

LETTER OF INTEREST

FOR THE

NEW YORK STATE

ENERGY HIGHWAY

BY

AWR ENERGY, INC.

LUIS EDUARDO (ED) MARIN, CEO

P.O. BOX 3027

PLATTSBURGH, NEW YORK 12901

BACKGROUND & EXPERIENCE

Team Members

AWR Energy, Inc.

AWR Energy, Inc. (AWR) is a New York based company focused on the design, development, manufacturing and sales of an innovative and proprietary DAWT (Diffuser Augmented Wind Turbine). The AWR DAWT produce up to 3 times more energy than all comparable conventional (open-bladed) and vertical axis wind turbines resulting in a low energy costs that can help resolve the growing energy demand crisis by producing green electricity that is competitive with grid-based power. AWR personnel are experienced with all phases of business; including start-ups, venture capital, engineering, commercialization, finance, business development, manufacturing, quality control, environmental, sales and marketing

Ontario Specialty Contracting, Inc.

Ontario Specialty Contracting, Inc. (OSC) is a full service specialty contracting firm that provides exceptional service in the disciplines of environmental remediation, civil construction, demolition/dismantlement, specialty groundwater treatment systems, and brownfield redevelopment. Since their incorporation in 1997, OSC has built a strong reputation in the industry. Completing projects from Salt Lake City, Utah to Puerto Rico. OSC has, over the last 14 years, worked to fulfill its mission statement, “to provide the safest, most environmentally sound and cost effective solutions to our customers and their unique specialty contracting needs.” As part of The OSC Group, OSC has the resources, extensive experience, highly qualified personnel and innovative equipment to assure any client, large or small, a timely and cost effective solution to their individual specialty contracting needs.

Buffalo Niagara Medical Campus

The Buffalo Niagara Medical Campus is a consortium of the region's premier health care, life sciences research, and medical education institutions, all located on 120 acres in downtown Buffalo, New York. The BNMC is dedicated to the cultivation of a world-class medical campus for clinical care, research, education, and entrepreneurship. BNMC is participating in an innovative energy partnership with National Grid Corporation designed to develop integrated energy platforms that will drive economic growth in the Buffalo Niagara region. This partnership is a standard for an efficient, modern, high-quality and customer-driven energy platform, energy efficiency, and modern energy management.

AWR Background

AWR Energy, Inc. (AWR) has developed and sells the highest efficiency wind turbines available; known as a DAWT (Diffuser Augmented Wind Turbine). The innovative AWR design is capable of extracting up to 3 times more energy than all comparable conventional (open-bladed) and vertical axis wind turbines. This production ready system can help resolve the growing energy demand crisis by producing green electricity that is competitive with grid-based power. The incorporation of AWR Energy's DAWT technology into existing and proposed micro-grid power systems is the basis for a

new Small Wind/Micro-Generation Utility which offers end users all the benefits of owning an environmental friendly renewable power system while providing the company and its investors a secure long-term, high margin revenue stream and a significant platform for future growth.

The Department of Energy is predicting that the U.S. electricity demand will triple by 2035. The current national grid cannot support this growth without a costly and major overhaul. Expansion of conventional power systems such as fossil fuels or nuclear is environmentally and politically unacceptable. Renewable energy from hydropower is nearly fully developed and is environmentally sensitive. Large turbines and their wind farms are very limited in geographic application because of their land size requirements. Furthermore, they are difficult to permit and take up to 8 years to implement. Until the advent of the AWR DAWT technology small wind turbines have traditionally been ineffective and underperforming.

The AWR Micro-Grid projects shall demonstrate the value and innovation of the AWR DAWT as an electric power generating technology that improves the traditional standard of performance, power quality and reliability. The incorporation of AWR DAWT systems into the New York energy system shall be a step forward in reducing the strain on the grid and set the stage for you micro-grid system.

The AWR innovative power monitoring and control system shall demonstrate how energy efficiency may be optimized with advanced sensors and software to improve transmission, distribution system performance and reliability. The Buffalo Niagara Medical Campus project shall unveil one of the first commercial applications of a profitable small wind technology as an energy resource for a large scale utility company.

This project will also be the catalyst for a new Buffalo manufacturing facility which will be established in partnership with OSC. OSC has offered use of a renovated 1.5 million square foot facility that allows significant space for manufacturing growth and job creation. New jobs shall encompass the fields of fabrication, welding, composites manufacturing, software programming, sensor integration, automation, marketing, website development, research & development, business and sales.

PROJECT DESCRIPTION

The Challenge

It is well documented that New York State has an aging transmission system. Most of New York State's transmission lines were built more than 50 years ago and it is estimated that about 25 percent of the State's transmission system will have to be replaced within the next 10 years and nearly 50 percent will require replacement in the next 30 years. Physical limitations and congestion on the grid at times prevent excess power supplies from upstate and Canada from reaching the downstate region, where demand is greatest. Governor Cuomo's "New York Energy Highway" initiative states that these transmission bottlenecks have a number of actual and potential consequences in terms of economics, the reliability of the power supply, the environment and public health.

