



Office of Energy Projects Energy Infrastructure Update *For November 2017*

Natural Gas Highlights

- Columbia Gas received authorization to place into service its SM-80 Project, which will allow Columbia to bypass DOT Class 3 areas in Wayne County, WV and allow it to operate Line SM-80 at the original maximum allowable operating pressure.
- Columbia received authorization to place into service Phase II of its Tri-County Bare Steel Replacement Project which replaces a portion of Columbia's existing Line 1570 which serves the Pittsburgh metropolitan area.
- Columbia Gulf received authorization to place into service its Rayne Xpress Expansion Project which will provide 621 MMcf/d of bi-directional capacity on its mainline system in KY to serve markets in the Gulf region.
- Tennessee placed into service its Connecticut Expansion Project which will provide 72.1 MMcf/d of capacity for shippers to serve the northeast markets.
- ANR received authorization to construct and operate its Collierville Expansion Project which expands delivery and increases pressures on its system to serve TVA's pending 1,070 MW Allen Combined Cycle Power Plant in Memphis, TN.
- Tennessee received authorization to place into service its Orion Project which adds 135 MMcf/d of capacity to its existing Line 300 system in PA to serve markets in the Middle Atlantic and New England regions.
- ANR received authorization to construct and operate its Wisconsin South Expansion Project which will provide 231 MMcf/d of capacity on its existing system from the Sandwich Compressor Station in Kendall County, IL to markets in Northern IL and WI.
- Tallgrass received authorization to abandon in place its 47 mile Segment 55 pipeline, from Converse to Platte Counties, WY, for the purpose of converting it to oil transportation.
- NGPL received authorization to construct and operate its Gulf Coast Expansion Project which will provide 240 MMcf/d of southbound capacity from existing receipt points on its Gulf Coast System in IL, AR, OK, and TX to delivery points on its South Texas Zone.
- Ohio River Systems received a limited jurisdiction certificate to provide jurisdictional transportation service on its gathering facilities, and a determination that the proposed interstate service does not affect the non-jurisdictional status of the rest of its system.
- Texas Gas received authorization to plug and abandon Well 17378 and an associated lateral line and equipment at its Midland Storage Field in Muhlenberg County, KY.
- Columbia Gas received authorization to construct and operate its WB Xpress Project which will provide 1,300 MMcf/d of bi-directional capacity to markets in western WV and northern VA.
- Columbia received authorization to abandon, replace, construct, and operate facilities as part of its B System Project in Fairfield and Franklin Counties, OH.
- Kinder Morgan Louisiana received authorization to construct and operate its Sabine Pass Expansion Project which will provide 600 MMcf/d of north-to-south capacity from existing pipeline interconnects in Evangeline and Acadia Parishes, LA to a proposed new delivery point with Sabine Pass LNG in Cameron Parish, LA.
- Transco received authorization to construct and operate its Gulf Connector Expansion Project which will provide 475 MMcf/d of bi-directional capacity from its Station 65 Zone 3 Pool in St. Helena Parish, LA to new delivery points in Wharton and San Patricio Counties, TX.
- Columbia Gas received authorization to install facilities and make modifications at its Crawford Compressor Station in Fairfield County, OH, to increase counterstorage compression at its Crawford Storage Field.
- Columbia Gas requests authorization to abandon and replace 14 miles of bare steel pipeline with coated pipeline and related appurtenances from Keyser Station in Mineral County, WV to LaVale Station in Allegany County, MD.
- Blue Mountain Midstream requests authorization to construct its Blue Mountain Delivery Project to transport 255 MMcf/d of natural gas on 9.67 miles of new pipeline to takeaway supplies from its processing plant in Grady County, OK.
- Portland Natural Gas received authorization to increase the certificated capacity on its north system from Pittsburg, NH, to Westbrook, ME, by 42 MMcf/d, and to increase its authorized import and export capacity from 178 to 210 MMcf/d.
- Rover received approval to install a third compressor at its Majorsville Compressor Station in Marshall County, WV. The new unit would add 3,550 HP of compression and increase capacity by 100 MMcf/d.
- CIG received 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.
- Southern Star Central Gas requests authorization to construct its 4.7 mile Blue Mountain Chisholm Trail Project, which would transport 150 MMcf/d of natural gas from the Blue Mountain Midstream gas processing plant to an interconnect with NGPL. The project is located in Carter and Grady Counties, OK.



