



## Office of Energy Projects Energy Infrastructure Update For March 2020

### Natural Gas Highlights

- Sierrita received authorization to place in service its Sierrita Compressor Expansion Project, consisting of a new 15,900 HP compressor station in Pima County, AZ that will increase firm transportation into Mexico by 323 MMcf/d.
- Elba Liquefaction and Southern LNG received authorization to place in service Unit 5 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 will consist of 10-units and 350 MMcf/d of liquefaction capacity.
- Northern Natural received authorization for its Palmyra to South Sioux City A-Line Abandonment Project, including abandoning 118 miles of older pipeline in Otoe, Lancaster, Saunders, Dodge, Burt, Thurston, and Dakota Counties, NE, and building 4.2 miles of pipeline and associated appurtenances in Otoe and Dodge Counties, NE.
- Dominion Energy Questar received authorization to abandon by sale to North Shore Energy a 20.8-mile gas-supply lateral, its Brady Measurement and Regulating Station, and other appurtenances in Sweetwater County, WY.
- Columbia Gas received authorization for its Line D Launcher/Receiver Project, including installations and modifications in Licking, Knox, Morrow, and Crawford Counties, OH, to allow Line D to be internally inspected for integrity assessment.
- Gulfstream received authorization for its Phase VI Expansion Project, including a 16,000 HP compressor and 4 miles of replacement pipe in Mobile County, AL, and new metering equipment in Manatee County, FL, in order to provide up to 78 MMcf/d of firm transportation capacity to Tampa Electric.
- Gulf South received authorization to construct its Index 99 Expansion Project, consisting of 22 miles of pipeline and appurtenant facilities in San Augustine and Sabine Counties, TX, in order to provide up to 500 MMcf/d of additional firm transportation in East Texas.
- Jordan Cove received authorization to site, construct, and operate an LNG Terminal on the North Spit of Coos Bay, OR. The terminal is designed to receive 1.17 Bcf/d of natural gas and export approximately 1 Bcf/d of LNG.
- Pacific Connector Received authorization to construct a 229-mile, 1.2 Bcf/d pipeline to provide transportation service to the Jordan Cove LNG terminal. The pipeline would extend 229 miles from interconnections with the Ruby and GTN pipelines in Klamath County, OR, to the terminal in Coos County, OR.
- PennEast Pipeline received an amendment to its certificate to permit certain pipeline realignments and workspace changes in Luzerne, Carbon, Monroe, and Northampton Counties, PA. These changes will result in a net decrease of project miles and acreage.
- Florida Gas received authorization for its Putnam Expansion Project, including 20.7 miles of looped pipeline and other facilities in Columbia, Union, Clay, Putnam, and Orange Counties FL, that would provide up to 169 MMcf/d of firm capacity to Seminole Electric Coop.
- Texas Eastern received authorization for its Bailey East Mine Panel 11J Project, which involves excavating and temporarily elevating portions of its Lines 10, 15, 25, and 30 in Marshall County, WV, to maintain pipeline integrity during longwall mining activities by CONSOL.
- Iroquois Gas Transmission requests an amendment to its certificate that would remove the annual Right of Way walkover requirement of its entire system.
- Dominion Energy received authorization to replace 3.9 miles of pipeline at its Oakford Storage Complex in Westmoreland County, PA. The project will not affect the certificated parameters of the storage facility.
- ANR received authorization to abandon leases and acquire certain storage assets from Mid-Michigan Gas Storage Company at the Austin, Goodwell, Lincoln-Freeman, Loreed, and Reed City storage fields in Central Michigan.
- Columbia Gas requests authorization for its Quarry Road Meter Station Project, including a receipt meter station and associated appurtenant facilities at the interconnection of NEXUS pipeline and Columbia's L2542 pipeline in Lorain County, OH, to allow Columbia to receive up to 215 MMcf/d of firm deliveries.
- ANR requests authorization to increase from 9,700 to 10,800 HP, the certificated horsepower at its Grand Chenier Compressor Station in Cameron Parish, LA, in order to improve efficiency and reliability at the station.
- Magnum Gas Storage requests the Commission partially vacate or amend its certificate involving the construction of two of the approved four gas storage caverns in Millard, Juab, and Utah Counties, UT.
- ANR requests authorization for its Winfield Storage Field Lateral Abandonment Project, including removal or abandonment in place of sections of lateral Line 9780 within the Winfield Storage Field in Mecosta and Montcalm counties, MI. These sections serve injection/withdrawal wells that were abandoned in 2018.



