FAR WEST
AGGREGATE & ASPHALT

Building America's First Green Mile

ECONOMIC & WORKFORCE DEVELOPMENT
through the CALIFORNIA COMMUNITY COLLEGES

watersystems

Carson City
Special Use Permit Application
Original Submittal - December 16, 2010
Supplemental Submittal - December 27, 2010

Far West, Inc.
Hybrid Asphalt and Aggregate Crushing Facility with 75' Silos
and
225' Wind Turbine
Special Use Permit

Original Submittal December 16, 2010
Supplemental Submittal December 27, 2010

Table of Contents

Submittal Package Prepared By:

Manhard Consulting, Ltd.
3476 Executive Pointe Way, Suite 12
Carson City, NV 89706
Susan Dorr, Planning & Entitlement Manager
(775) 332-4716
sdorr@manhard.com

Carson City Planning Division
108 E. Proctor Street · Carson City NV 89701
Phone: (775) 887-2180 · E-mail: planning@carson.org

FOR OFFICE USE ONLY:

CCMC 18.02

SPECIAL USE PERMIT

FEE: **$2,450.00 MAJOR**
$2,200.00 MINOR (Residential zoning districts)
+ noticing fee and CD containing application digital data (all to be submitted once the application is deemed complete by staff)

SUBMITTAL PACKET

- ☐ 6 Completed Application Packets (1 Original + 5 Copies) including:
- ☐ Application Form
- ☐ Site Plan
- ☐ Building Elevation Drawings and Floor Plans
- ☐ Proposal Questionnaire With Both Questions and Answers Given
- ☐ Applicant's Acknowledgment Statement
- ☐ Documentation of Taxes Paid-to-Date (1 copy)
- ☐ Project Impact Reports (Engineering) (4 copies)

Application Reviewed and Received By:

Submittal Deadline: See attached PC application submittal schedule.
Note: Submittals must be of sufficient clarity and detail such that all departments are able to determine if they can support the request. Additional Information may be required.

FILE # SUP - 11 -

C.B. Maddox
PROPERTY OWNER

5990 Morgan Mill Road, Carson City, NV 89701
MAILING ADDRESS, CITY, STATE, ZIP

(775) 883-1244 (775) 883-5656
PHONE # **FAX #**

Name of Person to Whom All Correspondence Should Be Sent

Robert F. Matthews
APPLICANT/AGENT

712 7th Avenue North, St. Petersburg, FL 33701
MAILING ADDRESS, CITY, STATE ZIP

(727) 896-7184 N/A
PHONE # **FAX #**

robert.matthews68@gmail.com
E-MAIL ADDRESS

Project's Assessor Parcel Number(s):	Street Address / ZIP Code
008-611-31, 33, 35 & 37	Not assigned

Project's Master Plan Designation	Project's Current Zoning	Nearest Major Cross Street(s)
Mixed Use Commercial	General Industrial	U.S. Hwy 50/Flint Drive

Briefly describe your proposed project: (Use additional sheets or attachments if necessary). In addition to the brief description of your project and proposed use, provide additional page(s) to show a more detailed summary of your project and proposal. In accordance with Carson City Municipal Code (CCMC) Section: 18.02.080, or Development Standards, Division ____, Section ____, a request to allow as a conditional use is as follows:

Asphalt plant and aggregate crushing facility powered by renewable energy including a 1.5 megawatt wind turbine and natural gas generation set.

Wind turbine height of 225' and output of 1.5 megawatts requires a special use permit as does an AC plant operating in a GI zoning district.

PROPERTY OWNER'S AFFIDAVIT

I, Ben Maddox, being duly deposed, do hereby affirm that I am the record owner of the subject property, and that I have knowledge of, and I agree to, the filing of this application.

Signature	5990 Morgan Mill Road, Carson City, NV 89701	12/14/10
	Address	Date

Use additional page(s) if necessary for other names.

