



Office of Energy Projects Energy Infrastructure Update For September 2019

Natural Gas Highlights

- Elba Liquefaction and Southern LNG received authorization to place in service Unit 1 of the LNG liquefaction and export facility at Southern LNG's existing import terminal on Elba Island in Chatham County, GA. If fully completed, the export terminal would consist of 7-units and 350 MMcf/d liquefaction capacity.
- Northern Natural received authorization to abandon by sale to DKM Enterprises 146.6 miles of pipeline and other appurtenant facilities on its M580A and M530A system located in Otoe and Cass counties, NE, and Mills, Pottawattamie, Cass, Audubon, Guthrie, Greene, and Boone counties, IA.
- Cheyenne Connector received authorization to construct its Cheyenne Connector Pipeline Project in Weld County, CO, including 70 miles of pipeline that would transport up to 600 MMcf/d of natural gas from processing plants to the REX pipeline.
- Sabal Trail received authorization for its Citrus County Meter Station Project, which includes a new metering and regulating facility for the receipt of natural gas from the FGT system to a point on Sabal Trail's Citrus County Line in Citrus County, FL. The project would provide Duke Energy Florida with additional operational flexibility and reliability.
- NGPL received authorization for its Sabine Pass Compression Project, including a 22,490 HP compressor station in Cameron Parish, LA. The project would provide up to 400 MMcf/d of pipeline capacity to the Sabine Pass LNG export terminal.
- Venture Global received authorization to construct and operate its Plaquemines LNG export terminal and associated facilities along the west bank of the Mississippi River in Plaquemines Parish, Louisiana. The terminal would have a liquefaction capacity of 3,397 MMcf/d.
- Venture Global Gator Express received authorization to construct a 26.8-mile pipeline system to transport up to 3,940 MMcf/d of natural gas from interconnects with Tennessee Pipeline and Texas Eastern Pipeline, to Venture Global's proposed LNG Terminal in Plaquemines Parish, Louisiana.
- Columbia Gas received authorization for its Lucas and Weaver Wells Abandonment Project, which involves abandoning six injection/withdrawal wells and associated pipelines and appurtenances at its Lucas and Weaver Storage Fields in Ashland County, OH. The abandonment will not affect service to customers.
- Columbia Gas received authorization for its Brinker Wells Abandonment Project, which involves abandoning three injection/withdrawal wells and associated pipelines and appurtenances at its Brinker Storage Field in Columbiana County, OH. This project would have no impact on existing customers or storage operations.
- Eagle LNG received authorization to construct and operate a 132 MMcf/d liquefaction and export facility near the St. Johns River in Jacksonville, FL.
- Texas Eastern requests authorization for its Marshall County Mine Panel 19E Project, which involves excavating, elevating, and replacing segments of four different pipelines and appurtenant facilities in Marshall County, WV, in order to ensure safe operation of the line during the duration of planned longwall mining operations by Marshall Coal.
- Texas Eastern requests authorization for its Cameron Extension Project, which includes a 30,000 HP compressor, metering and regulating stations, and related facilities in Calcasieu, Cameron, Beauregard, and Jefferson Davis Counties, LA. The project would provide up to 750 MMcf/d of firm capacity to the Venture Global Calcasieu Pass LNG terminal.
- Columbia Gulf requests authorization for its East Cameron 23 Retirement Project, which involves abandoning approximately 6.8 miles of pipeline and other facilities in Cameron Parish, LA.
- Gulf South requests authorization for its Lamar County Expansion Project, including 3.4 miles of pipeline and a 5,000 HP compressor in Lamar and Forrest County, MS. The project would provide up to 200 MMcf/d of firm transportation service to a proposed 550 MW generation facility.
- Corpus Christi Liquefaction requests an increase to the authorized annual liquefaction capacity of its LNG terminal from 767 to 875.16 Bcf/year to better reflect the actual liquefaction capacity of the terminal.
- Sabine Pass Liquefaction requests authorization to increase its total liquefaction capacity from 413 to 455 Bcf/d to more accurately reflect the actual optimized production capacity of facility.



