



Office of Energy Projects Energy Infrastructure Update For December 2019

Natural Gas Highlights

- Elba Liquefaction and Southern LNG received authorization to place in service Unit 3 of the LNG liquefaction and export facility at Southern's LNG terminal on Elba Island in Chatham County, GA. When fully completed, the export terminal will consist of 10-units and 350 MMcf/d of liquefaction capacity.
- Columbia Gulf received authorization for its East Cameron 23 Retirement Project, including abandonment of 6.8 miles of pipeline and other facilities in Cameron Parish, LA.
- Southern Star received authorization for its Lines DT and DS Replacement Project, including construction of 37.4 miles of pipeline and other appurtenant facilities in Anderson and Franklin Counties, KS.
- Texas Eastern received authorization for its Bernsville Compressor Units Replacement Project, including replacing two compressors in Berks County, PA. The project will not affect the station's certificated horsepower.
- Eastern Shore received authorization for its Del-Mar Energy Pathway Project, including 19.5 miles of pipeline in Kent and Sussex Counties, DE and Wicomico and Somerset Counties, MD. The project would add 14.3 MMcf/d of firm capacity to serve LDC and industrial customers.
- ONEOK Rockies Midstream and Steel Reef Burke received authorization to transfer the Section 3 Authorization and Presidential Permit at a border crossing in Burke County, ND from ORM to Steel Reef.
- Dominion Energy received authorization for its West Loop Project, including 5.1 miles of new pipeline and other facilities in Beaver and Lawrence Counties, PA and Carroll County, OH. The project would supply up to 150 MMcf/d of firm capacity to an electric generator in Columbiana County, OH.
- Tennessee received authorization for its 261 Upgrade Project, which would include 2.1 miles of new pipeline, and increasing compression by 4,418 HP in order add 72.4 Bcf/d of capacity in Connecticut and Massachusetts
- Adelphia received authorization for its Adelphia Gateway Project, including two new compressor stations, 4.7 miles of new pipeline, and utilization of existing pipelines to increase gas deliveries into the Philadelphia area by 250 MMcf/d.
- Vector Pipeline received authorization to construct a 1.2 mile lateral that would provide up to 360 MMcf/d of firm capacity to the new Blue Water Energy Center in St. Clair County, MI.
- Southern Star Central received authorization to abandon a delivery point and related lateral line on its Line Segment XW-004 in Ellsworth County, KS.
- Southern Natural received authorization to abandon two compressors at its Rankin Compressor Station in Rankin County, MS. The units have not been used for several years.
- Southern Star received authorization to abandon Wells SW #70 and SWB #21 and related infrastructure at its South Welda Field in Anderson County, KS. The abandonment will not affect the field's certificated parameters.
- Southern Natural Gas request authorization to abandon in place one compressor unit at its Ellerslie Compressor Station in Harris County, GA.
- UGI Sunbury requests authorization to remove and relocate one mile of its Sunbury Pipeline in order to accommodate the construction of a highway project in Snyder County, PA.
- Texas-Kansas-Oklahoma Gas requests a Determination of a Service Area within which it may own and operate facilities to transport natural gas into Northern Oklahoma. TKO also requests a determination that it is an LDC for Section 311 purposes.
- Port Arthur Pipeline requests authorization to amend its certificate in order to relocate a compressor from its proposed location in Allen Parish, LA, to a point in Beauregard Parish, LA, and to relocate the pipeline interconnection and add three new interconnections. The proposed relocation would increase capacity on the pipeline by 70 MMcf/d.
- Southern Star requests authorization to increase the maximum allowable operating pressure on its Lines TLB and TLB-001 to 005, in Hemphill County, TX, in order to provide additional firm delivery capacity to Transwestern.
- Dominion Energy requests authorization for its Tri-West Project, including 1.7 miles of new pipeline and re-wheeling three compressors at its Newark Compressor Station in Tuscarawas County, OH, in order to provide up to 120 MMcf/d of firm capacity from Pennsylvania to Ohio for delivery to Tennessee Gas Pipeline.
- North Baja Pipeline requests authorization for its North Baja Xpress Project, including a new 31,900 HP compressor at its Ehrenberg Compressor Station in La Paz County, AZ, and modifications to its El Paso Meter Station in Imperial County, CA. The project would increase firm delivery to the U.S./Mexico border by 495 MMcf/d.
- Columbia Gulf requests authorization to relocate and/or abandon segments of its Line SM-116 in Mingo County, WV, to accommodate highwall and area surface mining on Central Appalachian Mining's Millseat Surface Mine. The project will not change the design or delivery capacity of the system.
- Dominion Energy Questar requests authorization to abandon by sale to North Shore Energy a 20.8-mile gas-supply lateral, the Brady Measurement and Regulating Station, and other appurtenances in Sweetwater County, WY.



