



Office of Energy Projects Energy Infrastructure Update For November 2019

Natural Gas Highlights

- Transco received authorization to place in-service the Roseland Metering and Regulator Station, Roseland Electric Substation, and Compressor Station 303 as part of the Gateway Expansion Project. When fully in-service, the project will provide an additional 65 MMcf/d of transportation capacity from Mercer to Bergen and Passaic Counties, NJ.
- Freeport LNG received authorization to place in service Train 1 and the common facilities at its LNG terminal in Brazoria County, TX.
- Elba Liquefaction and Southern LNG received authorization to place in service Unit 3 of the LNG liquefaction and export facility at Southern's existing LNG terminal on Elba Island in Chatham County, GA. When fully completed, the export terminal would consist of 10-units and 350 MMcf/d of liquefaction capacity.
- Equitrans received authorization to abandon its Copley Certificated Gathering Facilities in Lewis and Braxton Counties, WV, to Diversified Gas and Oil, and EQM Gathering Opco.
- Columbia Gulf received authorization to replace 2,500 feet of its Mainlines 100 and 200 in Menifee and Montgomery Counties, KY, in order to continue operating the lines at the current pressures.
- El Paso received authorization to construct its EPNG South Mainline Project, which consists of 17 miles of looping pipeline and new compression in Arizona, New Mexico and Texas. The project would deliver 321 MMcf/d of additional capacity to two customers in the Southwest.
- Mississippi Hub received authorization to continue to operate Gas Compressor 4 at its storage terminal in Simpson County, MS. Authorization for this unit was incorrectly vacated by the previous owner.
- ONEOK Rockies Midstream and Steel Reef Burke received authorization to transfer the Section 3 and Presidential Permit at a border crossing in Burke County, ND from ORM to Steel Reef.
- Tennessee Gas received authorization to abandon inactive injection/storage Well 5564 at its Hebron Storage Field in Potter County, PA.
- Spire Storage received authorization for its Belle Butte Storage Optimization Project in Uinta County, WY. The Project involves converting two observation wells to injection/withdrawal wells and connecting flowlines and appurtenances to improve the storage field's performance.
- Texas LNG received authorization to construct and operate an LNG export facility in the Port of Brownsville, TX. The terminal would have an export capacity of 662 MMcf/d from two LNG trains.
- Rio Grande LNG received authorization to construct and operate an LNG export facility near Brownsville in Cameron County, TX. The terminal would provide 3,600 MMcf/d of export deliverability from six liquefaction trains.
- Annova Entities received authorization to construct and operate an LNG export facility on the Brownsville Ship Channel in Cameron County, TX. The facility would consist of six liquefaction trains with 900 MMcf/d of deliverability.
- Corpus Christi Liquefaction received authorization for its Stage 3 Project, which consists of seven midscale liquefaction trains and one storage tank, as well as a new 21 mile pipeline in San Patricio County, TX. The project would give the terminal an additional 1.6 Bcf/d of export capacity.
- Rover Pipeline requests authorization to for its Wick Meter Station Project, which involves construction of a new meter station on Rover's Sherwood Lateral in Tyler County, WV. The new station would be able to receive up to 300 MMcf/d of natural gas from an interconnect with the Equitrans/Eureka Midstream gathering system.
- Southern Star Central requests authorization for its Midwest Market Access Project, which would increase throughput at its Grabham Compressor Station in order to add 40 MMcf/d of firm transportation capacity in its market area.
- Columbia Gas requests an amendment to its Leach Xpress Project, including modification of operations at its Ceredo Compressor Station in WV and amendments to the noise level requirements at the Ceredo and Crawford Compressor Stations. The modifications would result in lower noise operating levels at these stations.
- NGPL requests authorization for its New 134th Street Lateral Project, involving 1.4 miles of new pipeline and other appurtenances in Cook County, IL and in Northwestern Indiana, in order to provide up to 70 MMcf/d of firm transportation for an LDC.
- Portland Natural Gas requests authorization for Phases II & III of its Westbrook Xpress project, including a new 15,900 HP compressor and modifications at its Westbrook Compressor Station in Cumberland County, ME. The Project would increase the certificated capacity by a total of 131 MMcf/d.
- Northern Natural Gas requests authorization for its New Lisbon 2020 Expansion Project, which includes 7.4 miles of branch line looping, additional compression at an existing compressor station, and other appurtenances in Juneau and Sauk Counties, WI, in order to add 15 MMcf/d of incremental transportation capacity.
- Puget Sound Energy requests authorization to recomplete Well SU-50 from Zone 2 to Zone 1 at its Jackson Prairie storage in Lewis County, WA. This will provide Jackson Prairie with a backup recycle well.