AWR Energy Small Wind Utility Company (AESWUC)

The basis for AESWUC is predicated on the existing need to upgrade the power production, transmission and distribution systems in New York State as well as the entire United States. Existing strain on power production and delivery systems has caused energy consumers to become more concerned about their local power quality and efficiency of their existing supply system. The AESWUC model is designed to blend the many advantages of AWR's DAWT technology with that of evolving micro-grid technologies in order to provide consumers with a secure alternative energy supply combined with long-term cost savings and a long-term guaranteed electricity rate.

The incorporation of AWR's DAWT technology into a micro-grid discrete energy system offers potential electrical consumer with many significant advantages such as

- Continual lower energy costs and significant independence from the existing electrical grid.
- Guaranteed "locked-in" energy rates, reducing the net retail price of electricity.
- Increased electrical supply security and reliability.
- Tax credits and/or rebates
- Sustainability credits such as GHG or carbon credits.
- Increased electrical efficiency by minimizing transmission and distribution line losses.
- Enhanced public image & creating jobs, and economic development opportunities.

The AWR Energy Small Wind Utility Concept Application

By utilizing AWR's DAWT designed turbines, end users will benefit from receiving 2 to 3 times the power output that is normally experienced with conventional wind turbines. A typical AWR micro-grid project can be sized from 10 kW to 2-3 MW, and constructed in stages for funding purposes. The AWR micro-grid system can be a combination of DAWT wind turbines, solar, or any other

power generation that is applicable to the site. Traditional wind generating farms are sometimes concentrated in a relatively small area to benefit from wind potential. However, the electric transmission capacity within this area may be insufficient to transfer all the energy that could be potentially generated from these units. To alleviate the loss of bottled energy, AWR micro-grid systems can be distributed throughout the grid, therefore, reducing existing bottlenecks caused by load pocket demand. The ease of siting and permitting the AWR micro-grid system is greatly decreased due to the lower height of the towers used, usually 40 feet. Since the tower heights are much lower or the turbines are in a series on roof-tops the permit process becomes much easier and shortens the time frame to that of a building permit timeline. This increase in total kilowatt power generation allows AWR to utilize smaller capacity turbines in many locations and applications that are not currently feasible for most traditional turbine designs, all the while producing the same or more power than heavier, less efficient conventional units. The lightweight, highly efficient AWR DAWT turbines allow for the establishment of micro-grid production systems in areas, which traditionally have not been accessible to wind systems. The ability to site AWR units on roof tops, land-fills, bridges, and in and around airports as well as many non-traditional locales, gives our potential customer extreme flexibility in choosing a location for a DAWT based micro-grid system. AWR has designed an application for non-intrusive landfill application to take advantage of the many landfills throughout New York State. Many landfills already have an energy production infrastructure that can be easily tapped into. The AWR micro-grid systems will help lower peak demand by increasing the reliability of the customer-sited electric generation during peak demand periods. The customer-sited electric generation micro-grid system can reduce the risk of localized power disruptions.

AESWUC Business Model

The fundamental tenet of the AESWUC model is the adoption of the utility concept for electricity produced through the utilization of the AWR DAWT small wind turbines. In a typical application, AESWUC will supply the DAWT turbines and conduct all necessary site evaluations and assessments, procure all necessary permits, and oversee installation and connections (to the grid if desired). AESWUC will then manage and support the wind turbine micro-grid system. AESWUC will sell the power back to the customer at a discounted price equal to or below that of local utility rates for a multi-year contract. The AESWUC model is designed to eliminate most if not all of the upfront capital cost and operational barriers that are known to have historically served as an obstacle to traditional wind power systems. Because of the unique features of the AWR DAWT turbine, the construction of an AWR DAWT micro-grid wind power system is not limited to those spacious landscapes, typically required for traditional wind applications. Thus the AESWUC is adaptable to many locations and customers that cannot be currently serviced by traditional wind systems.

Current State of R&D of the AWR Technology

The AWR DAWT technology has gone through a development cycle grounded on a risk reduction approach with validation from credible and established organizations. We have followed aerospace practices and implemented the American Wind Energy Association (AWEA) 9.1 requirements to allow us the greatest confidence in our product capabilities including:

- System aerodynamic CFD and Blade Design by Northrop Grumman Aerospace

- Structural analysis with FEA by Rochester Institute of Technology (RIT)
- Data Acquisition by Optimization using the IEC standards and required instrumentation.
- Substantial field run time to verify the safety, longevity and durability of our products.

AWR is well past the prototype concept and invested in full production capability. We currently have a production capacity of 493 units per year. After consolidating our manufacturing at the OSC facility in Buffalo we will have higher production efficiencies and be more than prepared for commercialization growth.

Host Site Benefits

The benefit that the BNMC along with all host sites will receive include guaranteed “locked-in” reduced energy rates, increased electrical supply security, reliability and enhanced public image. They will also continue to meet their goals to implement cost-cutting energy efficiency methods, foster economic growth, apply alternative energy and transportation, use the system as a community learning hub and promote health & energy innovation.

Competition

The American Recovery & Reinvestment Act of 1990 (ARRA) expanded the federal investment tax credit (ITC) for small wind turbines, allowing customers to take full 30% credit of the total small wind system. The unprecedented amount of market growth is attributed to a mixture of the federal tax incentives, other state government incentives, a renewed interest for private equity investments and an ongoing sustained consumer demand. Even though wind energy only makes up 7% of renewable energy consumption, today’s small wind market is fairly competitive with other renewable energy sources and is anticipated to become even more competitive with the increased utilization of AWR DAWT systems.