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Natural Gas Activities in September 2019

Status	No. of Projects	Storage Capacity (Bcf)	Deliverability (MMcf/d)	Capacity (MMcf/d)	Miles of Pipeline	Compression (HP)
Pipeline						
Placed in Service	0			0	0	0
Certificated	3			4,940	97	22,490
Proposed	2			950	340	35,000
Storage						
Placed in Service	0	0	0			0
Certificated	0	0	0			0
Proposed	0	0	0			0
LNG (Import & Export)						
Placed in Service (Export)	1	0	35			0
Certificated (Import/Export)	2	18	3,532			0
Proposed (Import/Export)	2	0	715.3			0

Source: Staff Database

Natural Gas Activities through September 30, 2019 January through September 30, 2018

Status	No. of Projects	Storage Capacity (BCF)	Deliverability (MMcf/d)	Capacity (MMcf/d)	Miles of Pipeline	Compression (HP)
Pipeline						
Placed in Service	9			4,785.0	16.6	323,770
through September 30, 2018	10			4,716.2	105.5	183,800
Certificated	25			15,190.9	525.2	636,903
through September 30, 2018	42			8,682.1	643.0	284,095
Storage						
Placed in Service	0	0.0	0.0			0
through September 30, 2018	0	0.0	0.0			0
Certificated	3	1.0	429.0			10,000
through September 30, 2018	4	3,600.3	152.0			0
LNG (Import & Export)						
Placed in Service (Export)	5	23.7	2,874.0			0
through September 30, 2018	1	0.0	825.0			0
Certificated (Import/Export)	7	51.8	12,991.0			0
through September 30, 2018	0	0.0	0.0			0

Source: Staff Database



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Hydropower Highlights (nonfederal)

- Village of Gouverneur, NY filed an original application for the 0.160 MW Gouverneur Hydroelectric Project No. 14635. The project is located on the Oswegatchie River, in St. Lawrence County, NY.

Hydropower Project Activities in September 2019

Status	Conventional		Pumped Storage		Hydrokinetic		Total No. of Projects	Total Capacity (MW)
	No.	Capacity (MW)	No.	Capacity (MW)	No.	Capacity (MW)		
Filed								
License	1	0.160	0	0	0	0	1	0.160
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	0	0	0	0	0	0	0	0
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 September 30, 2019)

Status	Conventional		Pumped Storage		Hydrokinetic		Total No. of Projects	Total Capacity (MW)
	No.	Capacity (MW)	No.	Capacity (MW)	No.	Capacity (MW)		
Filed								
License	4	3.924	0	0	1	20.000	5	23.924
10-MW Exemption	0	0	0	0	0	0	0	0
Capacity Amendment	4	4.211	0	0	0	0	4	4.211
Conduit Exemption	1	2.000	0	0	0	0	1	2.000
Issued								
License	1	5.000	1	393.300	1	0.070	3	398.370
10-MW Exemption	1	0.140	0	0	0	0	1	0.140
Capacity Amendment	2	3.870	0	0	0	0	2	3.870
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



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Electric Generation Highlights

