Federal Energy Regulatory Commission

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Technical Conference on Environmental Regulations and Electric Reliability, Wholesale Electricity Markets, and Energy Infrastructure

Statement of

Commissioner David P. Littell,

Maine Public Utilities Commission

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Thank you for holding these technical conferences and for asking for our input in your review of the role the Commission may take to assist states and oversee implementation of U.S. EPA's proposed carbon emission rules for existing power plants in areas within the Commission's jurisdiction. The FERC has a potentially significant role in bringing its expertise and economical rationality to both the implementation process for the proposed Clean Power Plan ("CPP") and to consideration of impacts on Commission-jurisdictional markets. In reviewing RTO/ISO tariffs and utility tariffs, the FERC will play an important, if implicit, role in reviewing mechanisms that could complement wholesale and interstate market transition to compliance with a final Clean Power Plan adopted by the U.S. EPA. The wholesale and interstate markets under appropriate guidance and oversight can accommodate efficient implementation of state and regional compliance plans. On the other hand, a poor or botched implementation could lead to dislocations and disproportionate costs for certain stakeholders and sets of citizens and ratepayers.

1. New England and the Northeast Experience with Carbon Emission Reductions

My state of Maine has already realized significant reductions in greenhouse gas emissions and its emissions rate through transition to less-carbon intensive fuels for generation, use of more renewable energy and cost-effective energy efficiency over the past decades. The emission reductions achieved in Maine since 2002 exceed the national goal of a 30 percent reduction by a substantial amount. The investments made in Maine – increased renewable generation, cost-effective efficiency programs for the residential, commercial and industrial sectors, and transition to less-carbon intensive fuels for generation – mirror the elements of the CPP emission reduction building blocks two through four.

In the last 10 to 15 years, both Maine's renewable energy and energy efficiency programs have become among the most highly developed in the nation. By 2015 Maine has already spent a decade implementing one of the strongest RPS requirements in the U.S. As a percentage of load, Maine generates more electricity from renewable resources than any other

state east of the Mississippi. Maine is a net exporter of electricity, renewable energy, and renewable energy credits to the Northeast regional grid and markets.

Maine also invested substantial funds (RGGI auction proceeds, ratepayer assessments and other funding streams) in efficiency and saw five natural gas combined cycle power plants built following electricity restructuring in the late 1990s. These investments and laws produced significant emission reductions for Maine; exceeding those EPA is projecting nationally with the CPP. During the period 2002 to 2012, Maine's power sector emissions declined by 58 percent.[1] In short, Maine has already achieved many of the goals of the CPP.

The same is true of the RGGI states, which have seen power sector carbon emissions decline by more than 40 percent from 2005 to 2012 even as the regional economy has grown. This decline in emissions is due to multiple influences, some of which predate RGGI, and all of which work to drive emissions below the RGGI cap. The RGGI states as a whole have adopted the nation's most demanding renewable portfolio standard programs as well as statute and rules that provide support for long-term contracts for renewable generation and net metering tariffs. In addition, investments in energy efficiency have reduced the amount of load to be served in the RGGI states and thus necessary power plant generation. The RGGI states also implemented regulatory programs directed at pollutants, such as air toxics and criteria air pollutants, which appear to have encouraged a transition from high-emitting power plants to renewable energy and lower-emitting natural gas generation. Perhaps most significantly, electricity market restructuring unleashed market forces to enable competitive generation investments in natural gas and renewable capacity additions. The same transition is possible in non-restructured markets of course; the RGGI states' experience demonstrates that carbon emissions reductions in excess of 40 percent are feasible, achievable, cost-effective and economically beneficial. This transition over roughly a decade has been well implemented in the ordinary course of utility and RTO/ISO work with no impact on electrical reliability.

[1] Maine's emissions from 2002 to 2004 averaged 5.04 million tons annually. Average emissions from 2010 to 2012 were 2.12 million tons annually. EPA Emissions from Fossil Fuel Combustion, http://epa.gov/statelocalclimate/documents/pdf/CO2FFC_2012.pdf.

