

# Office of Energy Projects

## Energy Infrastructure Update

For October 2011

### Natural Gas Highlights

- National Fuel placed into service its Line N Replacement and Lines R and I Expansion Projects which will provide 150 MMcf/d of firm transportation of Marcellus Shale gas on its Line N system in western PA to TETCO in Greene Co, PA.
- Tennessee placed into service its Line 300 Expansion Project which will provide increased system reliability and 350 MMcf/d of firm transportation of natural gas supplies including Marcellus Shale gas to markets in the Northeast.
- Northern Border placed into service its Princeton Lateral Project which will provide 120 MMcf/d of firm transportation for Central Illinois Light Company near Princeton, IL.
- National Fuel and Tennessee received authorization to construct and operate their Northern Access and Station 230C Projects. These projects will provide 320 MMcf/d of new capacity for transportation of Marcellus Shale gas in PA and NY.
- El Paso filed an application to construct and operate its Wilcox Lateral 2013 Expansion Project. This project is designed to increase capacity in El Paso's Wilcox Lateral in Cochise County, AZ by 185 MMcf/d.

#### Natural Gas Activities in October 2011

Status	No. of Projects	Storage Capacity (Bcf)	Deliverability (MMcf/d)	Capacity (MMcf/d)	Miles of Pipeline	Compression (HP)
<b>Pipeline</b>						
Placed in Service	6			620.0	181.7	63,898
Certificated	3			320.0	0.15	56,470
Proposed	1			185.0	0.1	0
<b>Storage</b>						
Placed in Service	1	2.7	0			0
Certificated	1	2.7	0			0
Proposed	0	0.0	0			0
<b>LNG</b>						
Placed in Service	0	0	0			0
Certificated	0	0	0			0
Proposed	0	0	0			0

Source: Staff Database

#### Natural Gas Activities through October 31, 2011 Through October 31, 2010

Status	No. of Projects	Storage Capacity (Bcf)	Deliverability (MMcf/d)	Capacity (MMcf/d)	Miles of Pipeline	Compression (HP)
<b>Pipeline</b>						
Placed in Service	27			11,751.4	1,724.4	787,669
through October 31, 2010	24			7,629.7	506.5	275,540
Certificated	16			3,427.7	268.1	259,875
through October 31, 2010	20			8,801.4	1,552.2	517,454
<b>Storage</b>						
Placed in Service	8	36.5	2,555			25,483
through October 31, 2010	12	71.7	4,272			32,180
Certificated	12	176.4	4,495			143,010
through October 31, 2010	19	146.9	5,243			122,404
<b>LNG</b>						
Placed in Service	2	23.2	3,500			0
through October 31, 2010	1	4.22	400			0
Certificated	0	0	0			0
through October 31, 2010	0	0	0			0

Source: Staff Database

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### Hydropower Highlights

- On October 21, 2011, Western Technical College filed an application for an original license for the proposed 0.205-MW Angelo Dam Hydroelectric Project No. 13417. The project would be located at an existing dam owned by Monroe County, on the La Crosse River, in Monroe County, Wisconsin.
- On October 24, 2011, Carbon Zero, LLC filed an application for a small hydropower exemption for the proposed 0.349-MW Vermont Tissue Mill Hydroelectric Project No. 14308. The project would be located at the existing Vermont Tissue Mill Dam, on the Walloomsac River, in the Town of Bennington, Bennington County, Vermont.
- On October 28, 2011, Shelbyville Hydro, LLC, a wholly-owned subsidiary of Symbiotics, LLC, filed an application for an original license for the proposed 6.8-MW Lake Shelbyville Dam Hydroelectric Project No. 13011. The project would be located at an existing dam owned and operated by the U.S. Army Corps of Engineers, on the Kaskaskia River, in Shelby County, Illinois.
- On October 4, 2011, DHAC issued to Oregon Department of Fish and Wildlife, an Order Granting Exemption from Licensing (conduit) for the Oak Springs Project No. 14235, located at the Oregon Department of Fish and Wildlife's Oak Springs Fish Hatchery in Wasco County, Oregon. The proposed project would develop 0.085 MW and generate about 680 megawatt hours annually.
- On October 18, 2011, DHAC issued to the City of Gresham, Oregon, an Order Granting Exemption from Licensing (Conduit) for its Wastewater Treatment Plant Outfall Hydro Project (FERC No. 13466), located at the city's wastewater treatment plant outfall, in Multnomah County, Oregon, and discharges into the Columbia River. The project will develop 0.050 MW and generate 413 megawatt hours annually.

