

Office of Energy Projects

Energy Infrastructure Update

For May 2012

Natural Gas Highlights

- Southern placed into service Phase III of its Southern System Expansion III project which will provide 100 MMcf/d of capacity to Georgia Power's Plant Jack McDonough generation facility in Cobb County, GA.
- Natural received authorization to construct and operate its 2012 NGPL Storage Optimization Project. This project will increase pipeline capacity by 100 MMcf/d and increase storage deliverability by 35 MMcf/d in IA and IL.
- TETCO and Algonquin received authorization to construct and operate their NJ-NY Expansion Project which will provide 800 MMcf/d of firm capacity for delivery of natural gas supplies including shale gas into Manhattan, NY.
- Tennessee received authorization to construct and operate its Northeast Upgrade Project. This project will provide 636 MMcf/d of incremental transportation capacity for two shippers on its existing 300 Line System in PA and NJ.
- Creole Trail filed to construct and operate it Creole Trail Expansion Project which will modify its existing system to accommodate 1,530 MMcf/d of bi-directional capacity to the Sabine Pass Liquefaction facility in Cameron Parish, LA.
- Transco commenced the Commission's pre-filing process for its Virginia Southside Expansion Project which will provide 250 MMcf/d of capacity for Virginia Power to serve VEPCO's proposed power station in Brunswick Co., VA.

Natural Gas Activities in May 2012

Status	No. of Projects	Storage Capacity (Bcf)	Deliverability (MMcf/d)	Capacity (MMcf/d)	Miles of Pipeline	Compression (HP)
Pipeline						
Placed in Service	2			124.3	27.9	7,000
Certificated	4			1,543.5	69.1	44,310
Proposed	5			2,005.0	134.5	68,725
Storage						
Placed in Service	0	0.0	0			0
Certificated	1	0.0	35			3,550
Proposed	1	2.1	765			9,240
LNG (Import & Export)						
Placed in Service	0	0	0			0
Certificated (Export)	0	0	0			0
Proposed (Export)	0	0	0			0

Source: Staff Database

Natural Gas Activities through May 31, 2012 Through May 31, 2011

Status	No. of Projects	Storage Capacity (Bcf)	Deliverability (MMcf/d)	Capacity (MMcf/d)	Miles of Pipeline	Compression (HP)
Pipeline						
Placed in Service through May 31, 2011	4 11			374.3 6,048.5	31.7 734.8	7,000 431,045
Certificated through May 31, 2011	10 4			2,442.8 1,198.0	96.7 61.5	74,400 59,265
Storage						
Placed in Service through May 31, 2011	3 5	5.2 15.3	150 2,545			0 6,283
Certificated through May 31, 2011	4 6	47.2 103.3	335 2,720			22,550 58,710
LNG (Import & Export)						
Placed in Service through May 31, 2011	0 1	0 16.4	0 2,000			0 0
Certificated (Export) through May 31, 2011	1 0	0 0	2,600 0			0 0

