



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

### Natural Gas Highlights

- Columbia received authorization to place into service the Phase I facilities of its Tri-County Bare Steel Replacement Project which will replace a portion of Columbia's existing Line 1570 in Greene County, PA. The project will improve reliability and safety for existing customers and landowners.
- Columbia received authorization to place into service the Phase IIC facilities of its Line MB Expansion Project which will provide improved reliability for customers located in Baltimore and Harford Counties, MD.
- Dominion received authorization to place into service its Monroe to Cornwell Project which will provide 205 MMcf/d of capacity on its mainline system from Monroe County, OH to Kanasha County, WV.
- Columbia received authorization to place into service pipeline facilities crossing the Licking River as part of its replacement of deteriorating pipeline facilities on Columbia's E-System in KY.
- Dominion received authorization to place into service its Clarrington Project which will provide 250 MMcf/d of capacity on its system from a new interconnection in Lightburn, WV to new interconnections with Texas Eastern and Rockies Express Pipeline in Monroe County, OH.
- Natural received authorization to place into service its Chicago Market Expansion Project which will provide 238 MMcf/d of northbound capacity on its system for delivery to markets in the Chicago, IL area.
- Algonquin received authorization to place into service its Salem Lateral Project which will provide 115 MMcf/d of capacity to Footprint Power Salem Harbor Development's redeveloped 630 MW generation facility in Salem, MA.
- Dominion received authorization to place into service its Lebanon West II Project which will provide 130 MMcf/d of capacity from an interconnection located in Butler County, PA to an interconnection with Texas Gas in Warren County, OH.
- Algonquin received authorization to place into service all of the facilities as part of its Algonquin Incremental Market Project except those facilities related to the crossing of the Hudson River, the existing Pomfret M&R Station, and the West Roxbury Lateral. These facilities will provide 245 MMcf/d out of the authorized 342 MMcf/d of capacity.
- Questar Overthrust Pipeline received authorization to place into service its Jurisdictional Tap Line 139 Delivery Lateral Project which will provide 60 MMcf/d of capacity to serve Simpiot Phosphates' new ammonia plant in Sweetwater County, WY.
- Sabine Pass Liquefaction received authorization to place into service Train 2 at its export facility in Cameron Parish, LA. Train 2 will provide an export deliverability of 700 MMcf/d.
- WBI Energy received authorization to construct and operate its Line Section 25 and the Charbonneau #6 Expansion Projects which will provide 62 MMcf/d of capacity on its existing system in Williams and McKenzie Counties, ND. These projects will provide transportation of natural gas from new receipt points in the Bakken area to existing interconnections with Northern Border Pipeline at WBI Energy's Charbonneau Compressor and Glen Ullin Compressor Stations.
- ANR received authorization to implement permanent and temporary abandonment of certain facilities, horsepower, and capacity at its Grand Chenier Compressor Station located in Cameron Parish, LA.
- ANR received authorization to abandon in place compressor facilities at four existing compressor stations and to abandon short-haul capacity on a segment of its SE Mainline from Acadia Parish, LA to Clestine, IN.
- The Commission terminated the pre-filing proceeding of CE FLNG and CE Pipeline to construct and operate a floating liquefaction export terminal (1,070 MMcf/d of export deliverability) near Baptiste Collette Bayou in Plaquemines Parish, LA, and the associated pipeline facilities which would have provided 2,000 MMcf/d of capacity to serve the proposed LNG terminal. The Commission determined that CE FLNG failed to meet resource report schedules.
- Florida Gas requests authorization to construct and operate its East-West Project which would provide 275 MMcf/d of capacity on its pipeline system in LA and TX to serve markets in the Texas Gulf Coast area.
- WBI Energy was authorized to use the Commission's pre-filing process for its proposal to construct and operate the Valley Expansion Project, which would provide 40 MMcf/d of bi-directional capacity from an interconnection with WBI Energy's existing pipeline located near the town of Mapleton in Case County, ND to Viking Gas Transmission's existing pipeline located near the town of Felton in Clay County, MN. This project would serve new and existing customers in eastern ND and western MN.
- Paiute was authorized to use the Commission's pre-filing process for its proposal to construct and operate the 2018 Expansion Project, which would provide 4.6 MMcf/d of capacity to meet projected growth demands in Carson City, NV, Douglas and Lyon Counties, NV, and in El Dorado County, CA.
- DTE Midstream Appalachia was authorized to use the Commission's pre-filing process for its proposal to construct and operate the Birdsboro Pipeline Project, which would provide 79 MMcf/d of capacity to serve Birdsboro Power's new 488 MW generating facility under construction in the Borough of Birdsboro, PA.



