



## Office of Energy Projects Energy Infrastructure Update *For November 2016*

### Natural Gas Highlights

- Southern Natural placed into service its South Main Expansion Project which will provide 5 MMcf/d of capacity to serve municipal gas systems located across Southern Natural's South Georgia Lateral.
- Dominion Carolina Gas received authorization to place into service its Columbia to Eastover Project which will provide 18 MMcf/d of capacity to serve International Paper Company's pulp and paper mill in Richland County, SC.
- Rockies Express received authorization to place into service its REX Zone 3 Enhancement Project (except the facilities authorized at the existing Hamilton Compressor Station in Warren County, OH) which will provide 800 MMcf/d of east-to-west capacity from Clarington, OH to Moultrie County, IL.
- Millennium received authorization to construct and operate its CPV Valley Lateral Project which will provide 127.2 MMcf/d of capacity to serve CPV Valley's 630 MW new combined cycle electric generator currently under construction in the Town of Wawayanda, NY.
- Southern Star received authorization to abandon in place an approximately 31 mile segment of its Shidler 16-inch pipeline in Osage County, OK.
- Magnum Gas Storage received authorization to relocate previously authorized locations of its natural gas storage caverns and associated surface facilities, and to add a new firm wheeling transportation service at its salt cavern storage facility in Millard, Juab, and Utah Counties, UT. The change in the layout is due to construction activities associated with a non-jurisdictional natural gas liquids storage facility.
- ANR requests authorization to construct and operate its Wisconsin South Expansion Project which would provide 230.9 MMcf/d of capacity on its existing system from its Sandwich Compressor Station located in Kendall County, IL to markets in Northern IL and WI.
- Dominion Cove Point LNG requests authorization to construct and operate its Eastern Market Access Project which would provide 294 MMcf/d of capacity to serve markets in the Mid-Atlantic region including a proposed 990 MW combined cycle generating station in Prince George's County, MD.
- Valley Crossing Pipeline requests authorization to construct, operate, and maintain an import/export border crossing located in the Gulf of Mexico in TX state waters to the International Boundary between the US and Mexico. The border crossing would provide 2,600 MMcf/d of import and export capacity to and from Mexico.
- Port Arthur LNG and Port Arthur Pipeline requests authorization to construct and operate an LNG export terminal (providing 1,865 MMcf/d of deliverability) in the City of Port Arthur in Jefferson County, TX, and pipeline facilities to provide 2,000 MMcf/d of capacity to serve the proposed terminal.
- Chesapeake Appalachia and Columbia Natural requests authorization to abandon certain facilities in WV and KY used to provide limited jurisdictional service to Mountaineer Gas Company. Core Appalachia requests authorization to provide limited jurisdictional service on the Devonian Gas Gathering system to serve Mountaineer Gas Company.
- UGI LNG requests authorization to construct and operate two new trailer loading and unloading racks as part of its Temple Truck Rack Expansion Project at its Temple LNG storage facility located in Ontelaunee Township, Berks County, PA.
- Cheniere Midstream was authorized to use the Commission's pre-filing process for its proposal to construct and operate the Midship Pipeline Project which would provide 1,400 MMcf/d of capacity from the Okarche Processing Plant near Okarche, OK to Bennington, OK. Cheniere proposes to lease capacity on Midcontinent Express and/or Gulf Crossing Pipeline beginning at Bennington, OK to near Tallulah, LA to serve Gulf Coast markets.



## Office of Energy Projects Energy Infrastructure Update For November 2016

### Natural Gas Activities in November 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	4			823.0	32.9	157,457
Certificated	1			127.2	7.8	0
Proposed	5			6,524.9	259.5	227,052
<b>Storage</b>						
Placed in Service	0	0.0	0.0			0
Certificated	0	0.0	0.0			0
Proposed	0	0.0	0.0			0
<b>LNG (Import &amp; Export)</b>						
Placed in Service (Export)	0	0	0			0
Certificated (Import/Export)	0	0	0			0
Proposed (Import/Export)	1	10.2	1,865.0			0

Source: Staff Database

### Natural Gas Activities through November 30, 2016 January through November 30, 2015

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 November 30, 2015	35 32			6,675.3 7,326.4	354.4 405.7	398,869 241,797
Certificated through November 30, 2015	48 38			14,571.7 10,614.2	1,144.8 433.6	1,258,795 337,173
<b>Storage</b>						
Placed in Service through November 30, 2015	0 6	0.0 11.4	0 53			0 6,800
Certificated through November 30, 2015	0 2	0.0 2.7	0 0			0 0
<b>LNG (Import &amp; Export)</b>						
Placed in Service (Export) through November 30, 2015	1 0	0 0	1,400 0			0 0
Certificated (Import/Export) through November 30, 2015	4 1	10.2 0	3,181 1,400			0 0

Source: Staff Database

### Hydropower Highlights (nonfederal)

- Newburgh Hydro, LLC was issued an original license for the 56.7 MW Newburgh Lock and Dam Hydroelectric Project No. 12962. The project will be located at the U.S. Army Corps of Engineers' Newburgh Locks and Dam on the Ohio River in Warrick County, IN, and Henderson County, KY.
- The Sacramento Municipal Utility District was issued an order amending license to raise the capacity of its Upper American River Hydroelectric Project No. 2101 from 637.683 MW to 640.383 MW. The project is located on the Rubicon and South Fork American Rivers and Silver Creek in El Dorado and Sacramento Counties, CA.