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### Natural Gas Activities in March 2020

Status	No. of Projects	Storage Capacity (Bcf)	Deliverability (MMcf/d)	Capacity (MMcf/d)	Miles of Pipeline	Compression (HP)
<b>Pipeline</b>						
Placed in Service	1			323	0	15,900
Certificated	6			1,947	281	109,300
Proposed	1			0	0	1,100
<b>Storage</b>						
Placed in Service	0	0.0	0.0			0
Certificated	1	81.0	2,836.0			0
Proposed	0	0.0	0.0			0
<b>LNG (Import &amp; Export)</b>						
Placed in Service (Export)	1	0.0	35.0			0
Certificated (Import/Export)	1	10.0	1,020.0			0
Proposed (Import/Export)	0	0.0	0.0			0

Source: Staff Database

### Natural Gas Activities through March 31, 2020 January through March 31, 2019

Status	No. of Projects	Storage Capacity (BCF)	Deliverability (MMcf/d)	Capacity (MMcf/d)	Miles of Pipeline	Compression (HP)
<b>Pipeline</b>						
Placed in Service	1			323.0	0.0	15,900
through March 31, 2019	4			3943.5	1.4	282,400
Certificated	14			2745.0	357.7	164,807
through March 31, 2019	7			1129.2	61.3	107,081
<b>Storage</b>						
Placed in Service	0	0.0	0.0			0
through March 31, 2019	0	0.0	0.0			0
Certificated	1	81.0	2836.0			0
through March 31, 2019	1	0.0	79.0			0
<b>LNG (Import &amp; Export)</b>						
Placed in Service (Export)	4	3.4	1496.0			0
through March 31, 2019	2	10.1	1413.0			0
Certificated (Import/Export)	1	10.0	1020.0			0
through March 31, 2019	1	8.2	1700.0			0

Source: Staff Database



## Office of Energy Projects Energy Infrastructure Update For March 2020

### Hydropower Highlights (nonfederal)

- Northwestern Corporation filed an application to increase the capacity of its Missouri-Madison Project No. 2188 from 303.500 MW to 306.760.MW. The project is located on the Missouri and Madison Rivers in Cascade, Gallatin, Lewis and Clark, and Madison Counties, MT.
- Big Wood Canal Company was issued an order raising the capacity of its Jim Knight Project No. 7686 from 0.289 to 0.475 MW. The project is located on the South Gooding Main Canal in Gooding County, ID.
- Big Wood Canal Company was issued an order raising the capacity of its Sagebrush Project No. 8046 from 0.315 to 0.475 MW. The project is located on the South Gooding Main Canal in Lincoln County, ID.

#### Hydropower Project Activities in March 2020

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	1	3.260	0	0	0	0	1	3.260
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	2	0.346	0	0	0	0	2	0.346
Conduit Exemption	0	0	0	0	0	0	0	0
<b>Placed in Service</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

Source: Staff Database

#### Hydropower Project Activities Year to Date (through March 31, 2020)

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	3	9.835	0	0	0	0	3	9.835
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	2	0.346	0	0	0	0	2	0.346
Conduit Exemption	0	0	0	0	0	0	0	0



## Office of Energy Projects Energy Infrastructure Update For March 2020

Status	Conventional		Pumped Storage		Hydrokinetic		Total No. of Projects	Total Capacity (MW)
	No.	Capacity (MW)	No.	Capacity (MW)	No.	Capacity (MW)		
<b>Placed in Service</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

Source: Staff Database

### Electric Generation Highlights

- Entergy Services LLC's 1,000.0 MW natural gas-fired Entergy Lake Charles Power Plant in Calcasieu Parish, LA is online.
- Otter Creek Wind Farm LLC's 158.0 MW Otter Creek Wind Farm in LaSalle County, IL is online.
- Peyton Creek Wind Farm LLC's 151.2 MW Peyton Creek Wind in Matagorda County, TX is online.
- Cardinal Point LLC's 150.0 MW Cardinal Point Wind Farm in McDonough County, IL is online.
- Hidalgo Wind Farm II LLC's 51.0 MW Hidalgo II Wind in Hidalgo County, TX is online.

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

Primary Fuel Type	March 2020		January – March 2020 Cumulative		January – March 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	1	1,000	14	2,300	27	3,130
Nuclear	0	0	0	0	0	0
Oil	0	0	0	0	2	5
Water	0	0	5	16	7	35
Wind	4	510	11	1,323	16	1,380
Biomass	0	0	1	10	1	17
Geothermal Steam	0	0	0	0	0	0
Solar	1	1	77	1,596	127	1,517
Waste Heat	0	0	0	0	0	0
Other *	0	0	2	0	9	0
<b>Total</b>	<b>6</b>	<b>1,511</b>	<b>110</b>	<b>5,245</b>	<b>189</b>	<b>6,084</b>

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	247.09	20.53%
Natural Gas	536.15	44.55%
Nuclear	104.98	8.72%
Oil	39.67	3.30%
Water	100.73	8.37%
Wind	107.73	8.95%
Biomass	15.96	1.33%
Geothermal Steam	3.88	0.32%
Solar	45.32	3.77%
Waste Heat	1.28	0.11%
Other	0.77	0.06%
<b>Total</b>	<b>1,203.58</b>	<b>100.00%</b>