For example, Maryland has achieved a 14.6 percent reduction in peak electricity demand from a 2007 baseline—equivalent to avoiding one power plant—thus eliminating carbon emissions through electricity demand reductions.[2] Implementation of EmPOWER Maryland has avoided 1.3 million metric tons of carbon emissions.[3] The program has funded energy efficiency and direct load control measures that will reduce ratepayer electricity use by more than 2 million MWh per year and save $250 million annually.[4]

Massachusetts projects that its investment in energy efficiency from 2005 through 2015 will reduce the state's electricity demand by 17.1 percent, resulting in a total annual reduction of 3 million tons of carbon emissions in 2015.[5]

The New York State Energy Research and Development Authority (NYSERDA) estimates that the state's RPS, which requires 30 percent of electricity used by consumers to come from renewables by 2015, avoided 4.1 million tons of carbon emissions from 2006 to 2012.[6] Moreover, NYSERDA expects that renewable projects already initiated will inject $2.7 billion into the state's economy over their operating lives[7].

In 2012, over 46 percent of the RGGI states in-region electricity was generated from no or low carbon sources, such as nuclear, hydroelectric power, wind, biomass, solar thermal and photovoltaic, wood and wood derived fuels. In 2012, 9 percent of the RGGI states in-region generation was derived from coal down from 22 percent in 2005 and less than 1 percent of in-region generation was from petroleum down from 12 percent in 2005. Between 2005 and 2012, the RGGI states increased in-region, non-hydroelectric renewable generation

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[2] Communication with Maryland Energy Administration staff.

[3] Maryland Department of the Environment, Maryland's Greenhouse Gas Reduction Plan, 37 (Oct. 2013), http://climatechange.maryland.gov/site/assets/files/1392/mde_ggrp_report.pdf.

[4] Maryland Energy Administration, EmPOWER Maryland Planning, http://energy.maryland.gov/empower3/

[5] NESCAUM, States' Perspectives on EPA's Roadmap to Incorporate Energy Efficiency/Renewable Energy in NAAQS State Implementation Plans: Three Case Studies 28 (May 22, 2014), http://www.nescaum.org/documents/nescaum-final-rept-to-epa-ee-in-naaqs-sip-roadmap-case-studies- 20140522.pdf

[6] N.Y. State Energy Research & Development Authority, The New York State Renewable Portfolio Standard Performance Report 19 (2012), http://www.nyserda.ny.gov/Publications/Program-Planning-Status-and-Evaluation-Reports/Renewable-Portfolio-Standard-Reports.aspx.

[7] N.Y. State Energy Research & Development Authority, NYSERDA Renewable Portfolio Standard Main Tier 2013 Program Review Final Report September 5 (2013), http://www.nyserda.ny.gov/Publications/Program-Planning-Status-and-Evaluation-Reports.Renewable-Portfolio-Standard-Reports.aspx

by 47 percent. Solar and wind generation increased by 40 fold (more than 4000 percent). During the same period, the RGGI states as a whole increased in-region natural gas generation by 56 percent.[8]

2. Consequences of the CPP's Treatment of New Natural Gas Combined Cycle Generating Units

Maine's and the RGGI states' transition over roughly a decade to power system carbon emission reductions of more than 40 percent took place in the ordinary course of utility and RTO/ISO work with no impact on electrical reliability. Rather, the system has become strained through its very increased reliance upon natural gas. The regulatory and market structures that encourage increased reliance on natural gas power plants on the electrical side of FERC's jurisdiction have not been matched by changes to the regulatory regime on the interstate gas pipeline system to supply that very gas needed to the electricity plants.