### Hydropower Activities in October 2011

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	2	7.005	0	0	0	0	2	7.005
5-MW Exemption	1	0.349	0	0	0	0	1	0.349
Capacity Amendment	1	5.075	0	0	0	0	1	5.075
Conduit Exemption	0	0	0	0	0	0	0	0
<b>Issued</b>								
License	0	0	0	0	0	0	0	0
5-MW Exemption	0	0	0	0	0	0	0	0
Capacity Amendment	0	0	0	0	0	0	0	0
Conduit Exemption	2	0.135	0	0	0	0	2	0.135
<b>Placed in Service</b>								
License	0	0	0	0	0	0	0	0
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

### Hydropower Activities Year to Date (through October 31, 2011)

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	12	349.928	0	0	1	0.300	13	350.228
5-MW Exemption	5	1.695	0	0	0	0	5	1.695
Capacity Amendment	10	63.420	0	0	0	0	10	63.420
Conduit Exemption	12	10.176	0	0	0	0	12	10.176

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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)		
<b>Issued</b>								
License	7	72.910	0	0	0	0	7	72.910
5-MW Exemption	0	0	0	0	0	0	0	0
Capacity Amendment	12	45.017	0	0	0	0	12	45.017
Conduit Exemption	7	1.883	0	0	0	0	7	1.883
<b>Placed in Service</b>								
License	2	13.000	0	0	0	0	2	13.000
5-MW Exemption	2	0.375	0	0	0	0	2	0.375
Capacity Amendment	1	3.000	0	0	0	0	1	3.000
Conduit Exemption	5	21.365	0	0	0	0	5	21.365

Source: Staff Database

### Electric Generation Highlights

- enXco's 205.5 MW Lakefield Wind Project in Jackson County, Minnesota, is online. The project delivers electricity into the MISO transmission system for the benefit of Indianapolis Power & Light Co.'s generation portfolio under a 20-year power purchase agreement. The project consists of 137 GE 1.5-MW turbines.
- Golden Spread Electric Cooperative's 78.2 MW Golden Spread Panhandle Wind Ranch in Oldham and Potter Counties, Texas is online. The project is comprised of thirty-four 2.3-MW Siemens wind turbines.
- Element Power's 50-MW Macho Springs Wind Project in Luna County, New Mexico, is online. The project consists of 28 Vestas V100-1.8 MW turbines. The electricity generated from the project is contracted to Tucson Electric Power through a long-term power purchase agreement. The energy output is delivered via El Paso Electric's existing line.
- First Wind's 40-MW Sheffield Wind Project in the Town of Sheffield in Vermont, is online. The Sheffield Wind Project is Vermont's first large-scale commercial wind power operation. The project is comprised of 16 Clipper Liberty 2.5-MW turbines. The renewable energy generated is sold to three Vermont utilities.
- Chevron's 29-MW Coalinga Solar at the Chevron Coalinga Oil Field in the San Joaquin Valley, California, is online. Coalinga Solar is a thermal solar-to-steam enhanced oil recovery project, the largest of its kind in the world. It is comprised of 7,600 mirrors that reflect the concentrated sunlight to a receiver on top of a 323-foot solar tower to produce steam. The steam is then injected into wells throughout the oil field to heat up heavier oil and thus lower its viscosity to make it easier to extract. The project replaces some of the steam production now powered by natural gas.
- Arizona Public Service Co. and First Solar announced two photovoltaic projects that came online, the Paloma Solar Power Plant and the Cotton Center Solar Plant. Both plants are 17-MW each and located in Gila Bend, Arizona.
- Public Service Company of New Mexico's 5-MW Alamogordo Solar Energy Center is online. This project is the fourth of five PNM completed this year.
- Lime Energy Co. announced that the Zemel Road Landfill's 5.6-MW landfill gas-to-energy project in Charlotte County, Florida is online. Methane gas from the landfill is collected to fuel two 2.8-MW reciprocating generators.
- Eastern Illinois University and Honeywell unveiled the school's 15-MW Renewable Energy Center (REC) in Charleston, Illinois. The REC is the largest university biomass installations in the country, with a 10,000-square-foot steam plant that provides heat for buildings on the campus. The REC is driven by two large biomass gasifiers that use an estimated 27,000 tons of wood chips per year, replacing the 10,000 tons of coal burned annually by its decommissioned old system and reducing an estimate of 80% of carbon dioxide emissions.
- Republic Services, Inc. dedicated a new 1-MW solar energy cover on the closed Hickory Ridge Landfill near Atlanta, Georgia. An exposed synthetic cover has been approved as the final closure mechanism for the 45-acre landfill. The innovative flexible solar panels are adhered to 10-acres of the cover to generate electricity. This is the world's largest landfill solar energy cap.

