ST. PHILIP'S A.C.W.

CHRISTMAS TEA

&

Bazaar

2.00 - 4.00 p.m.

SATURDAY NOVEMBER 22nd 2008

ST. PHILIP'S CHURCH HALL

MILFORD

Tea, Sandwiches & Sweets - $5.00 per person

Baked Goods, Crafts, Decorations & Gently Used Treasures

Coming to Cinefest:

Mon Nov 10, 2pm & 7:30 pm: Jellyfish

Mon Nov 24, 2pm & 7:30 pm: I Served The King of England

Myth Busting - *Continued from page 4*

supply or demand. As a result, the emissions and fuel use of non-spinning reserves are very low, given that they are only rarely deployed, the fact that hydroelectric plants (which have zero emissions and fuel use) often serve as non-spinning reserves, and the very modest efficiency penalty that applies when reserve natural gas plants are actually activated.

Very few electricity customers think about the complexity of the effort that goes into making sure that electricity supply is exactly matched to changes in electricity demand. Fortunately, the same tools that utility system operators use every day to deal with variations in electricity supply and demand can readily be used to accommodate the variability of wind energy.

In contrast to the rapid changes in electricity supply and demand that occur when a large power plant suddenly experiences an outage or when millions of people turn on their air conditioners on a hot day, changes in the total energy output from wind turbines spread over a reasonably large area tend to occur very slowly. While occasionally the wind may suddenly slow down at one location and cause the output from a single turbine to decrease, regions with high penetrations of wind energy tend to have several turbines spread over hundreds of miles. As a result, it typically takes many minutes or even hours for the total wind energy output of a region to change significantly. This makes it relatively easy for utility system operators to accommodate these changes without relying on reserves. This task can be made even easier with the use of wind energy forecasting, which allows system operators to predict changes in wind output hours or even days in advance with a high degree of accuracy and confidence.

Moreover, changes in aggregate wind generation often cancel out opposite changes in electricity demand, so the increase in total variability caused by adding wind to the system is often very low. In statistical terms, uncorrelated sources of volatility cancel each other out. As a result, it is usually possible to add a significant amount of wind energy without causing any increase in the use of reserves, and even when large amounts of wind are added, the increase in the use of reserves is typically very small.

- Don Ross