This is a concern now and will continue to be because the CPP provides additional impetus to rely upon natural gas power plants and infrastructure that supports extraction, processing, transportation and delivery of natural gas to these generators. In short, the CPP will accentuate existing market, economic and regulatory trends that favor new natural gas fired power plants as well as replacing older retiring units and providing new capacity where needed. Some analysts project that incremental renewable generation and energy efficiency initiatives spurred by EPA's proposal will mitigate carbon prices and diminish incentives for new natural gas combined cycle entry; however, these same analysts conclude that current economic trends accentuated by EPA's rules will lead to a doubling of natural gas-fired power plant capacity and a doubling of natural gas fired electricity production given that new natural gas combined cycle units will likely represent the cheapest capacity options for meeting reliability targets.[9] Regardless of whether such precise projections are accurate, it is

[8] 1990 – 2012 Net Generation by State by Type of Producer by Energy Source (EIA-906, EIA-920, and EIA-923), U.S. Energy Information Administration (May 20, 2014), http://www.eia.gov/electricity/data/state/

[9] PJM Transmission Expansion Advisory Committee *PJM's Economic and Reliability Analysis of the EPA's Clean Power Plan (CPP)*. January 7, 2015. http://www.pjm.com/~/media/committees-groups/committees/teac/20150107/20150107-pjm-economic-and-reliability-analysis-of-the-epas-cpp.ashx

clear that more demand for natural gas generated electricity in turn will require attention to natural gas pipeline capacity. New England is right now confronting this issue.

It would appear that New England is a harbinger of what we will see in other regions. New England went from 15 percent of our electricity generated by natural gas plants in 2000 to 44 percent natural gas fired electricity in 2014.[10] In retrospect, this significant shift in reliance to natural gas occurred without adequate market incentives and rules to ensure that adequate pipeline capacity exists or be built to get the fuel to the power plants during times of peak natural gas demand on the pipelines. In turn, that fuel supply shortage from insufficient natural gas pipeline capacity led to textbook price spikes from a constrained supply and high demand during the winter of 2013/14 and occasions, such as the polar vortex. PJM also experienced similar price spikes.

Regardless of the CPP, the retirement of older generating units combined with lower gas prices and increasingly efficient gas generating technologies is driving a demand for the development of more gas-fired power plants and in turn more pipeline infrastructure. In a paper for the Eastern Interconnection States Planning Council ("EISPC"), ICF International estimated that the investment required for an optimal gas pipeline build out is $72 to $115 billion in the next 6 years depending on which of the three EISPC scenarios is examined. There is clearly money to be made for the pipeline industry between these estimates. In ICF's presentation of the study, they hypothesized this kind of investment might be seen in areas that remain vertically integrated, but that market or policy changes would probably be needed to drive the appropriate level of investment in unbundled markets.

In my view, the FERC has a role in examining and addressing inadequate market structures and inefficiencies between the gas pipeline operators and the power plants that need fuel. FERC oversees both markets: the interstate gas pipelines rates and terms of service and the wholesale and interstate electricity markets.

[10] Based on EIA date, the RGGI states as a whole generated 44% of their electrical supply from natural gas power plants in 2012. This represents an increase from 25% of electricity supply from natural gas power plants in 2005. *See infra fn. 2,* 1990 – 2012 Net Generation by State by Type of Producer by Energy Source (EIA).

On FERC's natural gas jurisdiction, the current market rules pertaining to natural gas pipelines could require more frequent nomination cycles to utilize current capacity – for which ratepayers are paying -- more efficiently. Even during the polar vortex and significant price spikes, the existing gas pipeline capacity in PJM was not fully utilized.

On FERC's electricity market jurisdiction, the electricity markets are not set up to recognize the value of secure and reliable natural gas supplies for power plants. Power plants are not required to have firm gas supplies. Market rules that require, or at least encourage, power plants to have firm gas supplies could help resolve this issue. Without endorsing or recommending any particular solution, I note this could be addressed in the electricity market with a supply bid procedure that allows bid costs to incorporate cost of gas contracts with pipeline companies or indirect contracts through gas marketers that provide secure and reliable sources for power plants to run when needed. Or the lack of firm gas supplies for power plants could be addressed in the forward capacity market.