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- Transco requests authorization to construct its Gateway Expansion Project, which would provide an additional 65 MMcf/d of capacity from Mercer County to Bergen and Passaic Counties, NJ.
- Transco requests authorization to install three additional water heaters at its Meadows Facility site in Bergen County, NJ.
- WBI Energy requests authorization to construct and operate approximately 12 miles of 24-inch diameter steel pipeline, and to expand its Spring Creek Meter Station and its Wild Basin Meter Station in McKenzie County, ND as part of its Line Section 27 Cherry Creek to Spring Creek Expansion Project. The project will provide an additional 206 MMcf/d of takeaway capacity from two processing plants in the region.
- Millennium received authorization to construct its Eastern System Upgrade Project which will provide 223 MMcf/d of capacity from its Corning Compressor Station to an interconnection with Algonquin in Ramapo, NY.

Natural Gas Activities in November 2017

Status	No. of Projects	Storage Capacity (Bcf)	Deliverability (MMcf/d)	Capacity (MMcf/d)	Miles of Pipeline	Compression (HP)
Pipeline						
Placed in Service	6			828.1	64.1	56,500
Certificated	10			3,357.0	62.1	335,113
Proposed	4			676.0	26.2	31,645
Storage						
Placed in Service	0	0.0	0.0			0
Certificated	1	0.0	0.0			980
Proposed	0	0.0	0.0			0
LNG (Import & Export)						
Placed in Service (Export)	0	0.0	0.0			0
Certificated (Import/Export)	0	0.0	0.0			0
Proposed (Import/Export)	0	0.0	0.0			0

Natural Gas Activities through November 31, 2017 January through November 31, 2016

Status	No. of Projects	Storage Capacity (BCF)	Deliverability (MMcf/d)	Capacity (MMcf/d)	Miles of Pipeline	Compression (HP)
Pipeline						
Placed in Service	28			8,960.6	571.1	475,069
through November 30, 2016	35			6,675.3	354.4	398,869
Certificated	45			26,875.8	2,569.2	1,774,505
through November 30, 2016	48			14,571.7	1,144.8	1,258,795
Storage						
Placed in Service	1	7.5	600.0			9,500
through November 30, 2016	0	0.0	0.0			0
Certificated	2	0.0	10.0			980
through November 30, 2016	0	0.0	0.0			0
LNG (Import & Export)						
Placed in Service (Export)	3	0.0	1,493.0			0
through November 30, 2016	1	0.0	1,400.0			0
Certificated (Import/Export)	1	0.0	93.0			0
through November 30, 2016	4	10.2	3,181.0			0

Source: Staff Database



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Hydropower Highlights (nonfederal)

- Northern States Power Company was issued an order raising the capacity of its White River Project No. 2444 from 1.0 MW to 1.2 MW. The project is located on the White River in Ashland County, WI.
- Shell North America filed an application for the 5.0 MW Hydro Battery Pearl Hill Project Pumped Storage Project No. 14795. The project would be located on the Columbia River, near Chief Joseph and the Grand Coulee Dams in Douglas County, WA.

Hydropower Project Activities in November 2017

Status	Conventional		Pumped Storage		Hydrokinetic		Total No. of Projects	Total Capacity (MW)
	No.	Capacity (MW)	No.	Capacity (MW)	No.	Capacity (MW)		
Filed								
License	0	0	1	5.000	0	0	1	5.000
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
Issued								
License	0	0	0	0	0	0	0	0
10-MW Exemption	0	0	0	0	0	0	0	0
Capacity Amendment	1	0.200	0	0	0	0	1	0.200
Conduit Exemption	0	0	0	0	0	0	0	0
Placed in Service								
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 November 30, 2017)

Status	Conventional		Pumped Storage		Hydrokinetic		Total No. of Projects	Total Capacity (MW)
	No.	Capacity (MW)	No.	Capacity (MW)	No.	Capacity (MW)		
Filed								
License	3	506.400	1	5.000	0	0	4	511.400
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
Issued								
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	5	5.460	0	0	0	0	5	5.460
Conduit Exemption	0	0	0	0	0	0	0	0
Placed in Service								
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



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Electric Generation Highlights

