

Buffalo Gap Wind Project

Making a Texas-Size Difference

Merkel, TX

Photography by Christine Coates, Editor Wind Today

Barry and Monette Scott recently celebrated their thirty-third wedding anniversary. Thanks to the Buffalo Gap wind project, says Monette, they celebrated together at the home they purchased from Barry's aunt 33 years ago.

"The wind farm has been such a blessing to us," says Monette. "I've been able to stop working and stay home and take care of my husband."

The Scotts received lease income from the project's developer, AES Wind Generation, Arlington, VA, (www.aes.com) during construction, and now receive annual royalties based on the amount of electricity produced by the turbines on their property. "It's going to be enough so I don't have to work anymore," says Monette.

Barry Scott's great-grandfather settled the property near Merkel, TX in 1900. Twelve of the 67 Vestas 1.8 megawatt (MW) V80 wind turbines that comprise Buffalo Gap Phase 1 now stand on the wind ridge that is part of the 800 acres Barry and Monette own. The rest of their property still operates as farm land, pasture for grazing cattle, and hunting ground.

The Buffalo Gap Wind Project, approximately 40 miles southwest of Abilene, TX, shares the area's bluffs, buttes and ridges with four other developers. Driving south out of Merkel, TX on State Route 126 one can see hundreds of turbines standing high to the east, south, and west.

"This is a unique area," says

Greg Howard, project information manager for AES Wind Generation. "With nice, steady winds, with less turbulence, our production tends to remain steadier." Howard explains that steady winds make higher accuracy in forecasting possible, and turbines tend to pitch less, meaning pitch linkages last longer.

Brad Lukehart, site manager for AES, says the 40 days during construction when it was too windy to erect the tower tops and nacelles, prove the power of strong winds at Buffalo Gap.

"The wind can be an issue if it slows down construction," says Lukehart, "but we had a good contractor who stepped up to the plate and made things happen so they made their contractual dates in spite of the strong winds," he says.

According to Lukehart, construction at Buffalo Gap started in March 2005. During the same month, AES Corporation (NYSE: AES) acquired SeaWest Holdings Inc., the developer of the Buffalo Gap Wind Project.

Project Manager Evelyn Carpenter says AES acquired SeaWest Holdings as part of their plan to become a strong competitor in wind generation.

The project company bought turbines from Vestas American Wind Technology, Portland, OR (503-327-2000); and the engineering, procurement, and construction (EPC) contract was finalized the first week

Facility Highlights

Location: Nolan and Taylor Counties, TX

Size: 120 megawatts (MW)

Distance Between Towers: varies -- on average about 700 feet

Project Cost: Approximately \$180 million

Developer: AES Wind Generation

Owner: Buffalo Gap Wind Farm LLC

Project Capacity: 120 MW

Power Contract: Direct Energy, a subsidiary of Centrica PLC

Connector & Transmission System: AEP

Substation: Buffalo Gap Substation

Commissioning: December 2005

Date On Line: January 2006

Turbine Features

Turbines: Vestas 1.8 MW V-80

Tower: 78 meter hub height

Onboard Computer: Vestas Windman SCADA system

Transformer: Provided by Vestas -- in the nacelle

Key Personnel

Project Manager Evelyn Carpenter

Project Director Chris Diez

Operations & Maintenance

Director Eddie Kolitz



AES Wind Generation construction and operation team: Greg Howard, project information manager; Mike Bennet, safety manager; David Scott, field inspector; Brad Lukehart, site manager; Aleta Alexander, administrative assistant



of March.

The general contractor performed final engineering for foundations, the transmission line, collection system, and substation.

“We worked with local contractors and suppliers from the Abilene and Sweetwater, TX area to the maximum extent possible,” says Carpenter. Some of the local businesses employed included: Enprotec/Hibbs & Todd (325-698-5560) for surveying and environmental services and Turner Biological (325-472-5131) for biological studies.

Preliminary construction work began in late March and turbine erection started in August. Turbines were up by mid-December and the EPC contractor de-mobilized from the site in January 2006.