We believe that customers who purchased small wind turbines from our competitors perceive those manufacturers as having overpromised and under delivered in relation to the actual return on investment (ROI). Expected results generally fell short of the advertised product performance. It is important to note that the industry perception has been primarily based on three bladed open systems. The industry benchmarks kilowatt hours (kWh) produced per year by turbines is based on a wind speed average of 28 miles per hour. Our research and performance however, is based on annual energy output (AEO) at a wind speed average of 14 miles per hour, which we believe is a more realistic assumption about the conditions under which small wind turbines actually operate.

Typically, manufacturers often use measurements like meters per second (m/s) when describing the necessary wind power needed to run their equipment. However, there are other significant variables to consider such as altitude, air density, tower height, power curve software, ease of maintenance, blade replacement, durability etc. that affect the AEO results and overall customer satisfaction. AWR has “live” tested its turbines to account for these variables and captured a real case scenario to measure AEO. One key difference for AWR is that the AWR DAWT can be field adjusted for performance enhancements and designed to efficiently work at lower wind speeds.

The AWR team has spent the last three years analyzing the recorded data while improving the performance, reliability, and safety of the AWR DAWT. The team then compared the collected data to the comparable competition. This task was initially made more difficult than anticipated due to

the difficulty of finding reliable and validated data from our competitors. With the help of the currently released Small Wind Certification Council (SWCC) results, the AWR team has been able to accurately compare the AWR data to that of our competition. This has allowed us a comfort level in our predictions while awaiting our final AWEA 9.1 validation certification process.

Monitoring Strategy & Commercial Application

AWR Energy has already developed software that acquires both meteorological and electrical data and processes the real time information to provide the resulting performance. The software was developed to process the data with the same format and quality as is required by the American Wind Energy Association (AWEA) 9.1-2009 AWEA Small Wind Turbine Performance and Safety Standard and the IEC 61400-2 Wind Turbines - Part 2: Design Requirements for Small Wind Turbines during the certification process. Coupled with new sales software, the performance and power production may be joined to provide an accurate billing and marketing tool for a utility.

PROJECT JUSTIFICATION

AWR Marketing and Sales Opportunities

According to the 2010 AWEA Small Wind Turbine Global Market Study, “despite an economic downturn, the U.S. market for small wind turbines – those with rated capacities of 100 kilowatts (kW) and less – grew 15% in 2009 with 20.3 Megawatts (MW) of new capacity and \$82.4 million in sales. This growth equates to nearly 10,000 new units and pushes the total installed capacity in the U.S. to 100 MW.” It is important to note that almost all of the aforementioned numbers pertain exclusively to 3 open bladed wind turbines.

Target Market

Due to the AWR wind turbine annual energy output (AEO), favorable cost structure and other competitive advantages, we believe that our DAWT technology will be a significant enabler for the small wind market, opening up numerous applications and unique sales and marketing opportunities that represent tremendous financial potential. Target markets include:

- **Agricultural** operations have high energy needs and less restrictive zoning constraints than urban and suburban areas. We believe this represents an opportunity for significant initial market penetration. We believe that the increasing operational costs, tightening profit margins and fluctuating high cost per kilowatt during peak demand that farmers face will also be drivers of this market.
- **Commercial** markets include existing enterprises, building developers, hotels and retail operations. This is an area where a DAWT’s advantages separate our technology from other wind products. Our device can be installed at virtually any location where the appropriate wind resource is available. DAWT technology can be applied by architects in new construction and big box retailers can apply our technology to roof tops as well as in parking lot based solutions.
- **Residential** applications will be primarily comprised of customers who have above-average income and a strong desire for alternative energy solutions.

Client Profile

While we are initially targeting agricultural, commercial/industrial and residential customers, we believe that our products may also find acceptance in additional markets, including:

- **Colleges & Universities** - are heavily involved in the green movement. AWR believes it could have a major impact by providing economical green energy to the schools while demonstrating to the community and student body that their institution is committed to being green. Currently AWR has two active programs with two large universities. Programs include product design, product analysis and optimized performance.