- Oklahoma Gas & Electric Co's 330.0 MW Mustang Natural Gas Project in Canadian County, OK is online.
- Oklahoma Gas & Electric Co's 66.0 MW Mustang Natural Gas Project in Canadian County, OK is online.
- University of Minnesota's 22.5 MW natural gas-fired Main Heating Plant in Hennepin County, MN is online. The power generated is sold to Northern States Power Co. (Minnesota) under long-term contract.
- Rock Creek Wind Project LLC's 300.0 MW Rock Creek Wind Project in Atchison County, MO is online. The power generated is sold to Kansas City Power & Light Co. under long-term contract.
- Willow Springs Windfarm LLC's 230.0 MW Horse Creek Wind of Texas Project in Haskell County, TX is online.
- Fluvanna Wind Energy LLC's 155.4 MW Fluvanna Renewable Energy Project in Scurry County, TX is online.
- Apple Blossom Wind LLC's 100.0 MW Apple Blossom Wind Project in Huron County, MI is online. The power generated is sold to Consumers Energy Co. under long-term contract.
- Quilt Block Wind Farm LLC's 99.0 MW Quilt Block Wind Farm in Lafayette County, WI is online. The power generated is sold to Dairyland Power Coop. under long-term contract.
- Golden Hills North Wind LLC's 46.0 MW Golden Hills North Wind Energy Center in Alameda County, CA is online. The power generated is sold to Sonoma Clean Power Authority under long-term contract.
- Canton Mountain Wind LLC's 19.3 MW Canton Mountain Wind Project in Oxford County, ME is online.
- Southampton Solar LLC's 100.0 MW Southampton Solar Project in Southampton County, VA is online. The power generated is sold to Amazon Energy LLC under long-term contract.
- Cuyama Solar LLC's 40.0 MW Cuyama Solar Project in Santa Barbara County, CA is online. The power generated is sold to Pacific Gas & Electric Co. under long-term contract.
- Mechanicsville Solar LLC's 20.0 MW SunEnergy1 Mechanicsville Project in Hanover County, VA is online. The power generated is sold to Dominion North Carolina Power under long-term contract.
- Creswell Hwy 64 Solar LLC's 20.0 MW Creswell Hwy 64 Solar Project in Washington County, NC is online.
- Hecate Energy Cherrydale LLC's 20.0 MW solar powered Hecate Energy Cherrydale Project in Northampton County, VA is online.
- Spartan PW 1 LLC's 13.5 MW solar powered Spartan PW I LLC Project in Ingham County, MI is online. The power generated is sold to Michigan State University under long-term contract.
- OneEnergy Baker Point Solar LLC's 9.0 MW Frederick Road Solar Project in Frederick County, MD is online. The power generated is sold to National Geographic and Monumental Sports under long-term contract.
- East Kentucky Power Coop's 8.5 MW Cooperative Solar One Project in Clark County, KY in online.
- Nixa Solar LLC's 7.9 MW Nixa Solar Farm in Christian County, MO is online. The power generated is sold to Nixa City Utilities under long-term contract.
- Public Service Electric & Gas Co's 6.6 MW Nixon Lane Solar Project in Middlesex County, NJ is online.
- Minnesota Solar CSG 9 LLC's 5.0 MW BR Sauk Rapids Solar Project in Benton County, MN is online.
- SunE Koppelman 1 LLC's 5.0 MW Koppelman Sun Project in Blue Earth County, MN is online.
- SunE Rengstorf 1 LLC's 5.0 MW Rengstorf Solar Project in Nicollet County, MN is online.



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New Generation In-Service (New Build and Expansion)

Primary Fuel Type	November 2017		January – November 2017 Cumulative		January – November 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	7	419	75	11,140	108	8,341
Nuclear	0	0	1	102	3	1,290
Oil	0	0	10	40	20	66
Water	0	0	11	214	36	445
Wind	8	954	61	5,969	52	3,698
Biomass	1	3	26	268	56	109
Geothermal Steam	0	0	1	18	0	0
Solar	45	299	485	4,066	443	6,301
Waste Heat	0	0	1	220	2	23
Other *	1	0	21	1	19	21
Total	62	1,675	692	22,038	742	20,339

Sources: Data derived from Velocity Suite, ABB Inc. and The C Three Group. The data may be subject to update.

Total Available Installed Generating Capacity

	Installed Capacity (GW)	% of Total Capacity
Coal	277.49	23.40%
Natural Gas	515.95	43.52%
Nuclear	108.18	9.12%
Oil	43.47	3.67%
Water	100.88	8.51%
Wind	87.63	7.39%
Biomass	16.68	1.41%
Geothermal Steam	3.80	0.32%
Solar	29.52	2.49%
Waste Heat	1.26	0.11%
Other*	0.79	0.07%
Total	1,185.64	100.00%

Sources: Data derived from Velocity Suite, ABB Inc. and The C Three Group LLC. 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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Proposed Generation Additions and Retirements by December 2020

Primary Fuel Type	Additions		Retirements	
	No. of Units	Installed Capacity (MW)	No. of Units	Installed Capacity (MW)
Coal	4	1,927	74	20,650
Natural Gas	387	92,489	118	10,803
Nuclear	4	3,243	6	5,585
Oil	38	762	36	571
Water	274	12,732	25	706
Wind	465	72,526	2	68
Biomass	74	945	21	47
Geothermal Steam	32	1,610	0	0
Solar	1,913	43,528	5	2
Waste Heat	9	236	0	0
Other *	50	680	0	0
Total	3,250	230,678	287	38,432

Sources: Data derived from Velocity Suite, ABB Inc. and The C Three Group LLC. 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.

