



Office of Energy Projects Energy Infrastructure Update For February 2020

Natural Gas Highlights

- Cameron LNG received authorization to place in service the 0.71 Bcf/d Train 2 at its liquefaction project in Hackberry, LA. The project consists of three trains with a total liquefaction capacity of 2.2 Bcf/d.
- Northern Natural received authorization for its New Lisbon 2020 Expansion Project, including 7.4 miles of branch line looping, additional compression at an existing compressor station, and other appurtenances in Juneau and Sauk Counties, WI. The project would add 15 MMcf/d of incremental capacity.
- Columbia Gas of Maryland received a determination of a service area within which it may, without further Commission authorization, enlarge or expand its facilities in order to transport gas from Somerset County, PA, into Maryland.
- Southern Natural received authorization to abandon in place one compressor unit at its Ellerslie Compressor Station in Harris County, GA.
- UGI Sunbury received 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.
- Wyoming Interstate withdrew its request to abandon by sale to its affiliate, Hiland Crude, LLC, Line 29A of its Medicine Bow Lateral in Converse, Platte, and Laramie Counties, WY, and Weld County, CO.
- NGPL received authorization for its Gulf Coast Southbound Project, which would add new compression at compressor stations CS 300, 301, and 304 in Victoria, Wharton, and Harrison Counties, TX respectively, in order to provide up to 300 MMcf/d of transportation capacity to serve the Corpus Christi Liquefaction facility.
- Southern Star Central received 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 received authorization for its Tri-West Project, including 1.7 miles of pipeline and re-wheeling of three compressors at its Newark Compressor Station in Tuscarawas County, OH, in order to provide up to 120 MMcf/d of firm capacity to Tennessee Gas Pipeline in Ohio.
- Columbia Gulf received 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.
- Northern Natural received authorization to abandon in-place it's A and J Lines in Clay, Cloud, Ellsworth, Lincoln, Ottawa, and Rice counties, KS, and build an 11,152 HP compressor and related facilities at its Tescott compressor station in Ottawa County, KS in order to maintain existing deliverability.
- Gulf South received 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 received 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.
- Sabine Pass LNG received authorization for its Third Berth Expansion Project, which would add an additional berth at its LNG terminal in Cameron Parish, LA
- Tennessee Gas requests authorization for its Evangeline Pass Expansion Project, including 13.1 miles of pipeline and 23,470 HP of new compression in Plaquemines and St. Bernard Parish, LA, and acquisition of lease capacity from Southern Natural Gas. The project would provide 1.1 Bcf/d of firm transportation capacity to serve the Venture Global Plaquemines LNG terminal.
- Southern Natural requests authorization for its Evangeline Pass Expansion project, including construction of a 22,220 HP compressor station in Clarke County, MS, and two meter stations in MS and TN. The project would provide 1.1 Bcf/d of transportation capacity, which will be leased to Tennessee Gas.
- WBI Energy requests authorization for its North Bakken Expansion Project, including 92 miles of pipeline and 28,250 HP of compression in Burke, McKenzie, Mountrail and Williams Counties, ND, in order to provide an additional 350 MMcf/d of incremental firm transportation capacity from NW North Dakota to a new interconnect with Northern Border.
- National Fuel requests authorization to remove the "spare" designation from 1,775 HP of compression at its Mercer compressor station in Mercer County, PA, in order to re-direct a portion of a subscribing shipper's firm transportation capacity to a different primary delivery point.
- Northwest Pipeline requests authorization for its Walla Walla Compressor Station Project, including installing a 500 HP compressor and associated facilities to expand deliverability on its Walla Walla Lateral from 16.2 to 17.3 MMcf/d.
- Southern Star Central requests authorization for its Tougaloo Project - Nash Compressor Station, including a 3,750 HP compressor station in Grant County, OK, in order to provide up to 40 MMcf/d of firm capacity to a customer.