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- Gulf South requests authorization for its McComb Compressor Station Reliability Project in Walthall County, MS, which includes installing a new 8,565 HP compressor and retiring three existing compressors. The project would result in 48 MMcf/d of increased capacity on its system.
- Dominion Energy requests authorization to abandon, reconfigure, and relocate storage wells and related pipelines at its Bridgeport Storage Field in Harrison County, WV. The project will not affect the field's parameters or customers.

Natural Gas Activities in December 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 | 6 | | | 1,372 | 70 | 15,668 |
| Proposed | 4 | | | 733 | 3 | 40,465 |
| 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) | 0 | 0 | 0 | | | 0 |
| Proposed (Import/Export) | 0 | 0 | 0 | | | 0 |

Source: Staff Database

Natural Gas Activities through December 31, 2019

January through December 31, 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 December 31, 2018 | 26 | | | 13,043 | 689 | 987,578 |
| Certificated | 36 | | | 18,080.0 | 660.6 | 739,711 |
| through December 31, 2018 | 48 | | | 9,236 | 671 | 327,495 |
| Storage | | | | | | |
| Placed in Service | 0 | 0.0 | 0.0 | | | 0 |
| through December 31, 2018 | 0 | 0 | 0 | | | 0 |
| Certificated | 3 | 1.0 | 429.0 | | | 10,000 |
| through December 31, 2018 | 4 | 3,600 | 152 | | | 0 |
| LNG (Import & Export) | | | | | | |
| Placed in Service (Export) | 8 | 23.7 | 3,657.0 | | | 0 |
| through December 31, 2018 | 1 | 0 | 825 | | | 0 |
| Certificated (Import/Export) | 11 | 84.4 | 20,209.0 | | | 44,000 |
| through December 31, 2018 | 1 | 0 | 20 | | | 0 |

Source: Staff Database



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Hydropower Highlights (nonfederal)

- Idaho and New Sweden Irrigation Districts, Idaho filed an application for the 2.500 MW County Line Road Hydropower Water Power Project No. 14513. The project would be located on the Snake River in Jefferson and Bonneville Counties, ID.
- Alabama Power Company filed an application to increase the capacity of its Martin Dam Project No. 349 from 182.500 MW to 190.800 MW. The project is located on the Tallapoosaa River in Coosa and Elmore Counties, AL.
- Bard College, New York filed an exemption application for the 0.012 MW Annandale Micro Hydropower Project No. 15021 in Dutchess County, NY.

Hydropower Project Activities in December 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 | 2.500 | 0 | 0 | 0 | 0 | 1 | 2.500 |
| 10-MW Exemption | 1 | 0.012 | 0 | 0 | 0 | 0 | 1 | 0.012 |
| Capacity Amendment | 1 | 8.300 | 0 | 0 | 0 | 0 | 1 | 8.300 |
| 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 December 31, 2019)

| Status | Conventional | | Pumped Storage | | Hydrokinetic | | Total No. of Projects | Total Capacity (MW) |
|--------------------|--------------|---------------|----------------|---------------|--------------|---------------|-----------------------|---------------------|
| | No. | Capacity (MW) | No. | Capacity (MW) | No. | Capacity (MW) | | |
| Filed | | | | | | | | |
| License | 5 | 6.424 | 0 | 0 | 1 | 20.000 | 6 | 26.424 |
| 10-MW Exemption | 1 | 0.012 | 0 | 0 | 0 | 0 | 1 | 0.012 |
| Capacity Amendment | 6 | 12.525 | 0 | 0 | 0 | 0 | 6 | 12.525 |
| 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 |



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| Status | Conventional | | Pumped Storage | | Hydrokinetic | | Total No. of Projects | Total Capacity (MW) |
|--------------------------|--------------|---------------|----------------|---------------|--------------|---------------|-----------------------|---------------------|
| | No. | Capacity (MW) | No. | Capacity (MW) | No. | Capacity (MW) | | |
| 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