- **Community Wind Farms** - will provide locally distributed power generation for communities who want to reduce their own energy costs, support renewable green energy and decrease the community's carbon footprint. We believe this approach will be attractive to communities facing fiscal challenges and rapidly increasing energy costs. Wind Farms provide a significant opportunity to create locally distributed energy, while allowing businesses and communities the opportunity to avoid the consistent confrontational issues frequently encountered with the installation and operation of traditional big wind farms.
- **Utilities** – AWR is currently in discussion with several utilities regarding their Renewable Portfolio Standard (RPS) regulations which mandate that between 4% and 30% of electricity must be generated from renewable sources by a specific date (usually between 2015 and 2020). Traditionally utilities have avoided and even discouraged the use of wind to provide energy.
- **Governments** - Our products provide a viable renewable energy source of distributed power generation for cities, towns and municipalities.
- **Vacation Destination and Resorts** - tend to be located in areas where energy costs are the highest. At the same time, renewable energy solutions to this problem remain limited by heightened concerns related to environmental impact, given the fact that the environment is the key element that draws vacationers to these resort destinations. For example, most resort destinations have ruled out the installation of large open bladed systems. In addition, most resort areas lack the transmission infrastructure that can support massive demand/output. Our system provides low profile, scalable energy production that can be designed and installed to the exact requirements of “resort” customers.
- **Military** - Viable energy production is an ongoing issue for the US Military. In addition to the logistical issues of generator fuel delivery into hostile areas, reliable portable energy from renewable sources is untapped. AWR is currently working with a military battery supplier looking for energy storage opportunities. Our light weight DAWT turbine could easily be trailer mounted with “tilt-up” functionality in order to charge the field operation systems necessary for troop deployment. The objective is to provide portable, reliable and quiet supply of energy for remote area locations.
- **Cell Towers** - In Asia, cell tower owners utilize small turbines to charge battery systems for remote tower operations; but in the US use of conventional open bladed systems are not as widely accepted due to environmental concerns and blade ice throw. However, our DAWT system with its integrated shroud (which surrounds the blades) prevents lunar or solar flicker, blocks blade/ice throw and is avoidable by birds and bats. Accordingly, in the opinion of management, our DAWT system will be viewed by the cell tower industry as the best solution for providing wind generated electricity to remote cell tower locations in the United States.
- **International Licensing** – for manufacturing and distribution rights by country and by channel.

AWR Solution

AWR resolves these problems by providing a wind turbine that is not only easy to permit, but also has the lowest cost per kilowatt-hour capacity of any unit in the market. The technology provides for a decentralized power distribution solution, which alleviates the growing electrical demand on the power grid and the escalating cost of power.

AWR 3300

The turbine is designed to accommodate 1.0 kW, 1.5 kW or 2.0 kW generators and is sized for homes, parking lots, commercial roofs and Wind Gardens™. The shrouded design makes it acceptable for roof-mounted applications by eliminating the risk of blade injury and vibration.



Mobile Power System

A production ready trailer mounted 1.5 kW battery backup turbine with conventional 110 Volt outlets to operate standard contractor and communications equipment. It can provide continuous power while trickle charging with minimal wind and can operate without wind for over a week during normal use. During remote military operations, the device would pay for itself within one week where average fuel use is \$400 per gallon and one loss of life every 24 refueling cycles of a generator.



NEW YORK STATE IMPACT AND PROJECT BENEFITS

ENERGY BENEFITS

Energy consumers have become more concerned about their local power quality and efficiency of the system since the Northeast brownout of 2003. The incorporation of the AWR micro-grid concept into the New York energy system shall be a step forward in reducing the strain on the grid and the technology will connect seamlessly with the main grid, and be grid independent when needed.

The benefits to energy consumers will be in reliability, efficiency, security of supply, and sustainability. Energy consumers have very high expectations for reliable, high quality electricity but they don't expect to pay a lot. The AWR solution reduces the risk of a catastrophic power loss and reduces energy cost. Increasing the amount of on-site generation has the advantage of minimizing transmission and distribution line loss. Increasing the amount of on-site generation in conjunction with appropriate physical and cyber security measures is a risk mitigation strategy. There are an increasing number of organizations who place a higher value on renewable energy generation and have made a commitment to reaching this long-term goal.

ENVIRONMENTAL BENEFITS

AWR wind turbines produce clean electricity using free, readily available, indigenous fuel, which benefits the environment and increases energy security for the State of New York. AWR wind turbines take up less space than the average power station. The AWR wind turbines only have to occupy a small area, on roof tops or can be installed at a height as low as 30 feet on a self-supporting tower. This allows the land around the turbine to be used for many purposes. AWR wind turbines are distributed in nature, meaning that the electricity is produced close to the point of use. This reduces the need to transport fuel to centralized power plants, reduces the need for transmission line upgrades, reduces electricity line losses, and can provide increased stability of the overall electricity system. The installation of distributed renewable energy capacity also delays the need to construct new centralized power plants.

ECONOMIC BENEFITS

This demonstration project will also be the catalyst for a new Buffalo manufacturing facility in a partnership with OSC. OSC has offered significant space of the renovated 1.5 million square foot former American Axle Manufacturing facility. That allows significant space for manufacturing growth over time and unlimited job creation. New jobs shall encompass the fields of fabrication, welding, composites manufacturing, software programming, sensor integration, automation, marketing, website development, research & development, business and sales. The abundance of space allows AWR to continue the aggressive research and development program that was limited by space constraints. AWR has plans for new technology manufacturing processes. One such area is in UV curing of composite fiberglass parts for the AWR wind turbine. This process will increase production and quality of parts. It also allows for the expansion of other spinoff technologies that utilize the UV curing process.

PROPOSER QUALIFICATIONS

Organization

AWR Energy, Inc.