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- Northern Natural requests authorization to install three injection and withdrawal wells and related facilities at its Redfield Storage Field in Dallas County, Iowa. The project would not affect the capacity or deliverability of the field.
- Port Arthur LNG requests authorization for its Phase II project, including constructing Trains 3 and 4 at its liquefied natural gas terminal in Jefferson County, TX. These trains would provide an additional 1.8 Bcf/d of export capacity.

Natural Gas Activities in February 2020

| 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 | | | 483 | 10 | 55,507 |
| Proposed | 5 | | | 2,591 | 106 | 78,190 |
| Storage | | | | | | |
| Placed in Service | 0 | 0.0 | 0.0 | | | 0 |
| Certificated | 0 | 0.0 | 0.0 | | | 0 |
| Proposed | 0 | 0.0 | 0.0 | | | 0 |
| LNG (Import & Export) | | | | | | |
| Placed in Service (Export) | 1 | 3.4 | 713.0 | | | 0 |
| Certificated (Import/Export) | 0 | 0.0 | 0.0 | | | 0 |
| Proposed (Import/Export) | 1 | 10.2 | 1,865.0 | | | 0 |

Source: Staff Database

Natural Gas Activities through February 29, 2020 January through February 28, 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 | 0.0 | 0 |
| through February 28, 2019 | 2 | | | 3,460 | 0 | 269,900 |
| Certificated | 8 | | | 798.0 | 76.3 | 55,507 |
| through February 28, 2019 | 6 | | | 924 | 61 | 54,013 |
| Storage | | | | | | |
| Placed in Service | 0 | 0.0 | 0.0 | | | 0 |
| through February 28, 2019 | 0 | 0 | 0 | | | 0 |
| Certificated | 0 | 0.0 | 0.0 | | | 0 |
| through February 28, 2019 | 1 | 0 | 79 | | | 0 |
| LNG (Import & Export) | | | | | | |
| Placed in Service (Export) | 3 | 3.4 | 1,461.0 | | | 0 |
| through February 28, 2019 | 0 | 0 | 0 | | | 0 |
| Certificated (Import/Export) | 0 | 0.0 | 0.0 | | | 0 |
| through February 28, 2019 | 1 | 8 | 1,700 | | | 0 |

Source: Staff Database



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Hydropower Highlights (nonfederal)

There were no hydropower activities this month.

Hydropower Project Activities Year to Date (through February 29, 2020)

| Status | Conventional | | Pumped Storage | | Hydrokinetic | | Total No. of Projects | Total Capacity (MW) |
|--------------------------|--------------|---------------|----------------|---------------|--------------|---------------|-----------------------|---------------------|
| | No. | Capacity (MW) | No. | Capacity (MW) | No. | Capacity (MW) | | |
| Filed | | | | | | | | |
| License | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10-MW Exemption | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Capacity Amendment | 2 | 6.575 | 0 | 0 | 0 | 0 | 2 | 6.575 |
| 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



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Electric Generation Highlights

- Victoria City Power LLC's 100.0 MW natural gas-fired Victoria City Power Plant in Victoria County, TX is online.
- Wildhorse Wind Energy LLC's 100.0 MW Wildhorse Mountain Wind Facility in Pushmataha County, OK is online. The power generated is sold to Arkansas Electric Cooperative Corporation under long-term contract.
- Pegasus Wind A LLC's 48.7 MW Pegasus Wind Energy Center in Tuscola County, MI is online. The power generated is sold to Michigan Public Power Agency under long-term contract.
- Tampa Electric Co.'s 74.5 MW Little Manatee River Solar Project in Hillsborough County, FL is online.
- Northbrook Lyons Falls LLC's 11.2 MW Lyons Falls Hydroelectric Complex in Lewis County, NY is online.