- CPV Fairview LLC's 1,050.0 MW natural gas-fired CPV Fairview Project in Cambria County, PA is online.
- Roadrunner Solar Project LLC's 252.0 MW Queen Solar Project in Upton County, TX is online. The power generated is sold to Mondelez Intl and The Clorox Co. under long-term contract.
- SR Arlington II LLC's 102.5 MW solar powered SS Arlington II Project in Early County, GA is online. The power generated is sold to The Walton EMC under long-term contract.
- West of the Pecos Solar LLC's 100.0 MW West of Pecos Solar Project in Reeves County, TX is online.
- Duke Energy Florida's 74.9 MW Trenton Solar Power Plant in Gilchrist County, FL is online.
- Duke Energy Florida's 45.0 MW Lake Placid Solar Power Plant in Highlands County, FL is online.
- DWW Solar II LLC's 36.9 MW DWW Solar II Project in Hartford County, CT is online.
- Grazing Yak Solar LLC's 35.0 MW Grazing Yak Project in El Paso County, CO is online. The power generated is sold to Colorado Springs Utilities under long-term contract.
- AZ Solar 1 LLC's 32.5 MW Salome Solar Project in La Paz County, AZ is online. The power generated is sold to Central Arizona Water Conservation District under long-term contract.
- Deepwater Wind's 26.4 MW Simsbury Solar Project in Hartford County, CT is online.
- Turquoise Solar LLC's 10.2 MW Turquoise Liberty Solar Project in Washoe County, NV is online.
- Alexis Solar LLC's 10.0 MW Alexis Solar Project in Brooks County, TX is online.
- Cypress Creek Renewables LLC's 7.5 MW Lampwick Solar Project in Menard County, TX is online.
- Griffin Solar LLC's 5.0 MW Griffin Solar Project in McLennan County, TX is online.
- Enel Green Power North America Inc.'s 449.5 MW wind powered High Lonesome W Project in Crockett County, TX is online.
- Karankawa Wind LLC's 307.6 MW Karankawa Wind Farm in San Patricio County, TX is online. The power generated is sold to Austin Energy and Nike Inc. under long-term contract.
- Canadian Breaks LLC's 210.0 MW Canadian Breaks Wind Project in Oldham County, TX is online.
- Lexington Chenoa Wind Farm LLC's 203.0 MW Bright Stalk Wind Farm in Mclean County, IL is online. The power generated is sold to Walmart and Salesforce under long-term contract.
- Mesteno Windpower LLC's 201.6 MW Mesteno Wind Project in Starr County, TX is online.
- Crocker Wind Farm LLC's 200.0 MW Crocker Wind Project in Clark County, SD is online. The power generated is sold to Walmart under long-term contract.
- Sholes Wind Energy LLC's 160.0 MW Sholes Wind Energy Center in Wayne County, NE is online. The power generated is sold to Omaha Public Power District under long-term contract.
- Glen Ullin Energy Center LLC's 106.0 MW Glen Ullin Energy Center Project in Morton County, ND is online. The power generated is sold to Excel Energy Inc. under long-term contract.
- Consumers Energy Co.'s 75.0 MW Cross Winds Energy Park Expansion in Tuscola County, MI is online. The power generated is sold to Consumers Energy Co. under long-term contract.



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- Whitney Hill Wind Power LLC's 65.0 MW Whitney Hill Wind Power Project in Logan County, IL is online.
- Black Hills Electric Generation's 60.0 MW Busch Ranch II in Huerfano County, CO is online. The power generated is sold to Colorado Electric under long-term contract.

New Generation In-Service (New Build and Expansion)

| Primary Fuel Type | December 2019 | | January – December 2019 Cumulative | | January – December 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 | 3 | 1,112 | 81 | 8,557 | 117 | 20,571 |
| Nuclear | 0 | 0 | 1 | 155 | 5 | 191 |
| Oil | 0 | 0 | 15 | 77 | 37 | 69 |
| Water | 0 | 0 | 19 | 131 | 12 | 240 |
| Wind | 13 | 2,043 | 52 | 7,165 | 76 | 8,210 |
| Biomass | 1 | 2 | 9 | 66 | 14 | 103 |
| Geothermal Steam | 0 | 0 | 1 | 10 | 10 | 119 |
| Solar | 23 | 751 | 408 | 4,485 | 659 | 5,558 |
| Waste Heat | 0 | 0 | 0 | 0 | 2 | 51 |
| Other * | 2 | 0 | 45 | 0 | 43 | 2 |
| Total | 42 | 3,908 | 634 | 20,708 | 979 | 35,124 |

