

DEC 13 2010

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Thomas Burack - Chairman  
Site Evaluation Committee  
29 Hazen Drive  
Concord, New Hampshire 03302-0095

November 28, 2010

Dear Sir:

Subject: Groton wind farm

The commentary in the Record Enterprise of October 28, 2010, by Jim Buttolph is absolutely correct. Having spent my life in the energy industry and having been through similar periods of pressure to reduce imports of oil in the 60's, 70's, and 80's; I felt a responsibility to present a few thoughts for consideration by your committee.

1 Windmills have been a part of the energy mix in the United States since the early 20th century. Only in the latter part of those years was there a meaningful attempt to design and install equipment that would capture the free wind's energy and convert it to usable electricity. The cost of manufacture and installation in locations of high and hopefully constant wind has always resulted in a high cost per kwh and variable electric output. the cost of which far exceeds any other alternative. Usually, an economic evaluation of a site on an annual basis assumes that maintenance will approach \$60,000 per year and revenue producing power will be around 20% of installed capacity. As a business venture, without free taxpayer money and an electric utility purchase contract in the \$.20 /kwh; range, such a project won't procede.

2 The power produced is low voltage, direct current from the generators, (sometimes alternating current). Whichever type of electricity is produced, it must be converted into alternating current that has a smooth wave pattern (not square as results from converting DC to AC) and a voltage and phase configuration to match the power line it enters. Each time the electricity passes through wires, brass boards, or transformers it will convert some of the electricity to heat, reducing that power available to produce revenue. Another loss is in the gathering system from windmill to windmill and then to the grid. All contributing to the bad economics of the type of generation.

3 The inconsistency of the wind to the generator and the utility power purchaser create a situation where the power doesn't arrive when it is needed. Hourly and daily power usage cycles have peaks and valleys for all of a utilities various customers. They try to utilize the least expensive power first and the most expensive last. The expensive wind power comes as the wind determines and will force the utility to back down a lower cost source unnecessarily. Such action will result in higher rates to its customers.

4 In the 80's, responding to political pressure, a number of power plants were constructed in New Hampshire that generated utility power from steam turbines fuelled by our indigenous and renewable wood waste. Some supplimented the wood chips with burnable municipal waste products. The utility (PSNH) contracted for the power (at a high cost) and many jobs were created from the woodlots to the power plants. Woodcutters, chippers, loaders, truckers, power plant operators, and owners all had year round jobs backed by the utility long term contracts. Later, with approval of the NH PUC, the utility bought out the contracts and shut down the power plants and the jobs. The last time I flew over some of the locations the plants were still there.

My recommendations might not all be appropriate to your committee, but they are as follows:

Send the millions of dollars the Spanish have, and the Chinese have, back to the US treasurer and have him deduct it from the deficit.

Put the wood chip plants back in service. They are all paid for and will create a job base that is badly needed. The electric power should cost much less than the windpower.

Since the windpower system is lacking economically for all but the spanish, when the fad is over in Washington and the electric contracts are cancelled, someone must restore the ridge locations to their original. If you recommend that they be constructed, I strongly urge that a large amount of money be placed in escrow for the removal of all equipment, buildings, and foundations in the process of restoration.

Cordially: Dick Bleakney



cc: Executive Councilor Burton  
Jim Buttolph