New Generation In-Service (New Build and Expansion)

| Primary Fuel Type | February 2020 | | January – February 2020 Cumulative | | January – February 2019 Cumulative | |
|-------------------|---------------|-------------------------|---------------------------------------|-------------------------|---------------------------------------|-------------------------|
| | No. of Units | Installed Capacity (MW) | No. of Units | Installed Capacity (MW) | No. of Units | Installed Capacity (MW) |
| Coal | 0 | 0 | 0 | 0 | 0 | 0 |
| Natural Gas | 2 | 100 | 7 | 218 | 11 | 203 |
| Nuclear | 0 | 0 | 0 | 0 | 0 | 0 |
| Oil | 0 | 0 | 0 | 0 | 2 | 5 |
| Water | 2 | 11 | 3 | 13 | 7 | 35 |
| Wind | 2 | 149 | 4 | 303 | 12 | 772 |
| Biomass | 0 | 0 | 0 | 0 | 1 | 17 |
| Geothermal Steam | 0 | 0 | 0 | 0 | 0 | 0 |
| Solar | 10 | 99 | 38 | 987 | 90 | 1,270 |
| Waste Heat | 0 | 0 | 0 | 0 | 0 | 0 |
| Other * | 0 | 0 | 0 | 0 | 6 | 0 |
| Total | 16 | 359 | 52 | 1,521 | 129 | 2,302 |

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.

Total Available Installed Generating Capacity

| | Installed Capacity (GW) | % of Total Capacity |
|------------------|-------------------------|---------------------|
| Coal | 248.16 | 20.62% |
| Natural Gas | 535.04 | 44.46% |
| Nuclear | 106.33 | 8.84% |
| Oil | 39.74 | 3.30% |
| Water | 100.74 | 8.37% |
| Wind | 106.80 | 8.87% |
| Biomass | 16.06 | 1.33% |
| Geothermal Steam | 3.86 | 0.32% |
| Solar | 44.61 | 3.71% |
| Waste Heat | 1.32 | 0.11% |
| Other* | 0.77 | 0.06% |
| Total | 1,203.41 | 100.00% |

Sources: Data derived from Velocity Suite, ABB Inc. and The C Three Group LLC. The data may be subject to update.



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Generation Capacity Additions and Retirements (March 2020 – February 2023) From ABB Velocity Suite's Generating Unit Capacity Dataset

| Primary Fuel Type | All Additions | | High Probability Additions | | Retirements | |
|-------------------|---------------|-------------------------|----------------------------|-------------------------|--------------|-------------------------|
| | No. of Units | Installed Capacity (MW) | No. of Units | Installed Capacity (MW) | No. of Units | Installed Capacity (MW) |
| Coal | 1 | 77 | 0 | 0 | 61 | 19,082 |
| Natural Gas | 231 | 63,168 | 97 | 29,784 | 72 | 7,962 |
| Nuclear | 6 | 4,460 | 4 | 2,560 | 4 | 3,929 |
| Oil | 11 | 682 | 1 | 2 | 22 | 3,062 |
| Water | 236 | 13,154 | 92 | 1,910 | 9 | 7 |
| Wind | 480 | 88,977 | 163 | 26,416 | 2 | 249 |
| Biomass | 48 | 258 | 23 | 194 | 39 | 102 |
| Geothermal Steam | 13 | 478 | 4 | 213 | 10 | 35 |
| Solar | 2,872 | 107,729 | 710 | 22,593 | 0 | 0 |
| Waste Heat | 3 | 49 | 2 | 29 | 0 | 0 |
| Other * | 228 | 480 | 52 | 20 | 1 | 2 |
| Total | 4,129 | 279,512 | 1,148 | 83,721 | 220 | 34,430 |

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

- Central Power Electric Cooperative has completed the 23.8 mile 115 kV East Ruthville - SW Minot Transmission Project in ND.