AWR Energy, Inc. is a New York company focused on the design, development, manufacturing and sales of an innovative and proprietary DAWT (Diffuser Augmented Wind Turbine) systems which produce up to 3 times more energy than all comparable conventional (open-bladed) and vertical axis wind turbines. It is anticipated that the utilization of AWR DAWT systems will result in a low cost reliable energy that can help resolve the growing energy demand crisis by producing electricity that is competitive with grid-based power. AWR personnel are experienced with start-ups, venture capital, engineering, commercialization, finance, business development, manufacturing, quality control, environmental, sales and marketing

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Strategic Partners

Validation Partners

- § Northrop Grumman
- § Rochester Institute of Technology
- § Optimization Technology
- § Intertek Testing Laboratories
- § RIT Venture Creations
- § BNMC

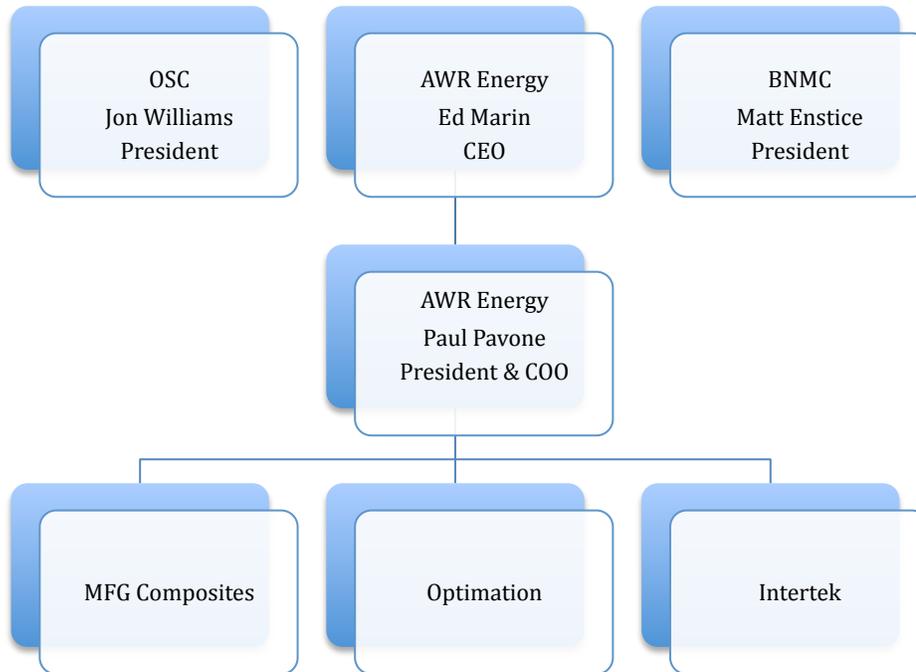
Manufacturing Partners

- § MFG Composites
- § Ontario Specialty Contracting
- § Alton Manufacturing
- § Zeller Corporation
- § O’Connell Electric

Sales & Marketing

- § Earthsponse
- § Major Utilities
- § O’Connell Electric
- § Zeller Corporation
- § OSC

Organizational Chart



Qualifications of Key Individuals

Ed Marin: *AWR Energy CEO & COB* - Consultant for technology start-ups focused on design, analysis, manufacturing, integration and commercialization of advanced systems. Financial experience in business development for advanced technologies. Led production and R&D programs for commercial and government entities (NASA, Navy and Lockheed Martin). Advanced Propulsion Engineer at Northrop Grumman with TS security clearance. Previous USANG Pilot. B.S. in Aeronautical and Astronautical Engineering from The Ohio State University. Patents included in fields of renewable energy, aeronautics, nano-technology, composites and ceramics.

Jon Williams: *OSC President* – Owns a full service specialty contracting provider that operates across North America with Corporate Offices in Buffalo New York, and Divisional Offices in Toronto, Ontario, and Winnipeg, Manitoba. OSC performs environmental remediation and demolition/dismantlement requirements. Brownfield Re-Development involving the purchase, remediation, demolition, and construction. Purchase and lease back facilities to convert them to a multi-tenant facility. Other Brownfield Re-development Projects include SGL Carbon Products in Niagara Falls, NY, the former American Axle Manufacturing Plant, and the former Buffalo Color Corporation.

Matthew K. Enstice: *BNMC President & Executive Director* – In this role, he is leading a pioneering initiative to integrate health care services, life sciences, clean energy, and education in an effort to revitalize the city of Buffalo. Prior to returning home to Buffalo, Matt worked in the entertainment industry in L.A. and New York, for Broadway Pictures and with Lorne Michaels at Saturday Night Live. Matt holds a B.A. in English from Hobart College and a Master of Business Administration from Canisius College. He is currently active on the boards of the SAGE Global (Students for the Advancement of Global Entrepreneurship), Buffalo Renaissance Foundation, Amherst Chamber of

Commerce, Elmwood Franklin School, and is on the Advisory Board for the School of Visual Arts Design for Social Innovation in New York City.

Paul E. Pavone: *AWR Energy President & COO* - 24 years of business and entrepreneurial experience which included Office Manager for URS Corporation a multi-billion dollar global engineering company, client manager for Energy East acquired by Iberdrola for the URS Corporation, and District Manager for E. & J. Gallo Winery in Southern California. Received his B.B.A. from Michigan and a B.S. in Geology from SUNY Plattsburgh.