Total Available Installed Generating Capacity

| | Installed Capacity (GW) | % of Total Capacity |
|------------------|-------------------------|---------------------|
| Coal | 250.29 | 20.89% |
| Natural Gas | 535.10 | 44.67% |
| Nuclear | 106.33 | 8.88% |
| Oil | 39.79 | 3.32% |
| Water | 100.80 | 8.41% |
| Wind | 101.93 | 8.51% |
| Biomass | 15.93 | 1.33% |
| Geothermal Steam | 3.85 | 0.32% |
| Solar | 41.87 | 3.49% |
| Waste Heat | 1.32 | 0.11% |
| Other* | 0.77 | 0.06% |
| Total | 1,197.99 | 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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Generation Capacity Additions and Retirements (January 2020 – December 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 | 63 | 18,857 |
| Natural Gas | 222 | 61,018 | 99 | 29,857 | 88 | 8,767 |
| Nuclear | 6 | 4,460 | 4 | 2,560 | 6 | 5,951 |
| Oil | 11 | 682 | 1 | 2 | 18 | 3,087 |
| Water | 240 | 13,466 | 93 | 1,941 | 12 | 481 |
| Wind | 498 | 93,144 | 167 | 26,652 | 2 | 249 |
| Biomass | 51 | 399 | 22 | 329 | 28 | 89 |
| Geothermal Steam | 14 | 506 | 4 | 213 | 10 | 35 |
| Solar | 2,834 | 102,613 | 690 | 19,973 | 0 | 0 |
| Waste Heat | 3 | 49 | 2 | 29 | 0 | 0 |
| Other * | 211 | 475 | 45 | 15 | 1 | 2 |
| Total | 4,091 | 276,889 | 1,127 | 81,571 | 228 | 37,518 |

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

- Ameren has completed the 64.0 mile, 345 kV Mark Twain Transmission Project (Zachary – Maywood) in MO.
- American Transmission Company has completed the 38.5 mile, 138 kV Bain – Spring Valley – North Lake Geneva Transmission Project in WI.

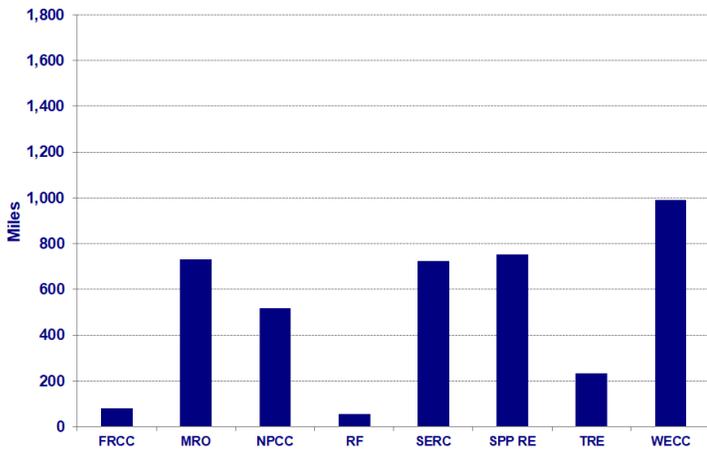
| Voltage (kV) | Transmission Projects Completed | | | | Proposed Transmission Projects In-Service by January 2022 | |
|---------------------|---------------------------------|---------------|------------------------------------|------------------------------------|---|----------------|
| | December 2019 | December 2018 | January – December 2019 Cumulative | January – December 2018 Cumulative | Planned and Under Construction | All |
| Line Length (miles) | | | | | | |
| ≤230 | 40.1 | 108.0 | 230.7 | 521.5 | 403.5 | 1,088.4 |
| 345 | 64.0 | 161.8 | 461.5 | 847.2 | 407.0 | 1,726.7 |
| 500 | 0.0 | 0.0 | 7.7 | 69.4 | 391.4 | 1,270.4 |
| Total U.S. | 104.1 | 269.8 | 699.9 | 1,438.1 | 1,201.9 | 4,085.5 |

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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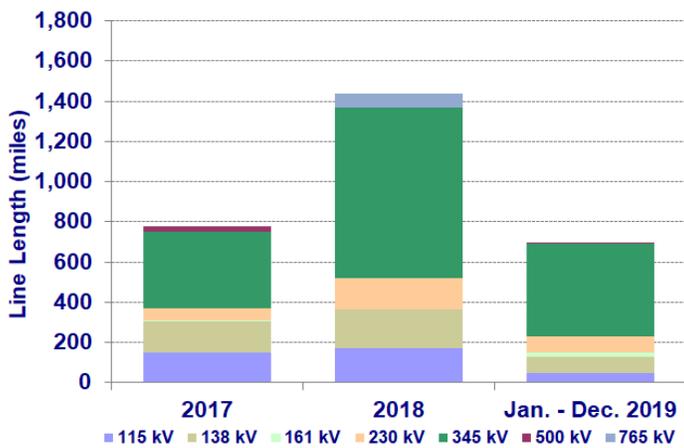
All Transmission Projects with a Proposed In-Service Date by January 2022



Planned and Under Construction Transmission Projects with a Proposed In-Service Date by January 2022



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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