Recent attempts to synchronize the natural gas day with the electricity day are encouraging, but have much longer to go. There are obvious issues of market transparency and efficiency to be gained from public clearinghouses (industry-wide bulletin boards) to post natural gas pipeline capacity available for release or a similar system to enhance trading in unused or under-utilized pipeline capacity.

One question I pose is whether alignment of the generation nomination and dispatch schedules across the Eastern Interconnection – or at least in organized markets – makes sense. The pipelines have a standard "gas day" because of their very large interstate footprints; these intrastate pipelines have long had a standard gas day. Changing the start time of the day of the gas day and coordinating that with how regions conduct electricity bid days is now before the FERC. As the states worked through EISPC, it has become increasingly clear that while the ownership of the electric grid is divided between utilities, the electricity grid itself is every bit as much an interstate facility as are the pipelines in our small states with an ISO/RTO that spans may states. So my question is: why not a standard electric day? It could be aligned to be complimentary to the gas day. All generation schedules would be fixed at the same time, all would

have access to gas supply at the same time. Currently generators in New York receive their dispatch assignments one hour before generators in New England and can do fuel procurement each day an hour earlier. It seems that a standard "electric day" would not only provide for fairer trading, it might also facilitate balancing between RTOs for electricity transfers.

The Maine Commission's direct observation of the New England market, and our understanding of others, is that gas fired merchant generators acquire their fuel from marketers through secondary markets. The marketers and the secondary market**,** both unregulated**,** are a valuable bridge between the two industries: they allocate a scarce resource according to an economic need:

- The marketers provide generators access to a wide variety of contract paths, storage resources, and supply points; and
- The revenues from released spare capacity provide value to LDC customers.

The open question is whether something can be done with the capacity release rules, which only allow market value for capacity releases of a year or less (everything else being at a tariff cost of service rate) that will incent investment by this unregulated community in infrastructure that brings efficiency and transparency to acquisition of fuel supply by gas fired merchant generators.

These market trends favoring new natural gas power plants and a shift to natural gas generated electricity supply existed prior to the CPP, and these market issues existing prior to the CPP require attention regardless of the CPP. Likewise the fundamental economics of inexpensive natural gas in the last six years combined with inexpensive gas turbine capacity development costs that heavily favor a shift in capacity and energy supply to natural gas played out in the RGGI states including New England. In this regard, New England is merely the canary in the coal mine of what well could be seen in other parts of the country if demand for natural gas outstrips available interstate pipeline capacity.

3. Existing and New Renewables Markets Are Imperfect and Could Benefit from Uniform Criteria or Metrics for Environmental Attributes Related to Energy Generation

Electricity is generated, consumed and transmitted on a regional basis – not within state borders. Power plants are dispatched and scheduled by ISONE, NYISO and PJM in our part of the U.S. and electricity flows freely across state borders to serve load where needed. Moreover, the renewable energy credit (REC) markets are regional markets within the Northeast including New England and New York. RECs are freely traded within the Northeast (New England and New York) and this market, like the RGGI market, is regionalized.

In general, Maine supports regional approaches as the most cost-effective way for states to reduce power sector carbon emissions and realize possibilities for least cost reductions. Regional approaches reflect the regional nature of the grid. Both the EPA's RPS approach and the EPA's regionalization approach put forth in its subsequent Notice of Data Availability (NODA)[11] recognize this fundamental attribute of electricity generation that usage and transmission within regions satisfies various state RPS and renewable content requirements.

The opportunities for developing renewable energy are regional in nature. Where states are joined by a regional grid and participate in a regional REC market, as among New England and New York, whether a renewable generation unit is developed does not depend on state borders. Transmission constraints on the regional interstate grid are the most significant barrier rather than state borders for renewable power.

A few facts from my state highlight the regional nature of the electricity grid in the Northeast. More than 900 MW of approximately 1300 MW of existing, under construction and in permitting capacity is under contract with utilities or entities outside of Maine (see Appendix 1). Moreover, 100 percent of the existing wind generation in Maine is REC qualified for sale of RECs into other New England state RPS programs. A list of states in which Maine's renewable projects qualified to sell RECs is attached (see Appendix 2).