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

### Generation Capacity Additions and Retirements (April 2020 – March 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	55	16,428
Natural Gas	225	61,192	88	27,643	76	6,986
Nuclear	6	4,460	4	2,560	3	2,558
Oil	12	684	2	4	27	3,116
Water	228	13,120	92	1,910	9	7
Wind	482	88,625	161	27,116	2	249
Biomass	49	261	22	190	44	171
Geothermal Steam	15	540	4	213	10	35
Solar	2,901	110,214	705	24,083	0	0
Waste Heat	3	49	2	29	0	0
Other *	239	480	61	20	1	2
<b>Total</b>	<b>4,161</b>	<b>279,702</b>	<b>1,141</b>	<b>83,768</b>	<b>227</b>	<b>29,552</b>

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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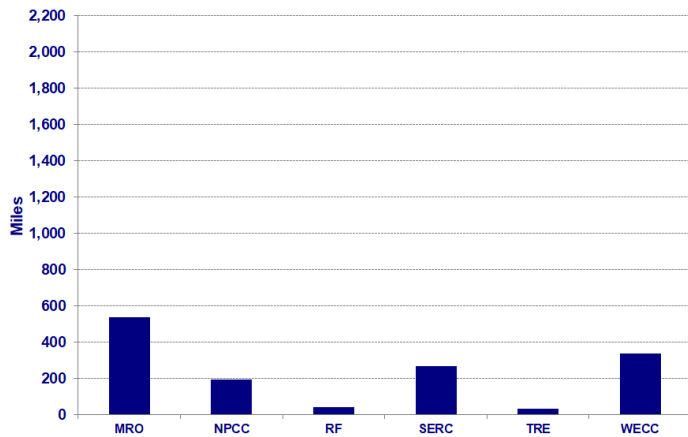
## Electric Transmission Highlights

- CapX2020 released the “CapEx 2050 Transmission Vision Report”. CapEx 2050 recommended more transmission system infrastructure will be needed in the upper Midwest.

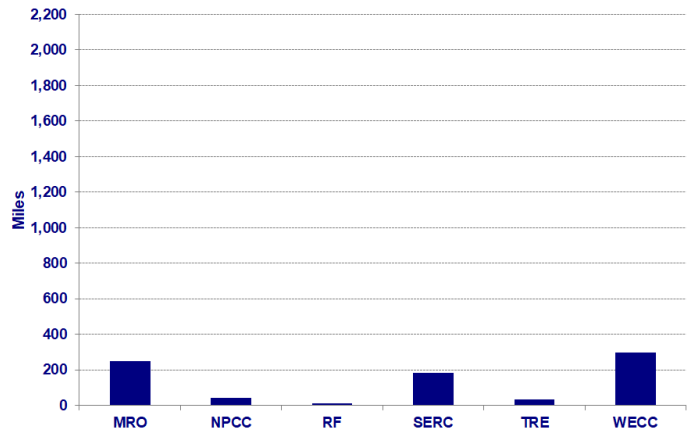
Voltage (kV)	Transmission Projects Completed				Proposed Transmission Projects In-Service by April 2022	
	March 2020	March 2019	January – December 2020 Cumulative	January – December 2019 Cumulative	High Probability of Completion	All
	Line Length (miles)					
≤230	0.0	0.0	37.6	296.5	344.0	567.2
345	0.0	0.0	0.0-	604.5	224.0	594.4
500	0.0	0.0	0.0-	7.7	251.4	251.4
<b>Total U.S.</b>	<b>0.0</b>	<b>0.0</b>	<b>37.6</b>	<b>908.7</b>	<b>819.4</b>	<b>1,413.0</b>

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

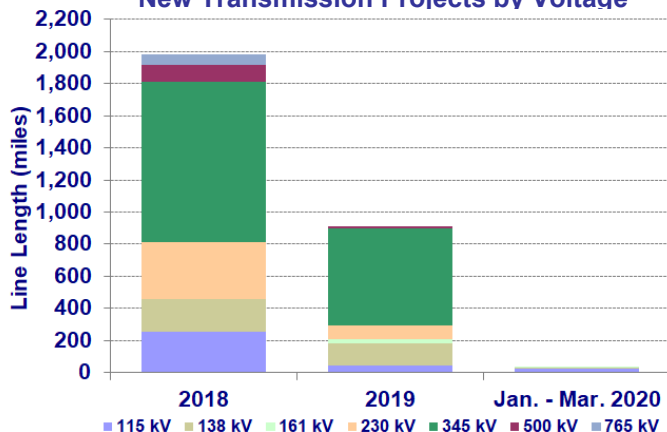
**All Transmission Projects with a Proposed In-Service Date by April 2022**



**Transmission Projects with a High Probability of being completed by April 2022**



**New Transmission Projects by Voltage**



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

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