Office of Energy Projects Energy Infrastructure Update For November 2019

Natural Gas Activities in October 2019

Status	No. of Projects	Storage Capacity (Bcf)	Deliverability (MMcf/d)	Capacity (MMcf/d)	Miles of Pipeline	Compression (HP)
Pipeline						
Placed in Service	1			65	0	27,500
Certificated	2			321	18	26,420
Proposed	4			256	9	16,700
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)	2	0	748			0
Certificated (Import/Export)	4	33	6,762			44,000
Proposed (Import/Export)	0	0	0			0

Source: Staff Database

Natural Gas Activities through November 30, 2019

January through November 30, 2018

Status	No. of Projects	Storage Capacity (BCF)	Deliverability (MMcf/d)	Capacity (MMcf/d)	Miles of Pipeline	Compression (HP)
Pipeline						
Placed in Service	10			4,850.0	16.6	351,270
through November 30, 2018	21			12,436	629	942,778
Certificated	30			16,708.3	590.5	724,043
through November 30, 2018	46			9,116	643	299,995
Storage						
Placed in Service	0	0.0	0.0			0
through November 30, 2018	0	0	0			0
Certificated	3	1.0	429.0			10,000
through November 30, 2018	4	3,600	152			0
LNG (Import & Export)						
Placed in Service (Export)	7	23.7	3,622.0			0
through November 30, 2018	1	0	825			0
Certificated (Import/Export)	11	84.4	20,209.0			44,000
through November 30, 2018	1	0	20			0

Source: Staff Database



Office of Energy Projects Energy Infrastructure Update For November 2019

Hydropower Highlights (nonfederal)

There were no hydropower activities this month.

Hydropower Project Activities Year to Date (through November 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	5	4.225	0	0	0	0	5	4.225
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

Electric Generation Highlights

- Phoebe Energy Project LLC's 250.0 MW Phoebe Solar Project in Loving County, TX is online. The power generated is sold to Shell Energy North America US LP under long-term contract.
- Hawaiian Electric Co Inc's 20.0 MW West Loch Solar One Project in Honolulu County, HI is online.
- SFDK Solar LLC's 6.3 MW SFDK Solar Project in Solano County, CA is online.



Office of Energy Projects Energy Infrastructure Update For November 2019

New Generation In-Service (New Build and Expansion)

Primary Fuel Type	November 2019		January – November 2019 Cumulative		January – November 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	0	0	78	7,819	105	16,906
Nuclear	0	0	1	155	5	191
Oil	0	0	15	77	37	69
Water	0	0	19	131	11	239
Wind	1	5	35	4,901	47	3,895
Biomass	0	0	8	65	14	103
Geothermal Steam	0	0	1	10	7	42
Solar	13	291	364	3,677	514	4,040
Waste Heat	0	0	0	0	2	51
Other *	2	0	40	0	31	2
Total	16	296	564	16,897	777	25,548

Total Available Installed Generating Capacity

	Installed Capacity (GW)	% of Total Capacity
Coal	250.29	20.92%
Natural Gas	534.25	44.66%
Nuclear	106.33	8.89%
Oil	39.79	3.33%
Water	100.80	8.43%
Wind	101.93	8.52%
Biomass	15.93	1.33%
Geothermal Steam	3.85	0.32%
Solar	41.06	3.43%
Waste Heat	1.32	0.11%
Other*	0.77	0.06%
Total	1,196.32	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.



Office of Energy Projects Energy Infrastructure Update For November 2019

Generation Capacity Additions and Retirements (December 2019 – November 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	50	14,067
Natural Gas	213	58,709	98	30,861	76	7,628
Nuclear	7	6,996	2	2,200	6	5,951
Oil	11	682	1	2	15	2,753
Water	241	12,959	95	1,944	12	481
Wind	512	93,761	184	29,186	3	330
Biomass	51	393	21	327	28	89
Geothermal Steam	12	460	4	213	0	0
Solar	2,732	97,220	673	19,156	0	0
Waste Heat	3	49	2	29	0	0
Other *	182	475	47	15	1	2
Total	3,965	271,781	1,127	83,933	191	31,301

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.