STATE OF NEVADA)
COUNTY carsoncity)

On December 14, 2010, Ben Maddox, personally appeared before me, a notary public, personally known (or proved) to me to be the person whose name is subscribed to the foregoing document and who acknowledged to me that he/she executed the foregoing document.

Linda McKenzie
Notary Public

LINDA MCKENZIE
NOTARY PUBLIC
STATE OF NEVADA
No.02-76598-3 My Appt. Exp. Aug. 1, 2014

NOTE: If your project is located within the historic district, airport area, or downtown area, it may need to be scheduled before the Historic Resources Commission, the Airport Authority, and/or the Redevelopment Authority Citizens Committee prior to being scheduled for review by the Planning Commission. Planning personnel can help you make the above determination.

Manhard CONSULTING LTD

Civil Engineering
Surveying
Water Resources Management
Water & Wastewater Engineering
Supply Chain Logistics
Construction Management
Environmental Sciences
Landscape Architecture
Land Planning

December 16, 2010

RE: Far West Hybrid Asphalt and Aggregate Plant with Associated Wind Turbine Project Description

Far West, Inc. is pleased to present its Hybrid Asphalt and Aggregate Plant with associated Wind Turbine project for consideration by Carson City Community Development and the Carson City Planning Commission.

The proposed asphalt and aggregate plant, along with the proposed wind turbine are located on 26.93 acres in eastern Carson City (APNs 08-611-31, 33, 35 and 37), just east of Moundhouse and Carson City/Lyon County line. The current zoning is General Industrial (GI) and the master plan designation is Mixed-Used Commercial (MUC). This project is located within the Eastern Portal – Virginia & Truckee Railroad Gateway Specific Plan Area (V&T-SPA). The project is proposed on property that has existed as an aggregate pit for several years, and has a current NDOT encroachment permit to allow for ingress and egress at U.S. Highway 50 East. The project does not propose connection to the Carson City water or sewer systems, however the applicant intends to lease an adjacent warehouse building with existing office and restroom facilities for use by employees of the operation only.

The purpose for the proposed asphalt and aggregate plant is to provide asphalt for private sales within Carson City (note that this will be the only plant producing asphalt solely for private sales in Carson City, which will have a positive impact on local taxes). The asphalt is similar to other asphalt plants with relation to the final product, and will produce up to 400 tons of asphalt per hour. However, the applicant is proposing a new process that will utilize as much clean, renewable energy as possible, thereby reducing emissions from the plant.

The proposed hybrid asphalt plant will first begin with standard operations for approximately 12-18 months, however, once fully functional, the dryer drum will be converted to a burner-less dryer drum that will dedicate a set amount of power to dry material through the use of a Tungsten element and a Meliculite-insulated drum. This is a cutting edge process that will result in the production of virtually no emissions. This highly functional process is derived through the use of special holding bins as well as the creation of a pre-warming of materials facility specifically designed around the custom construction of Far West's revolutionary new warming bins. Far West bins are ceramically insulated and lined with Tungsten elements to pre-warm the material before entering the final stages of drying in the burner-less dryer drum. These bins utilize wind power to generate self-sustaining power. Through the use of thermal cameras and rheostats, Far West is able to control the temperature of material and remove all unwanted moisture while the material is preheated, which saves energy. In addition to the electricity from the turbine, the plant will also utilize all the heat from the turbine's heat exchanger and the generation set to circulate heat through the bins and for the storage of all binders.

Recognizing the federate mandate to develop renewable energy, the applicant decided to propose operating the asphalt plant with as much clean, renewable energy as possible. The result is the project presented with this Special Use Permit Application – a hybrid asphalt and aggregate plant that utilizes wind, natural gas and locally produced biofuel to operate facilities.

