Trans-WARP™ Transmission Towers

– A potential solution for the electric transmission industry-

Recent events and conditions have focused the American electrical utility and transmission industry on the need to expand and upgrade America's electrical transmission system. Major hurdles in achieving this goal are the high costs and burdensome right of away issues that hamper the installation process. ENECO Texas LLC may have a unique and promising solution for the transmission industry with its internationally patented WARP™ (Wind Amplified Rotor Platform) wind energy technology available under patent license.

Alfred L. Weisbrich (founder who conceived the patented WARP concept) originally designed the WARP™ wind energy technology for traditional wind farm application. Since its inception, a variety of other WARP™ applications have been considered and explored. One of these applications is the Trans-WARP Tower™. It is a dual use design to be both a TRANSMISSION TOWER and ELECTRICAL GENERATION TOWER. In essence, it is a "wind pipeline" which can provide a means to replace the electrical losses due to transmission, but also supply supplemental electrical energy to the connected conventional (fossil fuel) power plants. This would reduce both fuel costs as well as the associated pollutants that fossil fuel power plants produce.

WARP^{tm} Tower Design & Module

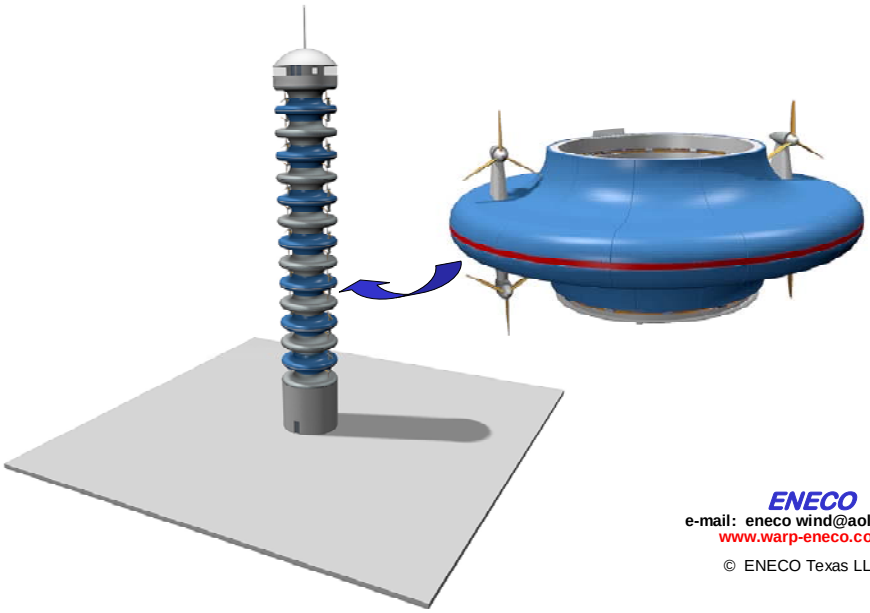

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Figure 1. The Modular WARP™ System Design

The WARP™ design (Figures 1 & 2) is comprised of a stacked array of wind amplifier modules that can employ relatively small (typically 6 ft or 10 ft) diameter rotors. The design has each rotor direct drive a generator, thereby eliminating the need for step-up gearboxes. These same modules are capable of amplifying the ambient wind speed by up to 1.8 times free stream values (e.g., 10 mph ambient speed become 18 mph wind speed at the rotor disks). The process (which is based on the Bernoulli Principal) is similar to nature's highly sought saddle ridges for wind turbines. The only difference with the WARP™ design is that the wind can be accepted and channeled from ***any*** direction. The multiplicity of two opposite turbines at any WARP™ rotor level (~180 degrees apart about the tower) may continuously and passively orient themselves perpendicular to the ever changing wind direction. The modules are attached to a core (e.g. lattice or tube tower) support structure that can also be built to virtually any existing tower height.