Electric Transmission Highlights

- American Electric Power has completed the 6.0 mile, 138 kV Charleston – Bullitt Project in WV.

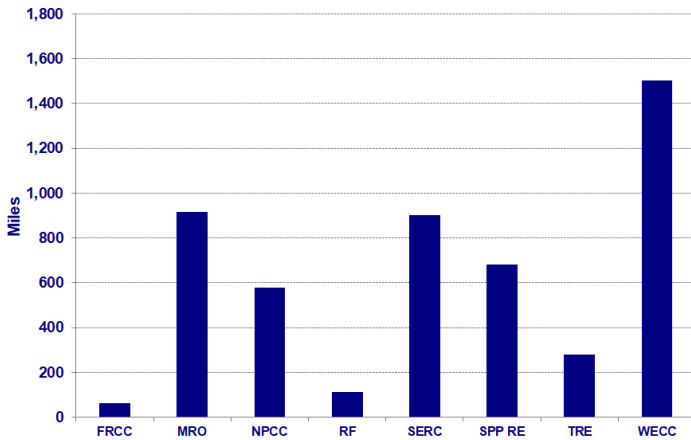
Voltage (kV)	Transmission Projects Completed				Proposed Transmission Projects In-Service by December 2021	
	November 2019	November 2018	January – November 2019 Cumulative	January – December 2018 Cumulative	Planned and Under Construction	All
	Line Length (miles)					
≤230	6.0	49.7	190.6	521.5	533.8	1,284.9
345	0.0	23.5	397.5	847.2	637.5	1,969.3
500	0.0	0.0	7.7	69.4	670.0	1,784.0
Total U.S.	6.0	73.2	595.8	1,438.1	1,841.3	5,038.2

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.

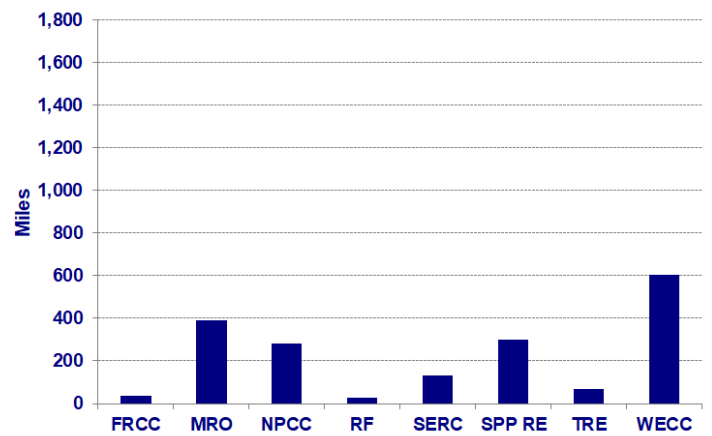


Office of Energy Projects Energy Infrastructure Update For November 2019

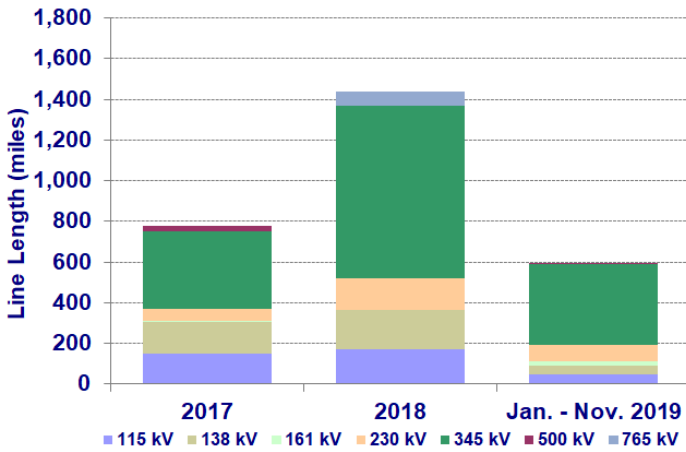
All Transmission Projects with a Proposed In-Service Date by December 2021



Planned and Under Construction Transmission Projects with a Proposed In-Service Date by December 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.

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.