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

### Natural Gas Activities in October 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	10			1,243.0	47.0	111,717
Certificated	1			62.0	0.5	7,455
Proposed	4			398.6	85.2	2,600
<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)	1	0	700			0
Certificated (Import/Export)	0	0	0			0
Proposed (Import/Export)	0	0	0			0

Source: Staff Database

### Natural Gas Activities through October 31, 2016 January through October 31, 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	32			5,852.3	321.5	241,412
through October 31, 2015	26			6,554.3	297.2	190,997
Certificated	47			14,444.5	1,137.0	1,258,795
through October 31, 2015	36			10,025.2	414.5	326,258
<b>Storage</b>						
Placed in Service	0	0.0	0			0
through October 31, 2015	5	11.4	53			4,800
Certificated	0	0.0	0			0
through October 31, 2015	2	2.7	0			0
<b>LNG (Import &amp; Export)</b>						
Placed in Service (Export)	1	0	1,400			0
through October 31, 2015	0	0	0			0
Certificated (Import/Export)	4	10.2	3,181			0
through October 31, 2015	1	0	1,400			0

Source: Staff Database



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

### Hydropower Highlights (nonfederal)

- Copper Valley Electric Association placed in service the Allison Creek Hydroelectric Project 13124 with a total installed capacity of 6.5 MW. The project is located near Allison Lake in the Borough of Valdez-Cordova in AK.

#### Hydropower Project Activities in October 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	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>Placed in Service</b>								
License	1	6.5	0	0	0	0	1	6.5
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 October 31, 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	10	151.822	0	0	0	0	10	151.822
10-MW Exemption	1	0.220	0	0	0	0	1	0.220
Capacity Amendment	3	6.310	0	0	0	0	3	6.310
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 October 2016

### Electric Generation Highlights

- Tennessee Valley Authority's 1,270 MW Watts Bar Unit 2 Nuclear Project in Rhea County, TN is online. This is the first nuclear power plant online since 1996.
- Pio Pico Energy Center LLC's 321 MW natural gas-fired Pio Pico Energy Center Project in San Diego County, CA is online. The power generated is sold to San Diego Gas and Electric Co. under long-term contract.
- Arcelor Mittal Warren LLC's 16.5 MW Warren Natural Gas Project in Trumbull County, OH is online.
- Hoosier Energy Rural Cooperative Inc.'s 16 MW landfill gas-to-energy Orchard Hills Generating Station Project in Ogle County, IL is online.
- Wabash Valley Power Association Inc.'s 12.8 MW landfill gas-to-energy Liberty III Generating Plant Project in White County, IN is online.
- Athens Energy LLC's 8.5 MW wood-fired Athens Energy Project in Somerset County, ME is online.
- Moapa Southern Paiute Solar LLC's 350 MW Moapa Southern Paiute Solar Project in Clark County, NV is online. Of the power generated, 250 MW is sold to Los Angeles Department of Water and Power under long-term contract.
- Southern Power Co.'s 148 MW Taylor County Solar Project in Taylor County, GA is online.
- North Star Solar PV LLC's 100 MW North Star Solar Project in Chisago County, MN is online. The power generated is sold to Xcel Energy Inc. under long-term contract.
- Eastern Shore Solar LLC's 80 MW Oak Hall Solar Project in Accomack County, VA is online. The power generated is sold to Vadata Inc. under long-term contract.
- Roswell Solar LLC's 70 MW Roswell Solar Project and Chaves County LLC's 70 MW Chaves County Solar Project, both in Chavez County, NM are online.
- Chaves County LLC's 70 MW Chaves County Solar Project in Chaves County, NM is online.
- Marshall Solar LLC's 62.2 MW Marshall Solar Project in Lyon County, MN is online. The power generated is sold to Xcel Energy Inc. under long-term contract.
- Platte River Power Authority's 30 MW Rawhide Flats Solar Expansion Project in Larimer County, CO is online.
- Bison Solar LLC's 30 MW Bison Solar Project in Larimer County, CO is online.
- Plymouth Solar LLC's 17.6 MW Plymouth Solar Phase 2 Project in Washington County, NC is online. The power generated is sold to Dominion Virginia Power under long-term contract.
- DG Colorado Solar LLC's 10 MW Clear Springs Ranch Solar Project in El Paso County, CO is online. The power generated is sold to Colorado Springs Utilities under long-term contract.
- Southern Power Co.'s 300 MW Wake Wind Farm Project in Floyd County, TX is online.
- Chopin Wind LLC's 10 MW Chopin Wind Farm Project in Umatilla County, OR is online. The power generated is sold to PacifiCorp under long-term contract.