[11] US EPA Clean Power Plan Proposed Rule Notice of Data Availability - Oct. 2014 http://www2.epa.gov/sites/production/files/2014-10/documents/20141028noda-clean-power-plan.pdf.

These renewable attributes, traded in REC markets, are a creature of state laws and rules supported by regional clearinghouses, such as GIS in New England and GATS in PJM. The REC markets are somewhat balkanized with states recognizing and accepting only certain types of RECs for purposes of compliance by load serving entities. States have different classes of RECs that trade at different values, carve-outs and unique categories. Some states recognize new resources in different classes from existing and different levels of quality as well as supply and demand for particular classes of RECs.

If EPA is to rely upon RECs for state compliance with the CPP, or the functional equivalent thereof, there may be a role for an agency with expertise in energy markets to assist or provide a structure for guidance, ratings or metrics to provide some measure of consistent approach(es), uniform economic methodology and perhaps efficiency to different definitions of environmental attributes, such as RECs for purposes of compliance value for emissions reductions under a federally administered system that recognizes the economic value of those attributes for compliance purposes.

The so-called “seams” issue, which refers to measurement quality issues for emissions across states needs resolution for REC and renewable project credits under any approach to building block three. Projects located in a state with a rate-based system may have an incentive to sell their electrical supply or RECs into states that adopt a mass-based approach. Yet a sale of renewable energy or REC from a rate-based state into a mass-based state might create paper only emissions reductions without any emissions reductions in the real world: a financial transaction that does not mirror a real, verifiable, emissions reduction. The states and EPA would benefit from FERC’s expertise in markets and trading of electricity supply obligations, interstate transactions and wholesale energy markets to ensure the plans under the CPP provide safe, reliable, real, enforceable, additional and verifiable emissions reductions.

Appendix 1

Recent Maine Renewable Projects – Status and PPA 11/2014			
Facility Name	Nameplate Capacity	Status	PPA
Mars Hill	42MW	In Operation	NB Power through 2015
Stetson I and II	83MW	In Operation	Stetson I – merchant Stetson II – 50% merchant; 50% PPA to Harvard Univ.
Kibby	132MW	In Operation	Transcanada short term PPA; 10 year 30MW with NSTAR
Oakfield	147MW	Under construction	PPA with four MA utilities
Vinalhaven	4.5MW	In Operation	REC multiplier (state of ME)
Beaver Ridge	4.5MW	In Operation	PPA with NH utility
Rollins	60MW	In Operation	PPA with ME utilities (20% Emera; 80% CMP)
Record Hill	50MW	In Operation	Merchant
Spruce Mountain	20MW	In Operation	PPA with MA municipalities & one RI municipality
Bull Hill	34MW	In Operation	PPA with NStar (MA)
Passadumkeag	42MW	Permit denied; denial overturned by BEP; appealed to Law Court ; law court upholds BEP	Had a PPA in MA, but withdrew
Hancock Wind (Bull Hill 2)	54MW	Permit approved; appealed; BEP dismissed appeals; developer seeks amended permit	PPA with VT for 25%; PPA with MA Municipal Wholesale Electric Co. for 75%
Saddleback Wind	34MW	Under construction	PPA with MA utilities and one VT municipality
Number Nine	250MW		PPA with CT utilities (2)
Bingham Wind	186MW	Permit approved; under appeal	PPA with four MA utilities
Bowers		Permit denied; under appeal	PPA with RI utility (Nat'l Grid)
Apex Downeast	90MW		PPA with ME utilities
Jonesport Wind	9.6MW		PPA with ME utilities (Community Pilot)
Pigsah	9MW		PPA with ME utilities (Community Pilot)
Shamrock Partners	10MW		PPA for 4MW (Community Pilot)
ORPC	5MW	In Operation	PPA with ME utilities (Ocean Energy Act)
Sisk Mountain	44MW	Approved	
Canton Mountain	22MW	Permit approved; appealed; BEP upheld permit approval	