## Office of Energy Projects Energy Infrastructure Update For November 2016

### Hydropower Project Activities in November 2016

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	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>Issued</b>								
License	1	56.700	0	0	0	0	1	56.700
10-MW Exemption	0	0	0	0	0	0	0	0
Capacity Amendment	1	2.700	0	0	0	0	1	2.700
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 November 30, 2016)

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	2.5	50.049	0.5	300.000	0	0	3	350.049
10-MW Exemption	1	0.360	0	0	0	0	1	0.360
Capacity Amendment	1	0.100	0	0	0	0	1	0.100
Conduit Exemption	2	0.530	0	0	0	0	2	0.530
<b>Issued</b>								
License	11	208.522	0	0	0	0	11	208.522
10-MW Exemption	1	0.220	0	0	0	0	1	0.220
Capacity Amendment	4	9.010	0	0	0	0	4	9.010
Conduit Exemption	0	0	0	0	0	0	0	0
<b>Placed in Service</b>								
License	4.5	211.200	0	0	0	0	4.5	211.200
10-MW Exemption	0	0	0	0	0	0	0	0
Capacity Amendment	2.5	26.500	0	0	0	0	2.5	26.500
Conduit Exemption	0	0	0	0	0	0	0	0

Source: Staff Database



## Office of Energy Projects Energy Infrastructure Update *For November 2016*

### Electric Generation Highlights

- Pfizer Inc.'s 5.6 MW natural gas-fired Pfizer Groton Expansion Project in New London County, CT is online.
- Javelina Wind Energy II LLC's 200 MW Javelina Wind Farm Phase II Expansion Project in Webb County, TX is online.
- Courtenay Wind Farm LLC's 200 MW Courtenay Wind Farm Project in Stutsman County, ND is online. The power generated is sold to Northern States Power Co. (Minnesota) under long-term contract.
- Paulding Wind Farm III LLC's 100.8 MW Timber Road Wind Farm Phase II Expansion Project in Paulding County, OH is online. The power generated is sold to American Electric Power Co. under long-term contract.
- Peak View Wind Energy LLC's 60 MW Peak View Wind Farm Project in Las Animas County, CO is online.
- Southern Power Co.'s 150 MW RE Roserock Solar Farm Project in Pecos County, TX is online. The power generated is sold to Austin Energy under long-term contract.
- Comanche Solar PV LLC's 120 MW Comanche Solar Wind Project in Pueblo County, CO is online. The power generated is sold to Public Service Co. of Colorado under long-term contract.
- Georgia Power Co.'s 30 MW Fort Gordon Solar Project in Richmond County, GA is online.
- Citizens Solar Holding VI LLC's 20 MW Old Midville Solar Project in Jenkins County, GA is online. The power generated is sold to Georgia Power Co. under long-term contract.
- Antelope DSR II LLC's 5 MW Antelope DSR II Phase 1 Solar Project in Los Angeles County, CA is online. The power generated is sold to Southern California Public Power Authority under long-term contract.
- SJA Solar LLC's 20 MW SJA Solar Project in Worcester County, MA is online.
- Solar Star Arizona VIII LLC's 20 MW Sulphur Springs Solar Project in Cochise County, AZ is online. The power generated is sold to Sulphur Springs Valley Electric Coop. Inc. under long-term contract.
- Indiana Michigan Power Co.'s 4.8 MW Watervliet Solar Project in Berrien County, MI is online.
- Blue Sphere Corp.'s 5.2 MW municipal solid waste-to-energy Charlotte Biomass Project in Mecklenburg County, NC is online. The power generated is sold to Duke Energy Carolinas under long-term contract.

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

Primary Fuel Type	November 2016		January – November 2016 Cumulative		January – November 2015 Cumulative	
	No. of Units	Installed Capacity (MW)	No. of Units	Installed Capacity (MW)	No. of Units	Installed Capacity (MW)
Coal	0	0	3	45	2	6
Natural Gas	2	6	94	8,109	70	6,338
Nuclear	0	0	1	1,270	2	152
Oil	0	0	6	33	20	41
Water	0	0	30	314	23	161
Wind	4	561	43	3,533	47	5,221
Biomass	6	5	47	91	38	322
Geothermal Steam	0	0	0	0	3	67
Solar	15	385	320	5,717	287	2,165
Waste Heat	0	0	1	15	0	0
Other *	1	0	10	0	16	0
<b>Total</b>	<b>28</b>	<b>957</b>	<b>555</b>	<b>19,127</b>	<b>508</b>	<b>14,473</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.