Electric Transmission Highlights

- JCP&L gets permission to build the 7mi and 230 kV Whippany – Montville Transmission Project. The \$37.5 million project is expected to be completed by June 2019.

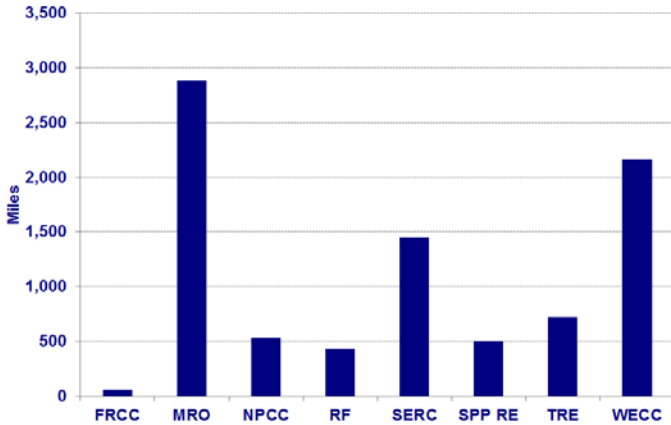
Voltage (kV)	Transmission Projects Completed				Proposed Transmission Projects In-Service by November 2019	
	November 2017	November 2016	January – November 2017 Cumulative	January – December 2016 Cumulative	High Probability of Completion	All
	Line Length (miles)					
≤230	0.0	0.2	141.6	778.8	1,778.1	3,614.0
345	0.0	35.9	122.0	965.9	2,379.6	4,051.5
500	0.0	0.0	0.0	85.0	393.4	1,074.4
Total U.S.	0.0	36.1	263.6	1,829.7	4,551.1	8,739.9

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

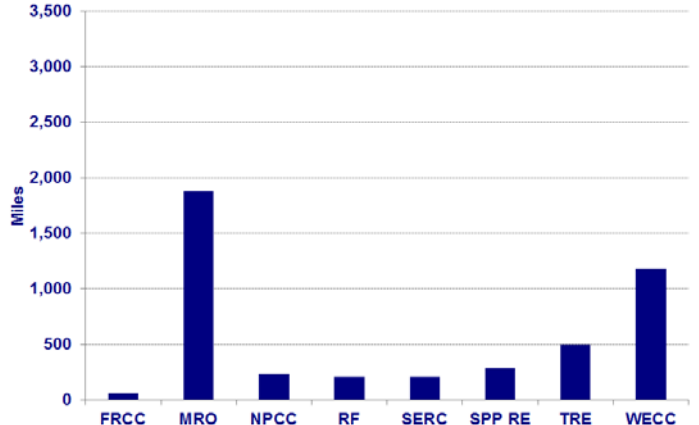


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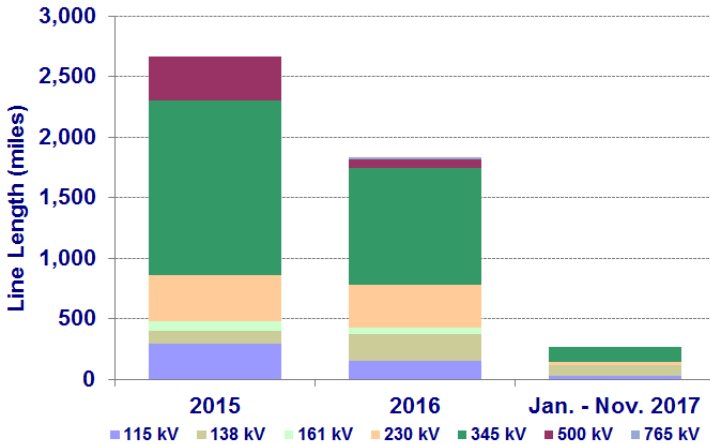
All Transmission Projects with a Proposed In-Service Date by November 2019



Transmission Projects with a High Probability of being completed by November 2019



New Transmission Projects by Voltage



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

Disclaimer: This Report contains analyses, presentations, and conclusions that may be based on or derived from the data sources cited, but do not necessarily reflect the positions or recommendations of the data providers.