- Victoria Port Power LLC's 100.0 MW gas-fired Victoria Port Power Project in Victoria County, TX is online.
- Grady Wind Energy Center LLC's 200.8 MW Grady Wind Energy Center in Curry County, NM is online. The power generated is sold to Sacramento Municipal Utility District under long-term contract.
- Fluvanna Wind Energy 2 LLC's 158.0 MW Gopher Creek Wind Farm in Borden County, TX is online.
- Kawaihoa Solar LLC's 49.0 MW Kawaihoa Solar Project in Honolulu County, HI is online. The power generated is sold to Hawaiian Electric Co Inc under long-term contract.
- Waipio PV LLC's 47.0 MW Waipio Solar Project in Honolulu County, HI is online.
- Citizens Solar Holdings VIII LLC's 30.0 MW Citizens Imperial Solar Project in Imperial County, CA is online. The power generated is sold to Imperial Irrigation District under long-term contract.
- Navajo Tribal Utility Authority's 27.3 MW Kayenta Solar II Project in Navajo County, AZ is online.
- Captona Partners' 21.3 MW Gold Meadow Farms Solar Project in Providence County, RI is online.
- NRG Energy Inc.'s 14.7 MW Lanikuhana Solar Project in Honolulu County, HI is online. The power generated is sold to Hawaiian Electric Co Inc under long-term contract.
- Xcel Energy Inc.'s 10.0 MW Boulder Ibm Solar Project in Boulder County, CO is online.
- 174 Power Global Corp's 9.0 MW SunPower Solar Farm in Duval County, FL is online. The power generated is sold to JEA under long-term contract.
- Todays Power Inc.'s 5.0 MW Noland Wastewater Treatment Plant Solar Project in Washington County, AR is online.
- Todays Power Inc.'s 5.0 MW Westside Wastewater Treatment Plant Solar Project in Washington County, AR is online.
- Todays Power Inc.'s 5.0 MW Fayetteville East Solar Project in Washington County, AR is online.
- Todays Power Inc.'s 5.0 MW Fayetteville West Solar Project in Washington County, AR is online.

New Generation In-Service (New Build and Expansion)

Primary Fuel Type	September 2019		January – September 2019 Cumulative		January – September 2018 Cumulative	
	No. of Units	Installed Capacity (MW)	No. of Units	Installed Capacity (MW)	No. of Units	Installed Capacity (MW)
Coal	0	0	3	62	4	10
Natural Gas	2	100	74	7,755	92	12,890
Nuclear	0	0	1	155	4	30
Oil	0	0	14	74	24	44
Water	0	0	18	112	10	115
Wind	2	359	29	3,735	36	2,594
Biomass	0	0	7	63	12	101
Geothermal Steam	0	0	0	0	3	36
Solar	14	232	276	2,712	432	3,278
Waste Heat	0	0	0	0	1	50
Other *	5	0	32	1	26	2
Total	23	691	454	14,669	644	19,150

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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Total Available Installed Generating Capacity

	Installed Capacity (GW)	% of Total Capacity
Coal	255.90	21.32%
Natural Gas	534.77	44.55%
Nuclear	106.33	8.86%
Oil	39.85	3.32%
Water	100.76	8.39%
Wind	100.85	8.40%
Biomass	15.99	1.33%
Geothermal Steam	3.84	0.32%
Solar	40.05	3.34%
Waste Heat	1.32	0.11%
Other*	0.77	0.06%
Total	1,200.45	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.

Generation Capacity Additions and Retirements (October 2019 – September 2022) From ABB Velocity Suite's Generating Unit Capacity Dataset

Primary Fuel Type	All Proposed Additions		Proposed Additions Under Construction**		Proposed Retirements	
	No. of Units	Installed Capacity (MW)	No. of Units	Installed Capacity (MW)	No. of Units	Installed Capacity (MW)
Coal	1	77	0	0	59	18,755
Natural Gas	222	57,789	102	31,109	110	11,451
Nuclear	8	6,181	1	1,100	6	5,951
Oil	12	685	2	5	22	3,012
Water	219	14,601	82	1,885	14	481
Wind	538	98,581	180	29,238	2	320
Biomass	50	461	24	406	28	89
Geothermal Steam	18	860	6	280	0	0
Solar	2,666	94,930	585	17,533	1	1
Waste Heat	4	54	2	29	0	0
Other *	154	475	34	15	1	2
Total	3,892	274,694	1,018	81,600	243	40,062

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.

** Under Constructions includes units that have started site preparation or construction. It also includes units that are in the testing phase.