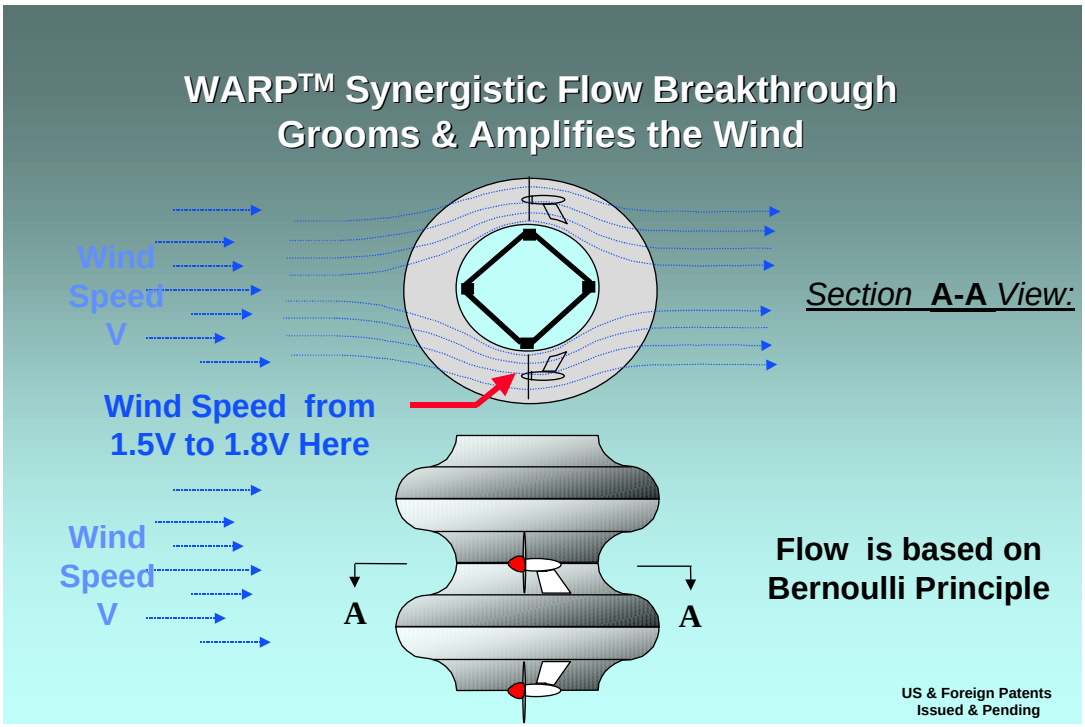

Figure 2. WARP™ Wind Amplifier Modules

This unique design can also be integrated to many different kinds of structures – e.g., telecom towers, buildings, offshore platforms, as well as utility scale transmission towers. Generic and additional information can be viewed on the web site**: http://** **www.warpwindsystems.com** or may be received by contacting us (see below)

The dual application of a Trans-WARP Tower™ configuration (Figure 3) may allow the transmission industry to realize significant advantages. This design concept would permit the cost of the core tower structure to be effectively removed from the energy cost equation (i.e.; offset) because of dual use application. Not only can the tower be used in the traditional electric line transmission mode, but now that same structure can be a cost savings generator or perhaps even a revenue generator for the transmission operator.