Source: Staff Database

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Hydropower Highlights

- Tri-Dam began commercial generation at its new third unit addition at the Tulloch Project, FERC Project No. 2067-CA. This resulted in a capacity increase of 7.2 MW.
- San Jose Water Company was issued an Order Granting Exemption from Licensing (Conduit) for the Hostetter Turnout Valve Hydro Project (FERC No. 14357), located on its municipal water supply system in Santa Clara County, CA. The proposed project will develop 0.150 MW.
- Consumers Energy Company and Detroit Edison were issued an Order Amending License for the Ludington Pumped Storage Project No. 2680, located on Lake Michigan, in Mason and Muskegon counties, MI. The order authorized the upgrade and overhaul of all six pump-turbine/generator units of the project (one unit at a time over the years 2013 through 2019), and would increase the authorized installed capacity of the project from 1,657.5 MW to 1,785 MW.
- City and Borough of Sitka was issued an Order Amending License and Revising Annual Charges for the Blue Lake Project (FERC No. 2230), located on Sawmill Creek, in Borough of Sitka, AK. The order authorized the licensee to raise the project's dam and replace several turbine generator units, increasing the installed capacity from 7.54 MW to 16.9 MW.
- Lock 14 Hydro Partners, LLC filed an original license application for the proposed 2.64 MW Heidelberg Hydroelectric Project No. 13213. The project would be located at the Kentucky River Authority's Lock and Dam 14 on the Kentucky River near Heidelberg, Lee County, KY.
- Lock 12 Hydro Partners, LLC filed an original license application for the proposed 2.64 MW Ravenna Hydroelectric Project No. 13214. The project would be located at the Kentucky River Authority's Lock and Dam 12 on the Kentucky River near Ravenna, Estill County, KY.
- Inside Passage Electric Cooperative filed an original license application for the proposed 0.455 MW Gartina Falls Hydroelectric Project No. 14066. The project would be located on Gartina Creek near Hoonah, AK.
- Calleguas Municipal Water District filed an application for exemption from licensing (conduit) for the Grandsen Generating Station Project (FERC No. 14404), located on the Moorpark Feeder next to the Grandsen Pump Station, in Ventura County, CA. The proposed project would develop 0.330 MW.
- The City of San Francisco filed an application for exemption from licensing (conduit) for the University Mound Reservoir Project No. 14406, located on San Francisco's municipal water system next to the McClaren Pumping Plant, in San Francisco, CA. The proposed project would develop 0.241 MW.
- The City of Pendleton filed an application for exemption from licensing (conduit) for the Energy Recovery Technology (ERT) Project No. 14407, located on the City's existing infrastructure, in Umatilla County, OR. The proposed project would develop about 0.160 MW.

Hydropower Activities in May 2012

Status	Conventional		Pumped Storage		Hydrokinetic		Total No. of Projects	Total Capacity (MW)
	No.	Capacity (MW)	No.	Capacity (MW)	No.	Capacity (MW)		
Filed								
License	3	5.735	0	0	0	0	3	5.735
5-MW Exemption	0	0	0	0	0	0	0	0
Capacity Amendment	1	3.830	0	0	0	0	1	3.830
Conduit Exemption	3	0.731	0	0	0	0	3	0.731
Issued								
License	0	0	0	0	0	0	0	0
5-MW Exemption	0	0	0	0	0	0	0	0
Capacity Amendment	1	9.360	1	127.500	0	0	2	136.860
Conduit Exemption	1	0.150	0	0	0	0	1	0.150
Placed in Service								
License	1	7.200	0	0	0	0	1	7.200
5-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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Hydropower Activities Year to Date (through May 31, 2012)

Status	Conventional		Pumped Storage		Hydrokinetic		Total No. of Projects	Total Capacity (MW)
	No.	Capacity (MW)	No.	Capacity (MW)	No.	Capacity (MW)		
Filed								
License	5	19.905	0	0	2	1.100	7	21.005
5-MW Exemption	1	0.695	0	0	0	0	1	0.695
Capacity Amendment	3	9.040	0	0	0	0	3	9.040
Conduit Exemption	10	2.870	0	0	0	0	10	2.870
Issued								
License	7	38.840	0	0	2	1.350	9	40.190
5-MW Exemption	2	1.125	0	0	0	0	2	1.125
Capacity Amendment	8	48.072	3	149.500	0	0	11	258.284
Conduit Exemption	6	8.610	0	0	0	0	6	8.610
Placed in Service								
License	2	8.530	0	0	0	0	2	8.530
5-MW Exemption	1	0.170	0	0	0	0	1	0.170
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

