

Notes from Governor's Ocean Energy Task Force

Sub-Committee #3 Grid Access, Transmission and Utility Incentives Meeting held January 23rd, 2009

Members Present:

David Flanagan, Chair
George Baker
Senator Barry Hobbins
John Kerry
George Hart
Beth Nagsuky, Co-Chair, OETF

Members not Present:

Sharon Reishus, Chair, MPUC

Interested Parties Present:

Jeremy Payne, Independent Energy Producers of Maine
Suzanne Sayer
Lisa Martin, Bangor Hydro
Denis Bergeron, MPUC
Sarah Tracy, Bernstein Shur
Jennifer Puser, Gov's Energy Office Staff

NEXT MEETING: February 23, 2009

**Department of Environmental Protection, Tyson Building, Large Conference Room
Will have conference call-in option.**

(Jennifer Puser will send around notes and various articles and studies related to the following discussion.)

NOTES:

Reviewed the scope of work and goals for Sub-Committee #3.

Members and Interested Parties of the sub-committee took on written research "assignments" (1-page in length suggested) from the scope of work due to David Flanagan, Chair by February 16th. (See corresponding names to issue areas.)

Final goal is to provide analysis, recommendations and proposals for legislation/policies to the full Ocean Energy Task Force on the following issue areas.

Utility Regulatory Environment:

- Identify any existing market structure, utility regulation or other impediments to development of ocean renewable energy resources. (**Denis Bergeron/George Baker short-term; Suzanne Sayer long-term**)
- Recommend changes to market and utility policy to promote the development of ocean renewable energy resources in Maine. (**Denis Bergeron**)

Transmission Capacity:

- Identify the current available capacity for transmitting energy from or through Maine to the New England market and the amount available for incremental North to South transmission through Maine. (**Lisa Martin and John Kerry**)
- Recommend changes to market and utility policy to promote the development of ocean renewable energy resources in Maine. (**Lisa Marin and John Kerry**)

It was agreed there is a need for a common understanding among the Task Force members of how transmission works. (**Lisa and Denis volunteered to broaden our understanding.**)

Interconnection:

- Identify potential points for physical interconnection of offshore wind and tidal projects. (**Jeremy Payne and Sarah Tracy**)

Discussed the need for developing data sets and defining wind permitting areas and knowing where interconnection points are.

Discussed whether the recommendation for the MPUC to conduct a technical feasibility interconnection study on wind, included in the Governor's Wind Power Task Force, was undertaken. (**Denis Bergeron** is to check with the MPUC.)

It was suggested by Denis Bergeron that a conversation needs to take place about whether ISO-NE is being too conservative on how much reliability is enough. Reliability studies that were once voluntary are mandatory. NERC sets broad standards, then the reliability council for the region, ISO-NE enforces the standards.

Discussed what types of upgrades are necessary to accommodate a large influx of wind/renewable power into the system. In addition, what will the impacts be if new technologies such as storage devices, heat pumps and plug-in hybrids are added onto the electrical grid.

Discussed identifying goals and coming up with specific action steps and timetables to accomplish.

Discussed the three ways to interconnect and finance transmission under ISO-NE's open access tariff rules:

- 1) reliability upgrades
- 2) economic upgrades
- 3) elective upgrades.

- Identify any ISO-NE requirements that would hinder interconnection of ocean energy projects and recommend how to resolve them. (**Agreed that there are no barriers.**)

Jeremy Payne knows someone at ISO-NE who might be willing to give a presentation to the sub-committee on this topic.

Offshore Wind System Characteristics:

- How do tidal and offshore wind energy generation compare to peak load requirements in New England? (**John Kerry**)
- What challenges does the grid face with integration of several hundred or several thousand megawatts of ocean renewable energy in Maine and New England and how are those challenges being addressed. (**Jeremy Payne**)

Discussed two scenarios of power generation: export and domestic.

Should investigate how dispatchable power systems work. (Boulder article is good background on this.) Was mentioned that the “green line” project should be considered and possibly bringing in Steve Conant for a more in-depth discussion with the sub-committee.

Need to focus on short-term and long-term solutions. Other large wind projects like Cape Wind and Rhode Island’s project are trying to get into the ISO queue. There is a lot of competition.

Maine needs to determine how much offshore wind we can bring on without disrupting the balance and determine the costs, while exploring smart grid technology.

- How is wind integration and system stability affected by the end uses of wind power (i.e. for transportation/home heating as opposed to historic electric grid uses)? (**George Hart has a study he will share with the sub-committee.**)
- Would adoption of “smart grid” technology or the installation of residential TOU meters on a wide scale basis help spur the development of a market for and penetration of use of electricity in home heating and transportation sectors? Are there any plans in Maine to promote these practices, and if so when and at what cost? (**George Hart will share information.**)

Discussed how wind is an intermittent resource and reserves are needed. Automatic voltage regulators do not moderate load and cannot store power. With current technology only 20% of the total amount of power generated can be used and needs to be balanced, which can be done with new technologies through electric heating, transportation (plug-in hybrids).

Economics:

- Quantify the cost of adding transmission capacity in Maine to support development of reasonably foreseeable amount of ocean renewable energy resources and identify how the costs of adding such capacity would be allocated. **(George Baker, Lisa Martin and John Kerry.)**
- Identify the costs of leasing submerged lands for construction of underwater transmission facilities and recommend any changes to submerged land leasing policies or practices.

Discussed the existing electricity rate structure and how we currently pay for energy and transmission and delivery costs. George Baker thought it is too expensive now to allow for the purchase of electricity when transportation and heating is thrown into the mix.

Should explore what rate structures should look like in the future as renewable energy storage technologies develop. Oregon has heat pumps that are paid through the utility bill which is a “pay as you go” plan. The utilities help install the storage devices.

Discussed that falling oil prices are not a reason to be complacent but that we should position ourselves to make progress on cutting our use of oil.

Discussed the Federal Economic Stimulus Package funds that will be available for smart grid improvements and research and development for offshore wind. Maine should take advantage of these funds.

Quantifying and Capturing and Tangible State Benefits of Ocean Energy Development:

- Identify the tangible benefits of renewable ocean energy development for local communities impacted directly and the State of Maine generally. **(Sarah Tracy and Jeremy Payne)**
- What regulations/incentives should be put in place in Maine to retain economic benefits for local communities, other impacted stakeholders and state? **(Jeremy Payne)**

Discussed that the regulatory group is focusing on the second bullet under this issue area.