

## Consider wind farm maintenance

By JACK INGRAM

In a perfect world, wind energy is exactly what the human race needs. I could see a society where fossil fuels would no longer be needed to drive our energy addiction, and the air around us would be exceptionally clean.

Cape Wind proposes to build 130 turbines on Horseshoe Shoal covering a vast, shallow portion of Nantucket Sound. The whole project seems legitimate on various levels, but recent flaws with other wind farms in the United States raise practical maintenance concerns.

A strong maintenance system is vital to sustaining a wind farm in Nantucket Sound. My recent interviews with wind farm managers from across the country reveal that turbine maintenance programs lack consistency. In the U.S. there are only a few large-scale wind farms that have been attempted, and they are all located on easily accessible tracts of land.

Enxco's wind farms in Palm Springs, Calif., and Intrepid, Iowa, have turbine-to-technician ratios of 26:1 and 34:1. A low turbine-to-technician ratio is critical if a wind farm is going to operate at maximum efficiency levels. Several wind farm professionals said there are not enough qualified technicians in the country.

"Often times we need to steal technicians from other farms," says Mike Smith, operations manager for Century and Intrepid Wind farms in Iowa. "There are probably under 1000 technicians in the United States."

The size and placement of the turbines also contribute to the success of any wind farm project. Whitewater's turbines in Palm Springs range from 80 feet to 260 feet tall. Many of the Palm Springs turbines are not operating. Proposed turbines for Cape Cod would be gigantic - 417 feet tall. Planting turbines in Nantucket Sound's salt water will only pose a greater challenge for maintenance crews.

Unfortunately, how do we expect an offshore wind farm to succeed when other wind farms with smaller sized turbines that are on land fail to be maintained 100 percent of the time?

Smith reinforced my concern when he said "offshore wind has been a challenge because it's just that much harder." How can turbines in Nantucket Sound withstand a hurricane if smaller turbines cannot tolerate maximum winds? After speaking with wind farm technicians and managers, I have come to find out that it does not take much inclement weather to predispose wind turbines to breakdowns. The proposed Nantucket Sound site, combined with the lack of qualified technicians, should give us all cause for concern if the idealistic wind farm is to become a reality.

Through my conversations, I came to learn that turbines break down more often than technicians can keep up with routine maintenance.

Other than for safety considerations, I came to find out that there are few pre-qualifications to become a wind farm technician. To my knowledge, there are no wind farm certifications or standards for wind farm workers. More importantly, there is no training to contend with salt concerns or even hurricane force winds. Poor weather conditions, hurricane or not, will directly influence the effectiveness of turbines in Nantucket Sound.

These are just some of the subtle facts that may have been overlooked by others. I am 100 percent in favor of alternative energy resources. In fact, I worry about the rising price of fuel and wonder what my generation will do to meet future energy needs. Someday a similar wind farm proposal might work, but my investigation is saying to me - not today. Based on what I have learned, we do not want any Nantucket Sound wind farm turbines to become future maintenance disasters.

A wise man once told me, "Practical facts stand for themselves, but idealistic beliefs could go to the wind."

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(Published: May 8, 2006)

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