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

Primary Fuel Type	October 2016		January – October 2016 Cumulative		January – October 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	7	339	92	8,104	64	6,221
Nuclear	1	1,270	1	1,270	2	152
Oil	0	0	6	33	19	38
Water	1	7	30	314	22	159
Wind	5	311	39	2,972	41	4,591
Biomass	15	31	41	86	35	316
Geothermal Steam	0	0	0	0	3	67
Solar	22	978	305	5,333	252	1,698
Waste Heat	0	0	1	15	0	0
Other *	1	0	9	0	10	0
<b>Total</b>	<b>52</b>	<b>2,936</b>	<b>527</b>	<b>18,172</b>	<b>450</b>	<b>13,248</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 October 2016

### Total Available Installed Generating Capacity

	Installed Capacity (GW)	% of Total Capacity
Coal	292.08	24.79%
Natural Gas	511.85	43.45%
Nuclear	108.05	9.17%
Oil	44.90	3.81%
Water	100.59	8.54%
Wind	76.98	6.53%
Biomass	16.66	1.41%
Geothermal Steam	3.93	0.33%
Solar	21.32	1.81%
Waste Heat	1.17	0.10%
Other*	0.76	0.06%
<b>Total</b>	<b>1,178.29</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

- Western Interconnect LLC announced an Open Season for the 35 mile, 345 kV Blackwater – Clovis Merchant Transmission Line in NM. Commercial operations are scheduled to begin on January 1, 2017.

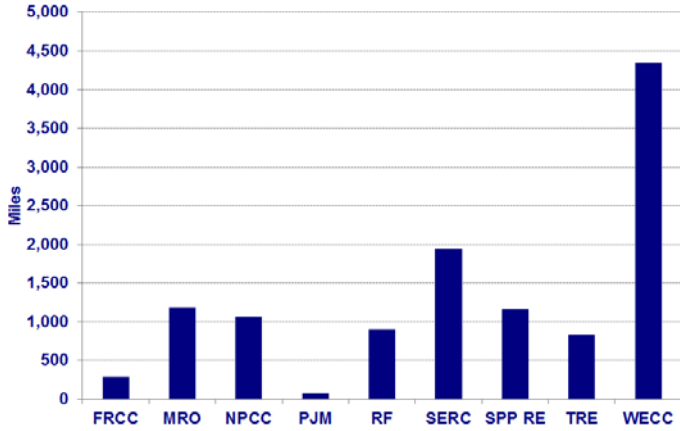
Voltage (kV)	Transmission Projects Completed				Proposed Transmission Projects In-Service by October 2018	
	October 2016	October 2015	January – October 2016 Cumulative	January – December 2015 Cumulative	High Probability of Completion	All
	Line Length (miles)					
≤230	0.0	69.2	285.9	700.3	2,662.7	5,131.3
345	0.0	0.0	199.4	1,230.5	2,208.9	3,734.7
500	0.0	38.0	43.0	355.0	950.3	2,924.3
<b>Total U.S.</b>	<b>0.0</b>	<b>107.2</b>	<b>528.3</b>	<b>2,285.8</b>	<b>5,821.9</b>	<b>11,790.3</b>

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

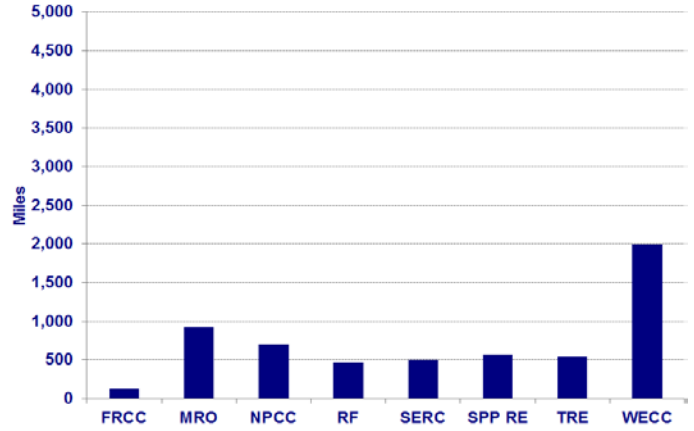


# Office of Energy Projects Energy Infrastructure Update For October 2016

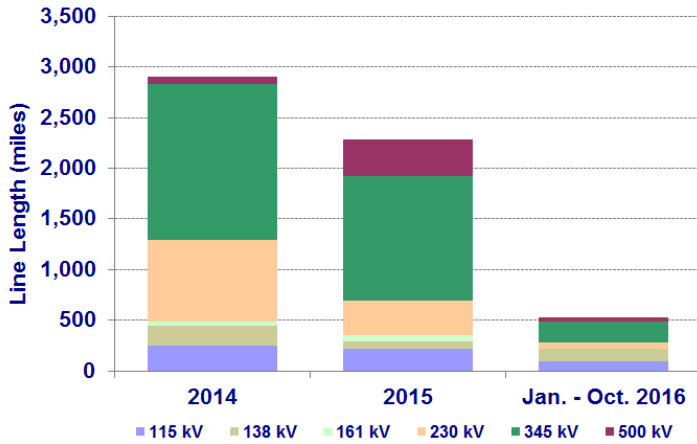
**All Transmission Projects with a Proposed In-Service Date by October 2018**



**Transmission Projects with a High Probability of being completed by October 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.