Appendix 2
2014 Eligibility of Maine Renewable Generating Facilities in Other State RPS Programs

Plant – Unit	Fuel Type	CT Class I	CT Class II	MA Class I	MA Class II	RI New	RI Existing	NH Class I	NH Class IV
BUCKSPRT - VERSO BUCKSPORT G5	Biomass					Yes			
DEBLOIS - DOWNEAST POWER	Biomass			Yes					
GUILFORD - GALLOP POWER GREENVILLE	Biomass			Yes					
BIGELOW - REENERGY STRATTON	Biomass		Yes						
LVER-AEI - REENERGY LIVERMORE FALLS	Biomass		Yes						
WASHNGTN - COVANTA JONESBORO	Biomass		Yes	Yes					
ENFLD_ME - COVANTA WEST ENFIELD	Biomass		Yes	Yes		Yes	Yes		
UNDER5MW - EXETER AGRI ENERGY	Digester gas					Yes			
Lewiston-Auburn WPCA Anaerobic Digestor - Lewiston-Auburn WPCA Anaerobic Digestor Unit #1	Digester gas			Yes					
UNDER5MW - HOWLAND	Hydroelectric/Hydropower								Yes
UNDER5MW - DAMARISCOTTA HYDRO	Hydroelectric/Hydropower								Yes
UNDER5MW - PUMPKIN HILL	Hydroelectric/Hydropower								Yes
MOSHERS - HYDRO KENNEBEC	Hydroelectric/Hydropower						Yes		
RUMFORD - AZISCOHOS HYDRO	Hydroelectric/Hydropower						Yes		
UNDER5MW - BRASSUA HYDRO	Hydroelectric/Hydropower						Yes		
GULFISLD - GULF ISLAND COMPOSITE	Hydroelectric/Hydropower						Yes		
LAKEWOOD - WESTON	Hydroelectric/Hydropower						Yes		
LEWSTN_L - MONTY	Hydroelectric/Hydropower						Yes		
LOUDEN - BAR MILLS	Hydroelectric/Hydropower						Yes		
LOUDEN - CATARACT EAST	Hydroelectric/Hydropower						Yes		
LOUDEN - SKELTON	Hydroelectric/Hydropower						Yes		
TOPSHAM - BRUNSWICK	Hydroelectric/Hydropower						Yes		
W_BUXTON - BONNY EAGLE/W. BUXTON	Hydroelectric/Hydropower						Yes		
W_BUXTON - HIRAM	Hydroelectric/Hydropower						Yes		
WILLIAM - WILLIAMS	Hydroelectric/Hydropower						Yes		
WINSLOW - SHAWMUT	Hydroelectric/Hydropower						Yes		
UNDER5MW - ORONO B HYDRO	Hydroelectric/Hydropower					Yes			
Kennebec Water U5 - Kennebec Water U5	Hydroelectric/Hydropower				Yes				
Jay - Jay No. 1	Hydroelectric/Hydropower				Yes				
Jay - Jay No. 2	Hydroelectric/Hydropower				Yes				
Jay - Jay No. 3	Hydroelectric/Hydropower				Yes				
Jay - Jay No. 4	Hydroelectric/Hydropower				Yes				
Jay - Jay No. 5	Hydroelectric/Hydropower				Yes				
Jay - Jay No. 6	Hydroelectric/Hydropower				Yes				
UNDER5MW - MEDWAY	Hydroelectric/Hydropower				Yes				Yes
UNDER5MW - STILLWATER	Hydroelectric/Hydropower				Yes				Yes