Gary D. Robinson: *AWR Energy VP Marketing* - Diversified experience in the planning, development, marketing, implementation and management of energy and environmental market sector projects. Identified, developed, and serviced new and existing markets in both the domestic and international marketplace while VP of Energy Operations at URS Corporation. Served as VP Energy Operations at Ecology and Environment. Appointed by President GHW Bush as member of the Office of Pipeline Safety's Hazardous Liquids Pipeline Safety Committee. PhD in International Business, MBA in Finance, MBA in Marketing, MS in Water Resource Development and BS in Limnology Resource.

Stephen Lyons: *AWR Energy VP Sales*- Over 25 years experience in sales and marketing. Responsible for the development and implementation of global sales strategies for several multi-national corporations such as Xerox, GE and IBM.

Ricardo A. Aguirre, Esq: *VP of Government Affairs* – Counsel to the NY Secretary of State; worked with members of federal, state, legislative bodies and members of government, business and not-for-profit agencies. Managed and supervised the qualification and distribution process of an \$87 million American Recovery and Reinvestment Act grant throughout New York State. Sergeant US Marine Corps. B.A. in Psychology and Juris Doctor from Fordham University School of Law.

APPENDICES

AWR Management and Team Biographies

Ed Marin, CEO & Chairman of the Board of Directors:

Ed Marin is an Aerospace Entrepreneur living in New York, with his wife, daughters, and son. He has been a founder of and consultant for several companies focused on design, analysis, manufacturing and integration of advanced systems. His knowledge base extends engineering, manufacturing, production, operations, commercialization and funding. Ed has lead production and research & development programs for entities such as NASA, Navy and Lockheed Martin Aeronautics. His programs range from wind turbines, high performance composites, rocket nozzles, body armor and manufacturing of flight vehicle systems.

Prior to embarking onto the small business adventure, Mr. Marin served as an Advanced Propulsion, ECS, and Thermal Analysis Engineer at Northrop Grumman Corporation in California. As an aerospace engineer he performed design, analysis, and testing for aerospace systems such as the F-18 Super Hornet, B2 Stealth Bomber, Unmanned Combat Air Vehicle (UCAV), and several space vehicles. He led the specification of analysis methods required for hypersonic technology development. Technology later used to perform the hypersonic inlet design and analysis with CFD (Computational Fluid Dynamics) for the Air Force PWI (Propulsion Weapons Integration) program. While at Northrop Grumman Corp., Ed Marin held Top Secret and Special Access Required security clearances, and was a pilot in the Air National Guard.

Mr. Marin was named California Engineers' Council Distinguished Engineer Project Achievement Award-Team Member for Temrok Ceramics Composite Products in 1999. He has co-authored several papers such as "Low Cost Polymer Derived Carbon Fiber Reinforced CMC for Rocket Nozzle Applications", "Electron Microscopy Used to Aid CMC Process and Material Development", and "CFD Investigation of the HySet Inlet". Ed's Master of Science studies in Aerospace Engineering is from California Polytechnic State University. He has a Bachelor of Science in Aeronautical and Astronautical Engineering from The Ohio State University. Ed was also a Soccer and Rowing athlete during his undergraduate years. Mr. Marin has been a volunteer engineer for the American Institute of Aeronautics and Astronautics (AIAA) Wright Flyer Project in Los Angeles since 1991. Professional memberships include SAMPE, ACMA, AIAA and EAA. Ed holds patent filings in the areas of Renewable Energy, Aerodynamics, Nanotechnology and Ceramic Matrix Composites.

Mr. Marin is one of three siblings born to Colombian immigrants. He attributes his successes to the leadership, determination and ethics provided by his parents, wife, and family. His diverse background, curiosity of cultures, and facility for languages, has enabled him to travel extensively worldwide for work and for pleasure. As a youth, Ed became an Eagle Scout, and continues to participate as an educational volunteer in the local Learn to Earn program. Ed adds to the community by his involvement as an elected board member of the Beakmantown Central School District, member of the Plattsburgh Aeronautical Institute Advisory Board, a member of the Clinton County Work Force Investment Board Planning Committee, as an adjunct professor at Clinton Community College and as a Mentor at Cumberland Head Elementary. Mr. Marin enjoys the North Country through travel, sailing, camping, hiking and soccer.

Paul Pavone, President and COO

Mr. Pavone has 24 years of diverse business and entrepreneurial experience. Past experiences include a sales representative for Gallo Winery in Southern California and promoted to District Manager 11 months later. Responsible for headquarter sales calls for all military facilities and large box grocery stores in Southern California and southern Nevada. Mr. Pavone was responsible for oversight of sales representatives, management of regional distributorships sales and promotion, and the market testing for new product lines.

Mr. Pavone moved to northern NY to be near family and started a construction company with a business partner. Mr. Pavone bid projects, managed employees, was responsible for account receivable and payable, while building 25 new homes a year and completing several large scale commercial projects. Mr. Pavone completed several projects in the downtown revitalization of the City of Burlington, Vermont.

Mr. Pavone, for the past 11 years, was an Office Manager for URS Corporation, a multi-billion dollar global engineering company. Mr. Pavone was tasked with coordinating the environmental cleanup upon the closure of the former Plattsburgh Air Force base. Responsibilities included interaction with the representatives for the oversight regulators: Air Force Center for Environmental Excellence, USEPA, NYSDEC and local officials; oversight of a local office including office staff, field geologist, engineers and technicians; writing and implementing all work plans for various delivery orders; coordinating field activities to complete the delivery orders on schedule and within allocated budgets. Mr. Pavone was responsible for an 11 million dollar budget.

