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MOVING BIG BLADES THROUGH CITY TRAFFIC A DAUNTING TASK

DID YOU KNOW?

■ The wind-turbine towers stand 262 to 394 feet tall and rotor diameters measure up to 325 feet.

'Dangerous Drives' films trek of wind turbines through Houston

Tim Spell

IT'S impossible to miss them — those gargantuan wind-turbine blades being trucked along Houston freeways. Moving the sculpted, aerodynamic props, which look like appendages to a spacecraft, is such a daunting task that the operation is the subject of a SPEED Channel *Dangerous Drives* cable TV episode.

Maneuvering the blades through Houston was the first huge challenge for the featured truckers, who tote the massive payloads from Port Freeport in Freeport, roughly 1,250 miles to the Titan Wind Project in Miller, S.D.

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This 5,050 megawatt wind energy development, a joint venture between British Petroleum Alternative Energy and turbine-manufacturer Clipper Windpower, is one of the largest wind installations in the world.

The Clipper wind-turbine sections routed through Houston are for the Liberty 2.5-MW series, consisting of three blades mounted on a tubular-steel tower. Blade lengths range from about 142 to 158 feet, with rotor diameters up to 325 feet, depending on the class.

Big-rig driver Steve Van Zile, who leads the train of three trucks — each with a blade — being filmed for the *Dangerous Drives* episode, said the blade he totes is roughly 145 feet long and weighs about 35,000 pounds.

"We're 178 feet long, the truck and the blade," Van Zile said, "and it's a legal 80,000 pounds."

The muscle to tug this payload is provided by a Cummins turbodiesel generating 600 horsepower and, more importantly, 1,850 lb.-ft. of torque.

An 18-speed transmission helps get his heavily burdened Kenworth up to highway speed.

Sharp turns are high on the list challenges while driving through the city, Van Zile said, but dealing with motorists' reaction to the operation requires even more attention.

"The city traffic is the hardest part because people don't think," he said. "It's pretty novel to them."

A huge role in coordinating the long rigs' movement through turns and traffic is by the pilot vehicles. These pickups or SUVs riding front and rear of each rig wear OVERSIZE LOAD signs and flash warning lights.

"They let traffic know we're around, they control and protect the blade, and they also steer the trailer if they need to," Van Zile said.

Driving the Dodge Ram pilot vehicle ahead of his truck is his wife, Faith. While Fords (an F-150 tailed the caravan), and Chevys and GMCs are common pilot vehicles, the majority are Dodges — Rams and Dakotas.

Paving the way for the caravan is a two-motorcycle police escort, which, along with helping manage the traffic around the rigs, can reroute the trucks if neces-

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sary.

I briefly talked with one of the officers during the stop where the escort began. He confirmed the lunch-hour traffic would be a bit of a problem, but was confident the trucks could be efficiently moved through the city.

He also was efficient in cutting my interviews short so the caravan could get moving — on a route the officers had altered to help ease problems with traffic. My compact car, parked in front of the trucks, didn't faze the caravan's launch. Before I had a chance to move it forward, and out of the way, it was "wagons ho!" and the rigs proceeded close alongside of me. Looking up at the blades as they cast shadows over the car was an eerily cool experience, punctuating the enormity of the unusual cargo.

After clearing the city and heading north on Interstate 45, I talked with *Dangerous Drives* field producer Andy Seestedt. In order to give viewers an up-close-and-personal look at the extraordinary driving situation, he rides shotgun with the driver — capturing the operation with a hand-held camera.

Without the assistance of the police escort, Seestedt said maneuvering through the city would have been an extreme hassle. He said this *Dangerous Drives* episode will be aired near Thanksgiving.

Next, the *Dangerous Drives* crew saddles up with border patrol agents in Arizona, and is readying for a shoot with a military fuel convoy in Iraq.

See the SPEED Channel Web site at http://www.speedtv.com/schedule/ for programming time updates.

tim.spell@chron.com

CLIPPER WINDPOWER PHOTO

WIND TURBINE SPECIFICATIONS

TYPE: Clipper Windpower Liberty 2.5-MW series
NO. OF BLADES: 3
BLADE LENGTH: 142 to 158 ft.
ROTOR DIAMETER: 292 to 325 ft.
EST. BLADE WEIGHT: 35,000-plus lbs.
TOWER HEIGHT: 262 to 394 ft.
POWER OUTPUT: 2,500 kW
OPERATION: Variable Speed: 9.6 - 15.5 rpm
ASSEMBLY: Cedar Rapids, Iowa
TEXAS DEPARTURE PORT: Port Freeport, Freeport TX
WIND FARM DESTINATION: Titan Wind Project, Miller, S.D.
EST. TRAILERING DISTANCE: 1,250 miles
TYPICAL TRUCK/TRAILER/BLADE LENGTH: 178 ft.
TYPICAL LOADED RIG WEIGHT: 80,000 lbs.

SEE TIM SPELL'S BLOG ON THIS TOPIC AT CHRON.COM/BLOGS

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TIM SPELL PHOTO

Pilot vehicles — one ahead and one behind the rig — play an important role in moving the blades through the city. They establish a parameter around the rig, protect the blade and steer the trailer when necessary.

TIM SPELL PHOTO

Truck driver Steve Van Zile settles into the driver's seat shortly before launching his rig into Houston traffic.

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RUDY HERNANDEZ PHOTO

A wind turbine blade is trucked into the city, on its way to the Titan Wind Project in Miller, S.D. The truck-and-blade combo spans about 178 feet long.

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TIM SPELL PHOTO

Blades for the Clipper Windpower Liberty 2.5-MW series range in length from about 142 to 158 feet.

TIM SPELL PHOTO

A police motorcycle escort is a key ingredient in the success of moving the wind-turbine blades through heavy city traffic.