To power both the asphalt production and aggregate crushing operations, the applicant proposes to produce its own power through the use of a GE 2.5 megawatt (full capacity) Wind Turbine and Caterpillar Natural Gas Generation Set (note that the wind turbine specifications provided as a part of this application are for a 1.5 megawatt wind turbine. The size of the 2.5 megawatt turbine is the same, but has a larger motor). This turbine is approximately 225' feet high and has been specifically selected because of the presence of wind in Carson City on a regular basis (the average wind speed in Carson City is 8 mph). In order to generate 2.5 megawatts of power, the wind turbine must be large enough to capture adequate wind and power a large generator capable of 2.5 megawatts of power output, hence the proposed height and size of the wind turbine.

The applicant estimates that the 2.5 megawatt wind turbine will meet its maximum capacity at 18-20 mph, with 60% capacity estimated at 10-12 mph. At 60% capacity, the proposed wind turbine can fully operate the proposed asphalt plant (approximately 1.5 megawatts is needed to power the asphalt and aggregate facilities). At capacities beyond 60%, the wind turbine will generate excess power that will be available to be sold back into the power grid. Several potential users have expressed interest in this excess power, including Carson City (see 11/23/10 email from Andy Burnham), which would be available for purchase at a cost effective rate.

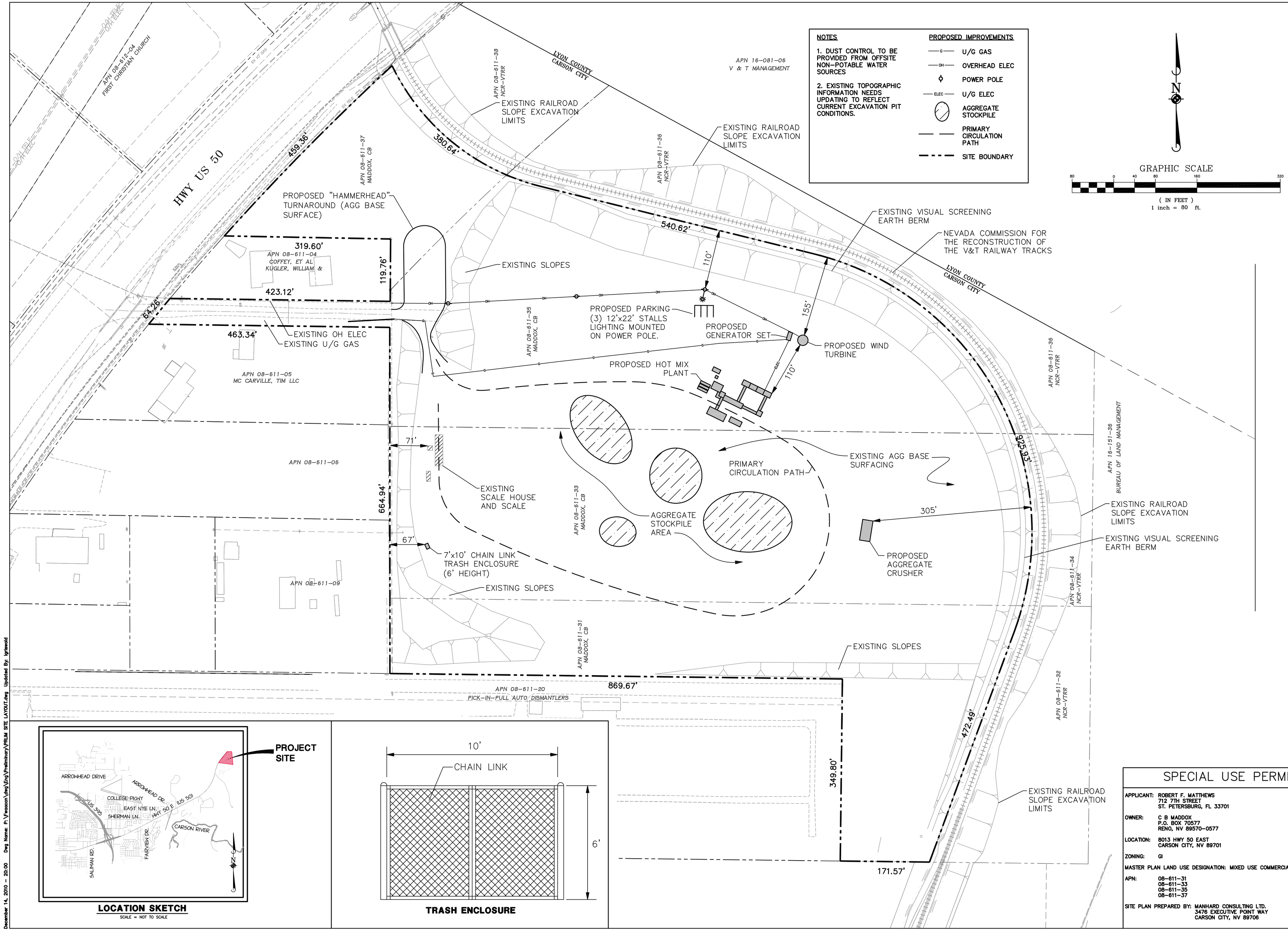
Because wind is not guaranteed every day, the applicant has provided back up power generation through a Natural Gas Generation Set (specifications for this equipment is provided as a part of this application). This natural gas generation set is sized to provide adequate back-up power for the asphalt production and aggregate equipment in the event that wind power is not available. The use of a natural gas generation set in conjunction with, and as a back-up for, the wind turbine will allow for the emissions of the overall asphalt production and aggregate crushing facility to be drastically reduced in relation to the use of diesel fuel in a traditional operation.