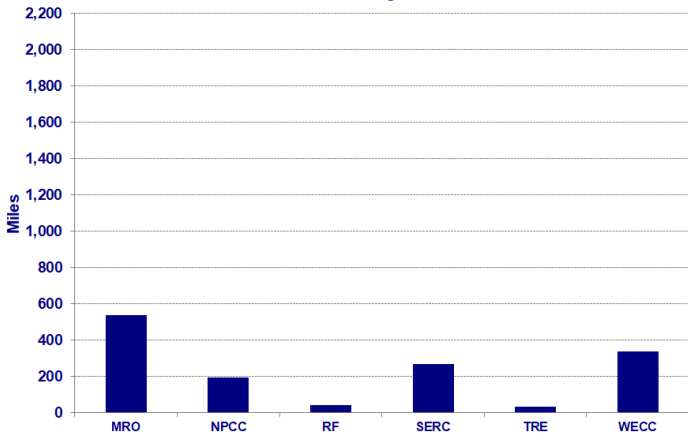
| Voltage (kV) | Transmission Projects Completed | | | | Proposed Transmission Projects In-Service by March 2022 | |
|-------------------|---------------------------------|---------------|------------------------------------|------------------------------------|---|----------------|
| | February 2020 | February 2019 | January – February 2020 Cumulative | January – December 2019 Cumulative | High Probability of Completion | All |
| | Line Length (miles) | | | | | |
| ≤230 | 23.8 | 32.7 | 37.6 | 296.5 | 347.7 | 567.3 |
| 345 | 0.0 | 163.0 | - | 604.5 | 224.0 | 594.4 |
| 500 | 0.0 | 7.7 | - | 7.7 | 251.4 | 251.4 |
| Total U.S. | 23.8 | 203.4 | 37.6 | 908.7 | 823.1 | 1,413.1 |

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

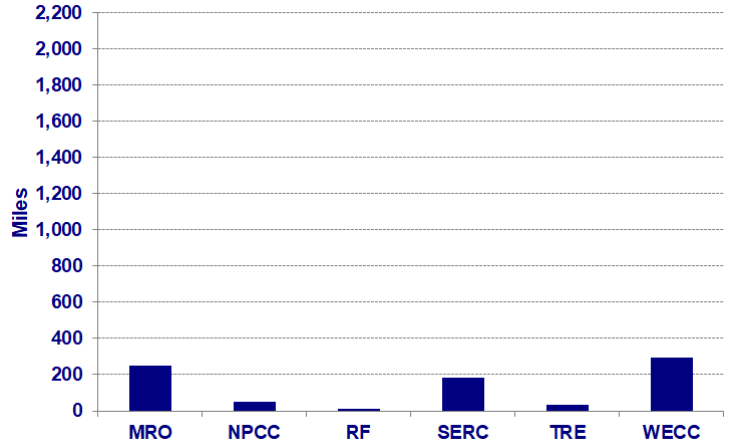


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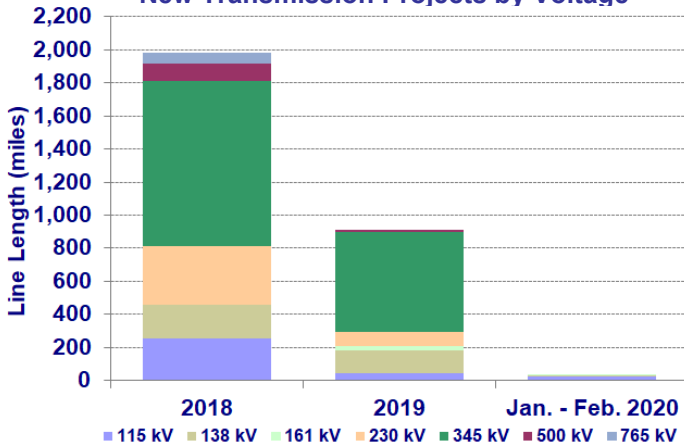
All Transmission Projects with a Proposed In-Service Date by March 2022



Transmission Projects with a High Probability of being completed by March 2022



New Transmission Projects by Voltage



Sources: Data derived from Staff Database 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.