- NRG Energy of Carnegie Center's 4.6 MW natural gas fired turbine cogeneration plant at the University Medical Center of Princeton at Plainsboro in Middlesex County, New Jersey is online. The cogeneration plant provides the hospital with electricity but also captures the waste heat from the gas turbine to produce steam for sterilization of equipment and heating the building.
- E.ON Climate & Renewables North America, LLC's 202 MW Magic Valley Wind Farm I in Willacy County, Texas is online. Magic Valley is comprised of 112 Vestas V100 1.8-MW turbines.
- First Wind's 21 MW Kaheawa Wind Power II Wind Project in Maui, Hawaii is online. This project with 14 GE 1.5-MW turbines, is an expansion project of the existing 30-MW Kaheawa Wind. The expanded wind farm now has a combined capacity of 51 MW.
- Two wind projects came online in Massachusetts: 2 MW Kingston Wind Independence in Plymouth County on the former Kingston landfill; and 3.3 MW Fairhaven Wind in Bristol County.
- Enbridge Inc.'s 50 MW Silver State North Solar Project in Clark County, Nevada is online. This is the first utility-scale solar facility built on BLM land. NV Energy will purchase the facility's electricity under a long-term agreement.
- Cogentrix Energy's 30 MW Alamosa Solar Generating plant in San Luis Valley of Colorado is online. This is the largest concentrating photovoltaic generating facility in the world, employing technology originally developed as part of the US space program. The project is comprised of over 500 dual-axis pedestal mounted tracker assemblies. Each tracker assembly is 70' wide by 50' high and contains 7,560 Fresnel lenses that concentrate the sunlight by a multiple of 500 onto multijunction solar cells. The electricity is purchased by PSC of Colorado under a long-term agreement.
- Three solar projects in California are online: 1) Sun Peak Solar's 28.57 MW Imperial Valley (Niland) Solar Park in Niland is online. Niland is the first solar sufficient community in the United States. Imperial Irrigation District has a long-term contract for 20 MW of the output. The project is comprised of nearly 1,000 solar panels. 2) PG&E's 10 MW Giffen Solar Station in Fresno County is online. 3) SCE's 8.6 MW SPVP #026 in Rialto is online. This project consists of a single 8.6 MW DC rooftop photovoltaic system.
- Astronergy Solar's 6.1 MW photovoltaic AstroSol Tech Park at the University of Arizona Science and Technology Park is online. The electricity output is purchased by Tucson Electric Power under a long-term agreement.
- Sun Edison's 10 MW solar SunE WFM 2790 in Bexar County, Texas is online. The electricity output is purchased by CPS Energy under a long-term agreement.
- Two biomass plants came online in Texas: 1) Southern Company's 100 MW wood-fired Nacogdoches Power project in Sacul. This facility will be fueled by one million tons of biomass materials procured within a 75-mile radius of the

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project site. The electricity output is purchased by Austin Energy under long term agreement. 2) Decker Energy's 50 MW wood-fired Lindale Renewable Energy in Smith County is online.

- NRG Energy's 15 MW biomass Dunkirk Generating Station Expansion Project at Dunkirk, New York is online. This facility is fueled by sustainably harvested biomass including forest and wood processing residues. The electricity output from this facility is purchased by New York State Energy Research and Development Authority.

New Generation In-Service (New Build and Expansion)

Primary Fuel Type	May 2012		January – May 2012 Cumulative		January – May 2011 Cumulative	
	No. of Units	Installed Capacity (MW)	No. of Units	Installed Capacity (MW)	No. of Units	Installed Capacity (MW)
Coal	0	0	1	808	4	915
Natural Gas	1	5	28	2,811	53	3,986
Nuclear	0	0	0	0	0	0
Oil	0	0	5	9	4	9
Water	4	11	4	11	5	4
Wind	4	228	39	1,800	48	2,139
Biomass	4	166	36	234	35	135
Geothermal Steam	0	0	2	56	2	23
Solar	11	149	84	494	88	174
Waste Heat	1	3	1	3	1	135
Other	0	0	0	0	1	8
Total	25	561	200	6,225	241	7,528

Source: Data derived from Ventyx Global LLC, Velocity Suite.

Total Installed Operating Generating Capacity

Primary Fuel Type	Installed Capacity (GW)	% of Total Capacity
Coal	341.42	29.72%
Natural Gas	480.74	41.85%
Nuclear	104.08	9.06%
Oil	51.52	4.49%
Water	99.70	8.68%
Wind	49.01	4.27%
Biomass	14.06	1.22%
Geothermal Steam	3.49	0.30%
Solar	2.79	0.24%
Waste Heat	0.77	0.07%
Other	1.04	0.09%
Total	1,148.62	100.00%

Source: Data derived from Ventyx Global LLC, Velocity Suite.