UNDER5MW - STILLWATER B HYDRO	Hydroelectric/Hydropower			Yes					
BOIS_CAS - RUMFORD FALLS	Hydroelectric/Hydropower			Yes					
TOPSHAM - MILLER HYDRO	Hydroelectric/Hydropower			Yes					
Livermore Falls - Livermore No. 1	Hydroelectric/Hydropower			Yes					
Livermore Falls - Livermore No. 2	Hydroelectric/Hydropower			Yes					
Livermore Falls - Livermore No. 3	Hydroelectric/Hydropower			Yes					
Livermore Falls - Livermore No. 4	Hydroelectric/Hydropower			Yes					
Livermore Falls - Livermore No. 5	Hydroelectric/Hydropower			Yes					
Livermore Falls - Livermore No. 6	Hydroelectric/Hydropower			Yes					
Livermore Falls - Livermore No. 7	Hydroelectric/Hydropower			Yes					
Livermore Falls - Livermore No. 8	Hydroelectric/Hydropower			Yes					
Livermore Falls - Livermore No. 9	Hydroelectric/Hydropower			Yes					
GRAHAM - MILFORD HYDRO	Hydroelectric/Hydropower			Yes	Yes			Yes	
UNDER5MW - BARKER LOWER HYDRO	Hydroelectric/Hydropower		Yes						
UNDER5MW - BARKER UPPER HYDRO	Hydroelectric/Hydropower		Yes						
UNDER5MW - GARDINER HYDRO	Hydroelectric/Hydropower		Yes						
UNDER5MW - GREAT WORKS COMPOSITE	Hydroelectric/Hydropower		Yes						
UNDER5MW - GREENVILLE HYDRO	Hydroelectric/Hydropower		Yes						
UNDER5MW - MECHANIC FALLS HYDRO	Hydroelectric/Hydropower		Yes						
UNDER5MW - NORWAY HYDRO	Hydroelectric/Hydropower		Yes						
UNDER5MW - YORK HYDRO	Hydroelectric/Hydropower		Yes						
UNDER5MW - WAVERLY AVENUE HYDRO	Hydroelectric/Hydropower		Yes						
UNDER5MW - LEDGEMERE	Hydroelectric/Hydropower		Yes						
UNDER5MW - LEWISTON U5	Hydroelectric/Hydropower		Yes						
UNDER5MW - SYSKO GARDNER BROOK U5	Hydroelectric/Hydropower		Yes						
UNDER5MW - ROCKY GORGE CORPORATION	Hydroelectric/Hydropower		Yes						
UNDER5MW - SPARHAWK	Hydroelectric/Hydropower		Yes						
UNDER5MW - SYSKO STONY BROOK	Hydroelectric/Hydropower		Yes						
UNDER5MW - SYSKO WIGHT BROOK	Hydroelectric/Hydropower		Yes						
UNDER5MW - BROWNS MILL HYDRO	Hydroelectric/Hydropower		Yes						Yes
UNDER5MW - PITTSFIELD HYDRO	Hydroelectric/Hydropower		Yes						Yes
LOUDEN - NORTH GORHAM	Hydroelectric/Hydropower		Yes				Yes		
UNDER5MW - SALMON FALLS HYDRO	Hydroelectric/Hydropower		Yes				Yes		Yes
UNDER5MW - KEZAR LOWER FALLS	Hydroelectric/Hydropower		Yes		Yes				
UNDER5MW - KEZAR UPPER FALLS	Hydroelectric/Hydropower		Yes		Yes				
UNDER5MW - KENNEBEC WATER U5	Hydroelectric/Hydropower		Yes		Yes				
UNDER5MW - MESSALONSKEE COMPOSITE	Hydroelectric/Hydropower		Yes		Yes				
UNDER5MW - BENTON FALLS HYDRO	Hydroelectric/Hydropower		Yes		Yes		Yes		Yes
Sebec Hydro - Sebec Electric	Hydroelectric/Hydropower	Yes							
UNDER5MW - EUSTIS HYDRO	Hydroelectric/Hydropower	Yes							
UNDER5MW - MARSH POWER	Hydroelectric/Hydropower	Yes							