Mike Azeka, director of planning and permitting for AES Wind Generation, says the company hired local consultants for environmental and Federal Aviation Administration permitting. The EPC contractor handled all the construction and building permits required by local and state officials.

“With the exception of the project substation,” says Azeka, “Buffalo Gap has no habitable structures so few building permits were required.”

In order to encourage regional economic development in the greater Abilene and Sweetwater area, both counties granted the project a ten-year partial tax abatement on personal property taxes,

says Azeka. Since the project is expected to run for at least 20 years, full property taxes will apply in years 11 through 20.

Power Purchase

AEP Texas North Company (AEP), Corpus Christi, TX (www.aeptexas.com), is the interconnection utility for Buffalo Gap.

Carpenter says the project constructed an 11-mile transmission line from its substation to the interconnection point with AEP, and entered into an exclusive 15-year power purchaser agreement with Direct Energy, a subsidiary of Centrica plc (www.directenergy.com), for all the output from the facility.

According to Lukehart, the Electricity Reliability Council of Texas (ERCOT) requires generation facilities to schedule their power through a Qualified Scheduling Entity (QSE). ERCOT operates the electric grid and manages the deregulated market for 75 percent of the state. The QSE is an entity certified by ERCOT that submits balanced energy schedules.

“Buffalo Gap uses 3TIER Forecasting, Seattle, WA, to forecast the amount of power the project expects to produce,” says Howard. “This information is then sent to the QSE and they schedule the power out to the grid.”

Howard says AES, out of its Palm Springs, CA operations center, also conducts 24/7 electronic monitoring for the wind facilities it operates.





Six generations of the Scott family have lived on property now shared with the Buffalo Gap Wind Farm. Property owners continue to farm, graze cattle, and hunt.

Community Relations

Lukehart says AES Wind Generation is very community-oriented. Operations and Maintenance Director Eddie Koltitz interacts with students at area schools, and the construction group develops training and provides funding to the local fire department.

AES also hires local contractors and requires subcontractors to do the same.

Lukehart says local public utility retailers Taylor Telephone and Taylor Electric Cooperative benefit from new revenue through added services required for fiber-optic phone and data communications. In addition, Taylor Electric provides power to the operating wind farm as well as the construction site.

"We work to establish good relationships because we expect to be here for 30 to 35 years," says Lukehart.

Part of that effort resulted in drawing David Scott out of retirement from Taylor Electric to work as field inspector at Buffalo Gap.

"I had to think long and hard about coming out of retirement," says Scott, "but I have to say I love working here with these people." David is a brother to landowner Barry Scott. Their sister, Aleta Alexander, is the administrative assistant for the wind farm.

"This was going to be my retirement home, and at first I felt the wind

farm would interrupt my peace," says Alexander. "Now I'm a huge proponent, promoting and defending the wind," she says.

Alexander says the best thing about Buffalo Gap is the economic change it

brings to landowners. "This area is rich in our lifeblood and history, and it means a lot to us. That's why we're so closely connected."

Christine Coates, editor

Buffalo Gap Wind Farm Supplier List

Blades	Vestas
Data Collection & Analysis	AES Wind Generation
Energy Assessment	Garrad Hassan
Engineering & Planning	Hibbs & Todd
Environmental Consulting	Turner Biological, Tetra Tech, SWCA Environmental Consultants
Fabrication	Vestas American Wind Technology
Interconnecting Utility	AEP Texas North Company
Legal Services	various multiple providers
Maintenance	Vestas AWT
Nacelles	Vestas AWT
Operation & Maintenance	Vestas AWT
Permitting	AES Wind Generation and general contractor
Project Development	AES Wind Generation
Project Management	AES Wind Generation
Risk Management	AES Corporation
Site Assessment	AES Wind Generation
Site Development	AES Wind Generation
Surveying & Mapping	Aerometric, Hibbs & Todd
Transportation & Logistics	Vestas
Turbine Performance Monitoring	Garrad Hassan
Wind Farm Management System	Vestas System