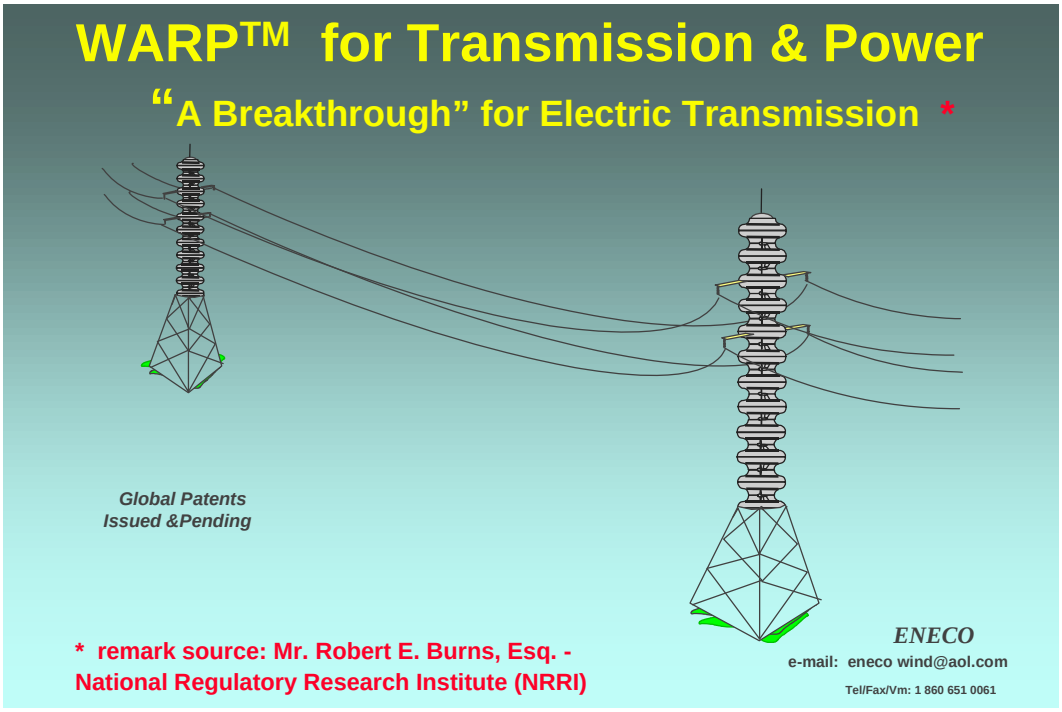

Figure 3. A Trans-WARP Tower™ Configuration

A fairly short transmission line of 100 miles would conservatively require about 5 towers per mile. Such a line would be comprised of about 500 towers. If each tower were to incorporate only 200 kW of windpower capacity (assuming 13 mph average wind speed, using 6 ft diameter rotors that are stacked 18 tall to a system height of ~200 feet) then the transmission line would generate about 100 MW of electricity at a cost of around $20/MWh ($0.02/kWh).

Effectively, this arrangement would act as a linear wind farm instead of a clustered wind farm. Due to the modular nature of the WARP™ design any tower could be designed to any power capacity, either to just offset any line losses or to generate additional electricity. It should be noted that the location of some major

transmission constraints are in areas that have some of the best wind sites – namely, Texas, Kansas, Iowa, North and South Dakota, Montana and Wyoming. Trans-WARP™ transmission lines have the potential of lowering the cost of electric power transmission, reduce pollutants and make the electric power network more secure.

Another major obstacle to transmission tower deployment is the issue of right of ways. Landowners are reluctant to have a large ("ugly") tower on their land. If however, that same landowner could be offered a royalty on the electricity produced from that tower, then an otherwise intrusive transmission tower may all of a sudden become an attractive commodity. This is very similar to what happens in the oil/gas industry. An oil well is not very attractive – unless it is on your land and you get the monthly royalty check from the oil/gas production. This economic incentive for the landowner will create opportunities for the transmission companies. Landowners will want towers on their land so that they will get the royalty check as opposed to a neighbor. It is always interesting to see people change their view about something being ugly (with resultant NIMBY disposition) or beautiful once it is determined whether it is making money for them or not!

ENECO's recent research findings and patented design improvements have allowed projected estimated cost of energy (COE) to be below $0.02 to $0.04/kWh (depending on application configuration and wind site conditions). WARP™ wind energy technology also removes the capacity and structural size limitations imposed on large bladed wind turbines, permitting unit size to easily reach power capacities greater than 10 MW, far exceeding today's large bladed wind turbine machines.

The electric transmission industry is faced with many challenges but also has innovative solutions, such as the Trans-WARP Tower™, at it's disposal and may wish to seriously consider and explore the latter. Further information on this breakthrough technology can be obtained by contacting:

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