UNDER5MW - UNION GAS STATION	Hydroelectric/Hydropower	Yes			Yes				
UNDER5MW - ORONO	Hydroelectric/Hydropower	Yes		Yes				Yes	
UNDER5MW - PINE TREE LFGTE	Landfill gas	Yes		Yes		Yes			
UNDER5MW - CROSSROADS LANDFILL	Landfill gas	Yes		Yes		Yes		Yes	
LOUDEN - MERC	Municipal solid waste		Yes						
UNDER5MW - COBSCOOK BAY TEP TGU 1	Ocean Tidal			Yes					
REC-MaryThron	Solar Photovoltaic			Yes					
Ashland - Ashland PV	Solar Photovoltaic			Yes					
Americas' Wood Company - Amwood Solar	Solar Photovoltaic			Yes					
Damariscotta Hardware - Damariscotta Hardware	Solar Photovoltaic			Yes					
Days Inn - So. Portland - Days Inn - So. Portland	Solar Photovoltaic			Yes					
Loring Solar II - Loring Solar II	Solar Photovoltaic			Yes					
Loring Solar One, LLC - Loring Developement	Solar Photovoltaic			Yes					
Boothbay Solar, LLC - Boothbay Solar, LLC	Solar Photovoltaic			Yes					
BRYMCA Solar, LLC - BRYMCA Solar, LLC	Solar Photovoltaic			Yes					
COA Solar, LLC - COA Solar, LLC	Solar Photovoltaic			Yes					
Eliot Solar, LLC - Eliot Solar, LLC	Solar Photovoltaic			Yes					
Oakhurst Dairy - Oakhurst Dairy	Solar Photovoltaic			Yes					
RTT Solar, LLC - RTT One	Solar Photovoltaic			Yes					
Scarborough Solar, LLC - Scarborough Solar, LLC	Solar Photovoltaic			Yes					
SOPO Solar, LLC - SOPO One	Solar Photovoltaic			Yes					
Thomas Solar LLC - Thomas One	Solar Photovoltaic			Yes					
Unity Solar, LLC - Unity One	Solar Photovoltaic			Yes					
Windham Solar, LLC - Windham Solar, LLC	Solar Photovoltaic			Yes					
Yarmouth Solar, LLC - Yarmouth Solar, LLC	Solar Photovoltaic			Yes					
York Beach Fire Station - York Beach Fire Station	Solar Photovoltaic			Yes					
BEE Co - CT9 - Baily Island PV	Solar Photovoltaic	Yes							
BEE Co: CT ME NH RI - PV	Solar Photovoltaic	Yes							
SPRNG_ST - Eco Maine	Trash-to-energy		Yes						
CHEMICAL - PERC-ORRINGTON 1	Trash-to-energy		Yes						
BULL_HL - BULL HILL WIND	Wind			Yes					
UNDER5MW - FOX ISLAND WIND	Wind			Yes					
UNDER5MW - FOX ISLAND WIND2	Wind			Yes					
UNDER5MW - BEAVER RIDGE WIND	Wind			Yes				Yes	
WOODSTCK - SPRUCE MOUNTAIN WIND	Wind	Yes		Yes					
KIBBY - KIBBY WIND POWER	Wind	Yes		Yes					
ROLLINS - ROLLINS WIND PLANT	Wind	Yes		Yes				Yes	
STETSON - STETSON WIND FARM	Wind	Yes		Yes		Yes		Yes	
ROXBURY - RECORD HILL WIND	Wind	Yes		Yes		Yes		Yes	
STETSON - STETSON II WIND FARM	Wind	Yes		Yes		Yes		Yes	
BUCKSPRT - VERSO BUCKSPORT G5	Wood					Yes			

UNDER5MW - J & L ELECTRIC - BIOMASS I	Wood	Yes							
Bigelow - Boralex Stratton	Wood	Yes							
BIGELOW - REENERGY STRATTON	Wood	Yes							
LVER-AEI - REENERGY LIVERMORE FALLS	Wood	Yes							