Mr. Pavone was the client manager for Energy East, acquired by Iberdrola, for the URS Corporation. Mr. Pavone has been responsible for creating new sales of \$38 million dollars in engineering.

Mr. Pavone lives in Plattsburgh, New York with his wife. Mr. Pavone received his B.B.A. from Michigan and a B.S. in Geology from SUNY Plattsburgh. Mr. Pavone has completed several executive management advancement classes, leadership training courses and an entrepreneurial e-commerce marketing and sales course.

George Klemann, CFO, Secretary/Treasurer & Member Board of Directors:

Mr. Klemann has 30 years of diverse business and entrepreneurial experience including mergers and acquisitions, public accounting, investment banking, business management, legal affairs and investment advisory. Most recently he was CFO and Director of Finance for WW Ventures Group LLC, a financial services company primarily focused on the purchase, resale and recovery of delinquent debt portfolios; but also a provider of venture capital and investment banking services to emerging companies. While at WW Ventures, Mr. Klemann managed the purchase, resale and recovery of over \$2.5B of charged off consumer debt portfolios utilizing statistical modeling, database analysis and a network of over 100 collection law firms to optimize the debt recovery process. Mr. Klemann was also a Senior VP with Carriage Hill Partners, a private equity firm located in New York, NY and Wall Street Financial Group, Inc., an independent broker dealer. Mr. Klemann has performed investment banking and business consulting services for a number clients

including Canadian Anglo Manufacturing Inc., a tier 1 supplier to Volvo Corp. and Alternative Wind Resources, LLC.

Mr. Klemann has been a founding shareholder in a number of Rochester based companies including ICE Inc., a marketing communications firm; KLIC Inc. a national retail franchiser and KLECO Properties, which owned several commercial properties. Mr. Klemann was also Treasurer, Corporate Secretary and served on the Executive Committee for Blair/Dubois, a subsidiary of BBD&O (now Omnicom), a worldwide advertising agency. He has also served as a member of the Board of Directors and CFO for a number of public and private companies and was a member of the Great Lakes Venture Capital Review Board.

Mr. Klemann received his MBA in Finance from Rochester Institute of Technology, BA in accounting from Ithaca College, formerly held Series 7, 63 & Series 65 FINRA securities licenses and was formerly a CPA with Arthur Andersen & Co.

Stephen Lyons, EVP of Sales:

Mr. Lyons has over 25 years of diverse experience in the contract office furniture industry. Past responsibilities have included; international sales management, branding and e-commerce development. Also, Mr. Lyons has extensive experience in the management of regional distribution operations for commercial office furniture dealerships with responsibility for oversight of multiple locations and operations with volumes exceeding 25 million dollars in annual sales.

Mr. Lyons has been responsible for the development and implementation of global sales strategies for several multi-national corporations such as Xerox, GE and IBM, to name a few. Sales from these programs generated in excess of \$100,000,000 in sales revenue in a five year period. On the regional distribution side, Mr. Lyons started a dealership in the Rochester, NY area that went from \$0 to \$22,000,000 in three years with an average annual gross profit of 23.2%.

Mr. Lyons has served on committees for Xerox and Paychex for branding, strategic facilities cost reduction and architecture as appointed by the executive leadership teams for each corporation.

Gary D. Robinson: *VP Marketing* - Diversified experience in the planning, development, marketing, implementation and management of energy and environmental market sector projects. Identified, developed, and serviced new and existing markets in both the domestic and international marketplace while VP of Energy Operations at URS Corporation. Served as VP Energy Operations at Ecology and Environment. Appointed by President GHW Bush as member of the Office of Pipeline Safety's Hazardous Liquids Pipeline Safety Committee. PhD in International Business, MBA in Finance, MBA in Marketing, MS in Water Resource Development and BS in Limnology Resource.

Ricardo A. Aguirre, Esq: *VP of Government Affairs* – Counsel to the NY Secretary of State; worked with members of federal, state, legislative bodies and members of government, business and not-for-profit agencies. Managed and supervised the qualification and distribution process of an \$87 million American Recovery and Reinvestment Act grant throughout New York State. Sergeant US Marine Corps. B.A. in Psychology and Juris Doctor from Fordham University School of Law.

PRODUCTS AND SERVICES

AWR provides wind turbines that are not only easy to permit, but also have the lowest cost per kilowatt-hour capacity of any unit in the market. The technology provides for a decentralized power distribution solution, which alleviates the growing electrical demand on the power grid and the escalating cost of power.

AWR 3300

The turbine is designed to accommodate 1.0 kW, 1.5 kW or 2.0 kW generators and is sized for homes, parking lots, commercial roofs and WindGardens™. The shrouded design makes it acceptable for roof-mounted applications by eliminating the risk of blade injury and vibration.



