Ayrshire Holdings LLC's 20 MW Ayrshire Solar Project in Cleveland County, NC is online. The power generated is sold to Duke Energy Carolinas under long-term contract.
- PSEG Solar Source LLC's 11 MW SL Babylon Solar Generating Facility in Suffolk County, NY is online. The power generated is sold to Long Island Power Authority under long-term contract.
- ACE Stanton LLC's 7 MW ACE Stanton A Solar Project in Orange County, FL is online.
- ACE Stanton A LLC's 6 MW ACE Stanton A Solar Project in Orange County, FL is online. The power generated is sold to Orlando Utilities Commission under long-term contract.
- Kern High School District Solar 2 LLC's 5 MW Kern HSD Solar Project in Kern County, CA is online.
- Solar Projectco 6 LLC's 5 MW Republic Plainville Landfill Solar Project in Norfolk County, MA is online.
- Interstate Power & Light Co.'s 5 MW West Dubuque Solar Project in Dubuque County, IA is online.

### New Generation In-Service (New Build and Expansion)

Primary Fuel Type	September 2017		January – September 2017 Cumulative		January – September 2016 Cumulative	
	No. of Units	Installed Capacity (MW)	No. of Units	Installed Capacity (MW)	No. of Units	Installed Capacity (MW)
Coal	0	0	0	0	3	45
Natural Gas	0	0	64	10,575	96	8,119
Nuclear	0	0	1	102	2	20
Oil	0	0	8	36	15	25
Water	0	0	10	212	33	435
Wind	1	120	50	4,605	39	2,667
Biomass	1	58	25	265	34	72
Geothermal Steam	0	0	1	18	0	0
Solar	33	142	345	3,194	340	4,505
Waste Heat	0	0	1	220	2	23
Other *	0	0	20	1	13	21
<b>Total</b>	<b>35</b>	<b>320</b>	<b>525</b>	<b>19,228</b>	<b>577</b>	<b>15,932</b>

Sources: Data derived from Velocity Suite, ABB Inc. and The C Three Group LLC which include plants with nameplate capacity of 1 MW or greater. The data may be subject to update.

\* "Other" includes purchased steam, tires, and miscellaneous technology such as batteries, fuel cells, energy storage, and fly wheel.



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### Total Available Installed Generating Capacity

	Installed Capacity (GW)	% of Total Capacity
Coal	283.73	23.82%
Natural Gas	517.28	43.42%
Nuclear	108.18	9.08%
Oil	43.67	3.67%
Water	100.83	8.46%
Wind	86.49	7.26%
Biomass	16.76	1.41%
Geothermal Steam	3.80	0.32%
Solar	28.47	2.39%
Waste Heat	1.26	0.11%
Other*	0.81	0.07%
<b>Total</b>	<b>1,191.28</b>	<b>100.00%</b>

Sources: Data derived from Velocity Suite, ABB Inc. and The C Three Group LLC which include plants with nameplate capacity of 1 MW or greater. The data may be subject to update.

### Proposed Generation Additions and Retirements by October 2020

Primary Fuel Type	Additions		Retirements	
	No. of Units	Installed Capacity (MW)	No. of Units	Installed Capacity (MW)
Coal	4	1,927	75	20,699
Natural Gas	387	92,489	97	9,275
Nuclear	4	3,243	6	5,585
Oil	38	762	26	491
Water	274	12,732	21	704
Wind	465	72,526	1	50
Biomass	74	945	8	15
Geothermal Steam	32	1,610	0	0
Solar	1,913	43,528	0	0
Waste Heat	9	236	0	0
Other *	50	680	0	0
<b>Total</b>	<b>3,250</b>	<b>230,678</b>	<b>234</b>	<b>36,819</b>

Sources: Data derived from Velocity Suite, ABB Inc. and The C Three Group LLC which include plants with nameplate capacity of 1 MW or greater. The data may be subject to update.

\* "Other" includes purchased steam, tires, and miscellaneous technology such as batteries, fuel cells, energy storage, and fly wheel.