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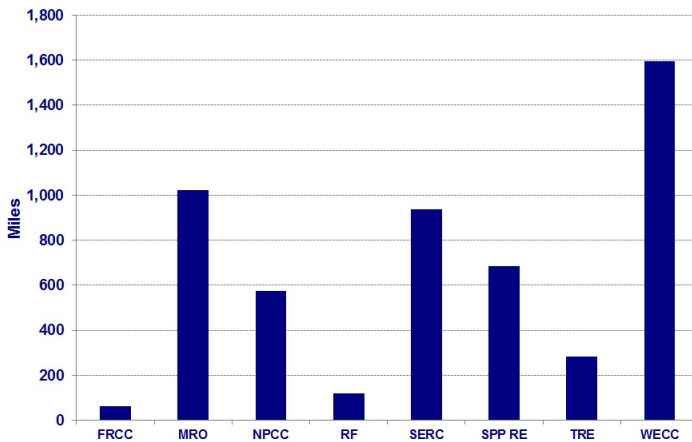
Electric Transmission Highlights

There were no transmission activities this month.

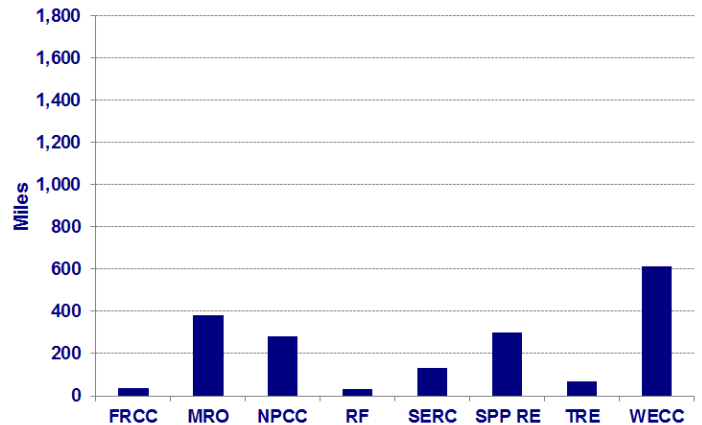
Voltage (kV)	Transmission Projects Completed				Proposed Transmission Projects In-Service by October 2021	
	September 2019	September 2018	January – September 2019 Cumulative	January – December 2018 Cumulative	Planned and Under Construction	All
	Line Length (miles)					
≤230	0.0	13.1	122.9	521.5	540.0	1,292.8
345	0.0	0.0	371.5	847.2	637.4	2,129.1
500	0.0	0.0	7.7	69.4	670.0	1,859.0
Total U.S.	0.0	13.1	502.1	1,438.1	1,847.4	5,280.9

Sources: Data derived from North American Electric Reliability Corporation (NERC) Electricity Supply and Demand (ES&D) and U.S. Electric Transmission Projects ©The C Three Group, LLC.

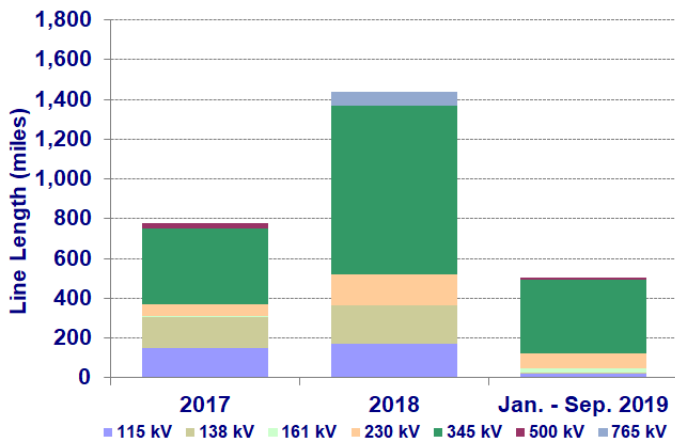
All Transmission Projects with a Proposed In-Service Date by October 2021



Planned and Under Construction Transmission Projects with a Proposed In-Service Date by October 2021



New Transmission Projects by Voltage



Sources: Data derived from North American Electric Reliability Corporation (NERC) Electricity Supply and Demand (ES&D) and U.S. Electric Transmission Projects ©The C Three Group, LLC.

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