Mobile Power System

A production ready trailer mounted 1.5 kW battery backup turbine with conventional 110 Volt outlets to operate standard contractor and communications equipment. It can provide continuous power while trickle charging with minimal wind and can operate without wind for over a week during normal use. During remote military operations, the device would pay for itself within one week where average fuel use is \$400 per gallon and one loss of life every 24 refueling cycles of a generator.



AWR 12000

The turbine is sized to accommodate the 3.0 kW, 5.0 kW, 7.5 kW or 10.0 kW generators. Designed for applications ranging from providing all the power of an average 2,000 sq ft home, to agriculture, hospitals, universities and municipalities.

WindGardens™ installed with large wind turbines in a wind farm to increase their value and productivity.



Remote Net Metering

Wind turbines need good wind to be economically effective. Commercial customers with minimal wind speeds and less desirable geographic locations can offset their energy cost through remote net metering with offsite energy production which creates a credit against their electric bill. Excellent candidates are convenient stores, restaurants, drugstores, farmers etc.

AWEA SPECIFICATIONS

AWEA 9.1-2009 AWEA Small Wind Turbine Performance and Safety Standard: This standard provides consumers with a realistic and comparable performance ratings and an assurance the small wind turbine have been engineered to meet safety and operation. This standard applies to both on-grid and off grid applications and turbines with a rotor swept area of 200 m² or less.

IEC 61400-2 Wind Turbines - Part 2: Design Requirements for Small Wind Turbines: This standard deals with safety philosophy, quality assurance, and engineering integrity and specifies requirements for the safety of Small Wind Turbines (SWTs) including design, installation, maintenance and operation under specified external conditions. Its purpose is to provide the appropriate level of protection against damage from hazards from these systems during their planned lifetime. This part of IEC 61400 is concerned with all subsystems of SWT such as protection mechanisms, internal electrical systems, mechanical systems, support structures, foundations and the electrical interconnection with the load. This document is developed by referencing:

IEC 60034-1, Rotating electrical machines – Part 1: Rating and performance IEC 60034-2, Rotating electrical machines – Part 2: Methods for determining losses and efficiency of rotating electrical machinery from tests (excluding machines for traction vehicles)

IEC 60034-5, Rotating electrical machines – Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) – Classification

IEC 60034-8, Rotating electrical machines – Part 8: Terminal markings and direction of rotation

IEC 60038:1983, IEC standard voltages Amendment 1 (1994) Amendment 2 (1997)

IEC 60204-1, Safety of machinery – Electrical equipment of machines – Part 1: General requirements

IEC 60364-5-54, Electrical installations of buildings – Part 5-54: Selection and erection of electrical equipment – Earthing arrangements, protective conductors and protective bonding conductors

IEC60721-2-1, Classification of environmental conditions – Part 2-1: Environmental conditions appearing in nature - Temperature and humidity

IEC 61400-1, Wind turbines – Part 1: Design requirements IEC 61400-12-1, Wind turbines – Part 12-1: Power performance measurements of electricity producing wind turbines

IEC 61400-13, Wind turbine generator systems – Part 13: Measurement of mechanical loads

IEC 61400-23, Wind turbine generator systems – Part 23: Full-scale structural testing of rotor blades

IEC 61643-1, Low-voltage surge protective devices – Part 1: Surge protective devices connected to low-voltage power distribution systems – Requirements and tests

ISO/IEC 17025:2005, General requirements for the competence of testing and calibration laboratories

ISO 2394, General principles on reliability for structures

ENGINEERING ANALYSIS

Over the past two years AWR Energy, INC. has been working with nationally recognized organizations to conduct an array of critical performance tests to ensure our products adhere to the most stringent specifications in the aerospace and wind turbine industry. We are designing our DAWT with all of the American Wind Energy Association (AWEA) requirements in mind. These AWEA standards comply with the American National Standards Institute (ANSI) essential requirements. The primary AWEA standard references the International Electro technical Commission (IEC). Please see “Attachment A” for the detailed specification standards. Below are some of the actions we have taken to ensure that our wind turbines adhere to various industry standards.

FEA (Finite Element Analysis):

We have been working with the Rochester Institute of Technology (RIT) to perform the FEA analysis to measure the structural stability of our wind turbine. Our DAWT underwent various levels of structural analysis to verify the strength of our product under extreme wind and temperature conditions ranging from 50 mph at 110 °F to wind at 90 mph at 75 °F. Our turbine surpassed all the necessary AWEA requirements.

CFD (Computational Fluid Dynamics):

CFD analyzes the aerodynamics of the turbine unit. We have partnered with Northrop Grumman’s Aerospace Systems Division (the original DAWT patent holder) to verify the optimum shape of our diffuser and to validate how airflow interfaces with our unique patented shroud design. Northrop Grumman computational models have proven that our DAWT shroud design does in fact improve airflow movement through the diffuser thus increasing the efficiency of our wind turbine system.

In addition to the FEA and CFD tests we are working with other organizations to address both near-term and longer-term testing strategies as the industry standards continue to evolve.

Optimization Technology, Inc.:

AWR is currently working with Optimization to integrate the performance of the electrical components that make up the turbine energy management system. This process insures optimum performance across the entire system while minimizing energy loss.

National Testing Certification:

We signed a contract with Intertek Laboratories, the Northeast Regionalized National Testing Laboratory for complete performance, structural and safety certification..