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

Primary Fuel Type	October 2011		January – October 2011 Cumulative		January – October 2010 Cumulative	
	No. of Units	Installed Capacity (MW)	No. of Units	Installed Capacity (MW)	No. of Units	Installed Capacity (MW)
Coal	0	0	12	1,680	24	6,382
Natural Gas	0	0	75	9,612	72	5,778
Nuclear	0	0	0	0	0	0
Oil	0	0	5	13	7	205
Water	1	8	11	47	12	24
Wind	6	379	94	3,908	56	2,836
Biomass	5	23	59	252	73	292
Geothermal Steam	0	0	5	24	0	0
Solar	12	76	144	519	52	144
Waste Heat	0	0	1	135	4	96
Other	0	0	10	20	0	0
<b>Total</b>	<b>24</b>	<b>485</b>	<b>416</b>	<b>16,210</b>	<b>300</b>	<b>15,757</b>

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

**Total Installed Operating Generation Capacity**

Primary Fuel Type	Installed Capacity (GW)	% of Total Capacity
Coal	343.51	29.97%
Natural Gas	477.67	41.67%
Nuclear	108.39	9.45%
Oil	52.95	4.62%
Water	99.54	8.68%
Wind	43.62	3.80%
Biomass	13.60	1.19%
Geothermal Steam	3.40	0.30%
Solar	1.68	0.15%
Waste Heat	0.97	0.08%
Other	1.03	0.09%
<b>Total</b>	<b>1,146.35</b>	<b>100.00%</b>

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

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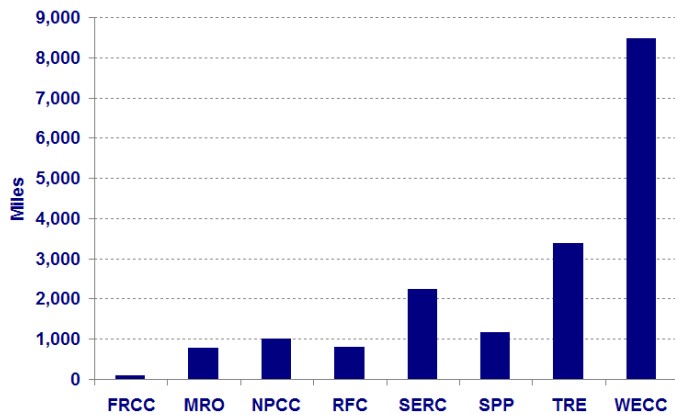
For October 2011

### Electric Transmission Highlights

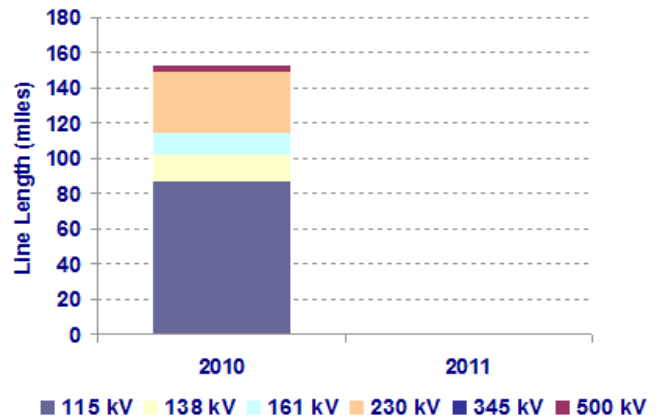
- American Transmission Co. LLC plans to build a 5.3 mile long, 345-kV interstate transmission line from the Pleasant Prairie substation in Wisconsin to the Zion Energy Center substation in Zion, Illinois. The project is estimated to cost \$31 million and is expected to be in service in 2014.
- Clean Line Energy Partners, a private transmission developer, has entered into a memorandum of understanding (MOU) with the Tennessee Valley Authority. The MOU allows TVA to study potential benefits of the proposed Plains and Eastern Clean Line project. The proposed 800-mile, \$3.5 billion, HVDC transmission line projects could bring wind energy from Oklahoma and Kansas to the Southeastern Region.
- U.S. Senators Maria Cantwell and Patty Murray of the State of Washington have asked Stephen Wright, the Bonneville Power Administration (BPA) Administrator, to delay the release of the draft environmental impact statement of the I-5 Corridor Reinforcement until January 2012. The 70 mile long, 500kV I-5 Corridor Reinforcement Project is the first high-voltage project in the region in more than 40 years. The interstate transmission project would run between Castle Rock, Washington, and Troutdale, Oregon, near Portland.
- The San Luis-Calumet-Comanche line, a joint project with cooperative utility Tri-State Generation and Transmission Inc. and Xcel Energy Inc. has been canceled due to a drop in the load forecast. The 100 mile long project had also experienced delays due to siting and permitting.

Voltage (kV)	Transmission Projects Completed		Proposed Transmission Projects In-Service by October 2013	
	October 2011	October 2010	High Probability of Completion	All
	Line Length (miles)			
≤230	0	148.9	3,113.7	5,983.3
345	0	0	4,481.6	5,929.2
500	0	4.0	1,734.8	6,028.5
<b>Total U.S.</b>	<b>0</b>	<b>152.9</b>	<b>9,330.1</b>	<b>17,941.0</b>

**Transmission Projects with a Proposed In-Service Date by October 2013**



**Transmission Projects Completed in October**



**Sources:** Data derived from Staff Database and U.S. Electric Transmission Projects ©2011 The C-Three Group, LLC

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