## Office of Energy Projects Energy Infrastructure Update For November 2016

### Total Available Installed Generating Capacity

	Installed Capacity (GW)	% of Total Capacity
Coal	292.08	24.77%
Natural Gas	511.85	43.40%
Nuclear	108.05	9.16%
Oil	44.90	3.81%
Water	100.59	8.53%
Wind	77.54	6.58%
Biomass	16.67	1.41%
Geothermal Steam	3.93	0.33%
Solar	21.70	1.84%
Waste Heat	1.17	0.10%
Other*	0.76	0.06%
<b>Total</b>	<b>1,179.24</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.

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

### Electric Transmission Highlights

- Ameren has completed the 35.9 mile, 345 kV Pana - Faraday Transmission Project in IL. The \$77 million project is part of the MVP 11 Illinois Rivers Transmission Project.
- American Electric Power has completed the 0.2 mile, 138 kV Summerfield – Blue Racer - Berne Transmission Project in OH.

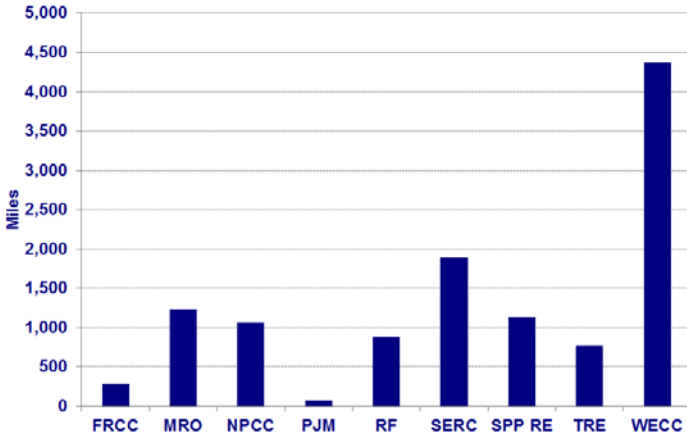
Voltage (kV)	Transmission Projects Completed				Proposed Transmission Projects In-Service by November 2018	
	November 2016	November 2015	January – November 2016 Cumulative	January – December 2015 Cumulative	High Probability of Completion	All
	Line Length (miles)					
≤230	0.2	44.0	286.1	722.2	2,543.5	4,958.7
345	35.9	0.0	306.9	1,230.5	2,153.9	3,627.7
500	0.0	42.0	43.0	355.0	1,000.0	3,104.0
<b>Total U.S.</b>	<b>36.1</b>	<b>86.0</b>	<b>636.0</b>	<b>2,307.7</b>	<b>5,697.4</b>	<b>11,690.4</b>

Sources: Data derived from Staff Database and U.S. Electric Transmission Projects ©2016 The C Three Group, LLC.

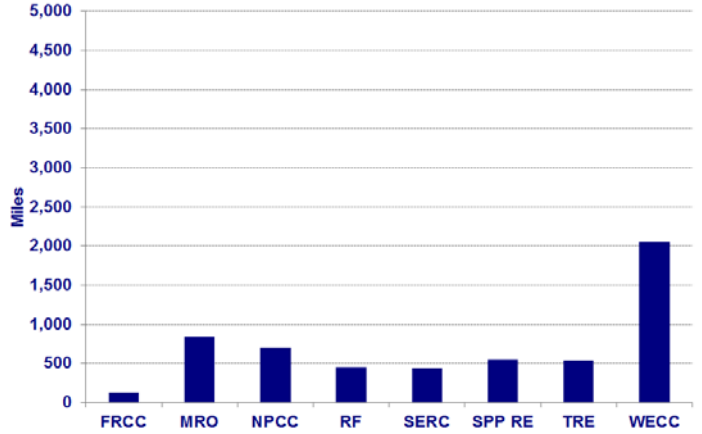


# Office of Energy Projects Energy Infrastructure Update *For November 2016*

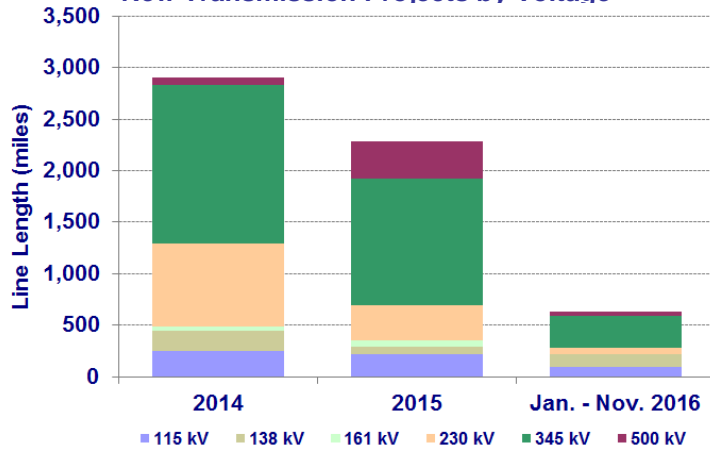
**All Transmission Projects with a Proposed In-Service Date by November 2018**



**Transmission Projects with a High Probability of being completed by November 2018**



**New Transmission Projects by Voltage**



**Sources:** Data derived from Staff Database and U.S. Electric Transmission Projects ©2016 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.