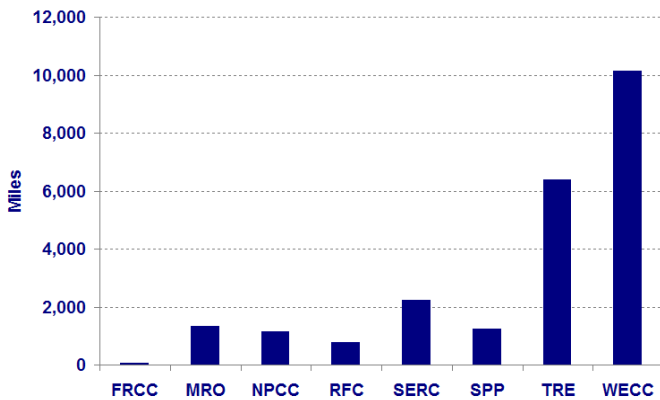
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Electric Transmission Highlights

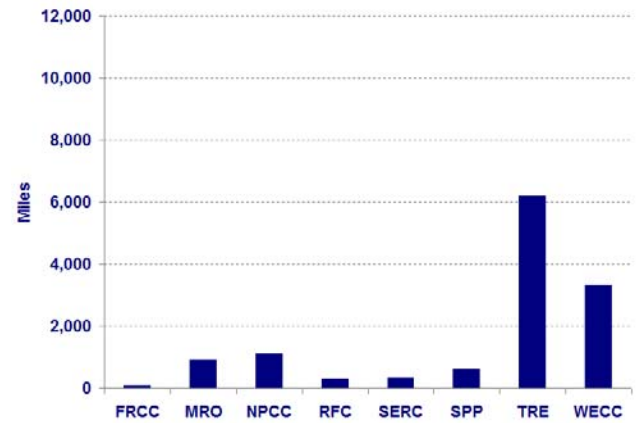
- Dominion energized the 230 kV, 25 mile Remington – Gainesville transmission line in VA. The project connects Dominion's Remington Combustion Turbine (CT) facility in southern Fauquier County, VA to the Gainesville Substation in Prince William County, VA.

Voltage (kV)	Transmission Projects Completed				Proposed Transmission Projects In-Service by May 2014	
	May 2012	May 2011	January –May 2012 Cumulative	January –December 2011 Cumulative	High Probability of Completion	All
	Line Length (miles)					
≤230	25	104.5	63.6	1,018.5	2,134.1	6,129.8
345	0	82.0	200.6	494.9	8,240.5	10,011.5
500	0	169.8	79.0	262.0	2,422.1	7,201.7
Total U.S.	25	356.3	343.2	1,775.4	12,796.7	23,343.0

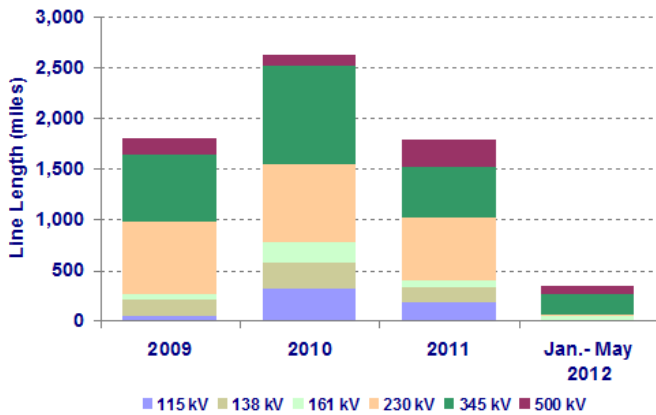
All Transmission Projects with a Proposed In-Service Date by May 2014



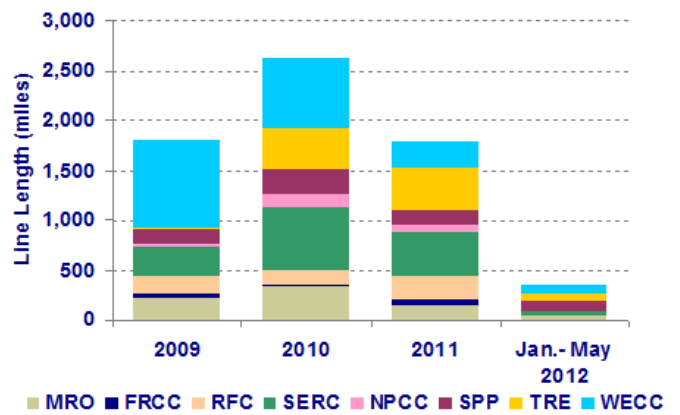
Transmission Projects with a High Probability of being completed by May 2014



New Transmission Projects by Voltage



New Transmission Projects by Region



Sources: Data derived from Staff Database and U.S. Electric Transmission Projects ©2012 The C Three Group, LLC

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