# Office of Energy Projects Energy Infrastructure Update For September 2017

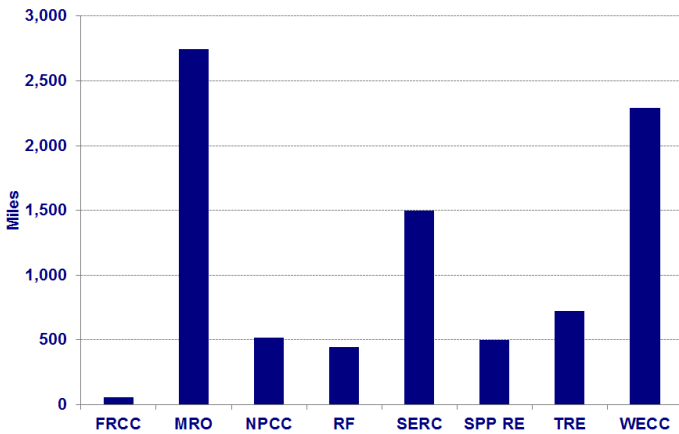
## Electric Transmission Highlights

- CenterPoint Energy, Inc. has completed the 6.0 mile, 138 kV Zenith – Franz Transmission Project in TX.

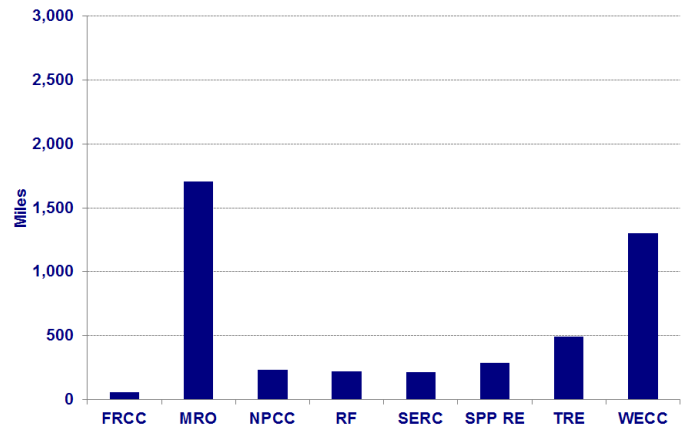
Voltage (kV)	Transmission Projects Completed				Proposed Transmission Projects In-Service by September 2019	
	September 2017	September 2016	January –September 2017 Cumulative	January – December 2016 Cumulative	High Probability of Completion	All
	Line Length (miles)					
≤230	6.0	83.5	141.6	732.8	1,918.2	3,803.6
345	0.0	146.0	122.0	965.9	2,181.5	3,867.4
500	0.0	0.0	0.0	85.0	421.4	1,102.4
<b>Total U.S.</b>	<b>6.0</b>	<b>229.5</b>	<b>263.6</b>	<b>1,783.7</b>	<b>4,521.1</b>	<b>8,773.4</b>

Sources: Data derived from Staff Database and U.S. Electric Transmission Projects ©2017 The C Three Group, LLC.

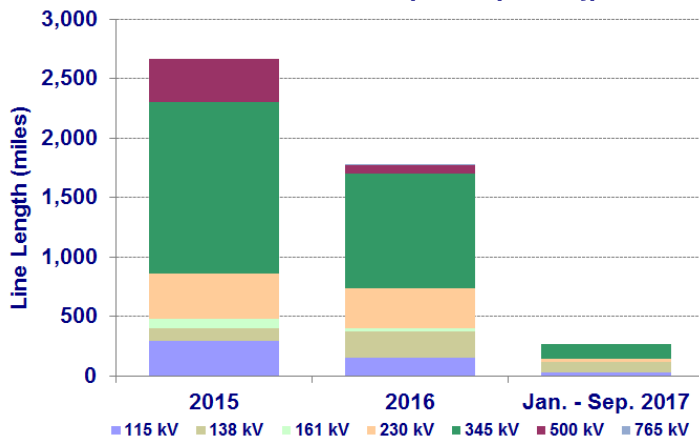
**All Transmission Projects with a Proposed In-Service Date by September 2019**



**Transmission Projects with a High Probability of being completed by September 2019**



**New Transmission Projects by Voltage**



Sources: Data derived from Staff Database and U.S. Electric Transmission Projects ©2017 The C Three Group, LLC.

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