

Stratham Energy Commission Meeting Minutes

Date: April 9, 2014

Commission members present:

John Dold

Michael Gorman

James Schlough

also present: Chris Treadwell, Keith McBrien

The April Energy Commission meeting was conducted at the Stratham Memorial School with the school's board at its monthly meeting to present the results of the energy audit of the school performed by UNH senior Chris Treadwell. The presentation began at 8:03.

The normal business of approving minutes of the March meeting was postponed until the May meeting. No business other than the presentation was conducted.

Chairman John Dold introduced Chris, Keith, and the members of the commission present. He then explained how this energy audit project came to fruition. Keith McBrien's employer, GDS Associates, funded a search for municipal needs for energy audits. Keith was Chris's senior project advisor and it was Chris who cold-called John to see if Stratham could use these services. John explained that this was an ideal fit for the commission's interest in expanding its work into the school facilities in which Stratham participates.

Chris began his prepared Power Point presentation. He explained that data on the school building and its energy systems was collected during a walk through of the school conducted on February 26th with John, Keith and Bob McAlpine, head custodian. This data was entered into the computer application eQuest to model the building and predict the appropriate energy consumption. The monthly energy use of electric, propane and fuel oil for the past three years was displayed in bar graphs. An initial reaction to higher electrical use in August was explained by Keith as due to the recreation program which used the air conditioning in the modular classrooms.

Chris explained that the boilers for building heating were 25 years old and that just replacing them with modern oil fired boilers would realize a saving. Going to a propane fired condensing boiler could save \$10,000 per year and that a wood pellet system could save about \$18,000 a year.

Chris detailed additional savings that could be realized. Using aerator faucets in sinks could save \$3000. A system of sensors on vending machines to monitor usage could reduce lighting and cooling needs in the machines. Switching lighting to LEDs and adopting Low Carbon Information Technology would provide additional electrical savings. Chris summarized these savings

by stating that adopting all of the recommendations would save \$23,450 if the pellet heating was used and \$16,080 with propane.

Mike Gorman asked if there was any sensitivity analysis performed for fluctuations in energy prices. That was not done, Chris said, and Keith added that he would expect the propane and wood pellet prices to be more stable than oil prices. He further explained that the wood pellet system would consume about 86 tons of pellets a year and that these would be delivered and stored in large hoppers. There would need to be about 1-2 maintenance visits a year and occasional cleaning requirements.

John noted that of the \$150,000 annual energy costs, \$50,000 of this is fuel oil. He questioned what would be the annual savings with more modern fuel-efficient oil-fired boilers. Chris said that savings had not been calculated.

Discussion moved to sources of financing for these energy upgrades. One source is a rebate from the New Hampshire Commercial & Industrial Bulk Fuel-Fed Wood-Pellet Central Heating Systems program for 30% of the system installation costs up to \$50,000. Additionally there are loans from \$5000 to \$400,000 from the NH Municipal Energy Reduction Fund. Unutil covers up to 35% of the installed cost for performance lighting upgrades. None of these savings had been included in the annual savings numbers detailed earlier.

Keith noted that many of the existing lighting fixtures had aged, yellowed reflecting surfaces that reduced their effectiveness.

SMS board member Bob O'Sullivan asked if geo-thermal options were considered. Keith said that without significant air-conditioning needs it wouldn't be beneficial. Bob noted that there seems to be long term resistance to the idea of adding air-conditioning to the school.

John made note of the heating loss around the skylights and suggested the use of automated curtains to limit that loss.

Bob asked John if it were up to him, what would be his recommendation. John responded that replacing the old boilers is the most obvious need and that if we had natural gas service that would be the best choice for fuel. John explained that gas service now stops at the Nissan dealership on Portsmouth Avenue. He said the future use of the Seacoast School of Technology might support extension of natural gas service to there and then it could possibly be extended to the school.

SMS Board Vice-Chair Travis Thompson asked about the expense of installing propane tanks and lines. Keith said he thought the propane supply company would provide that for any above ground installation but that below ground would be an expense.

The discussion ended at 8:37 with the board members congratulating Chris on a fine presentation.

The next meeting of the energy commission will be 7 pm, May 14th, at the Stratham Municipal Center.