In addition, for operations that require diesel fuel, the applicant plans to utilize bio-diesel fuel, which is produced by Bently Biofuels in Douglas County, Nevada, making this operation even more environmentally sensitive by not only producing and using renewable energy sources, but also utilizing recycled fuel from a local source to reduce emissions and benefit local economies.

A special use permit is required for this project in Carson City for the following reasons:

1. An Asphalt Plant is permitted with special use permit in a GI zoning district. The two (2) 150 ton silos proposed with the project are 75' high, which exceeds the maximum height of 45' allowed in the GI zoning district and requires a special use permit.

2. The proposed 225' high, 2.5 Megawatt Wind Turbine associated with this project is not considered a "private" system permitted by code due to output and height of the turbine, therefore a special use permit is required. It should be noted, however, that a power/gas production plant is a use permitted by right in the GI zoning district. Due to output and height of this wind energy technology, which is just beginning to be utilized in Carson City, a special use permit is necessary because specific code requirements related to larger wind energy conversion systems (WECS) have not yet been developed.



SPECIAL USE PERMIT

APPLICANT: ROBERT F. MATTHEWS
712 7TH STREET
ST. PETERSBURG, FL 33701

OWNER: C B MADDOX
P.O. BOX 70577
RENO, NV 89570-0577

LOCATION: 8013 HWY 50 EAST
CARSON CITY, NV 89701

ZONING: GI

MASTER PLAN LAND USE DESIGNATION: MIXED USE COMMERCIAL

APN: 08-611-31
08-611-33
08-611-35
08-611-37

SITE PLAN PREPARED BY: MANHARD CONSULTING LTD.
3476 EXECUTIVE POINT WAY
CARSON CITY, NV 89706

DATE	REVISIONS	DRAWN BY	CHECK BY

Manhard CONSULTING LTD
3476 Executive Pointe Way, Suite 12, Carson City, NV 89706 tel (775) 885-7900 www.manhard.com
Civil Engineers · Surveyors · Water Resources Engineers · Water & Wastewater Engineers
Construction Managers · Environmental Scientists · Landscape Architects · Planners

FAR WEST AGGREGATES
HILL TOP PIT AGGREGATE PROCESSING FACILITY
Carson City Nevada

PROJ. MGR.:	KLD
PROJ. ASSOC.:	IGS
DRAWN BY:	IGS/JAM
CHECKED BY:	KLD
DATE:	NOV 2010
SCALE:	1"=80'

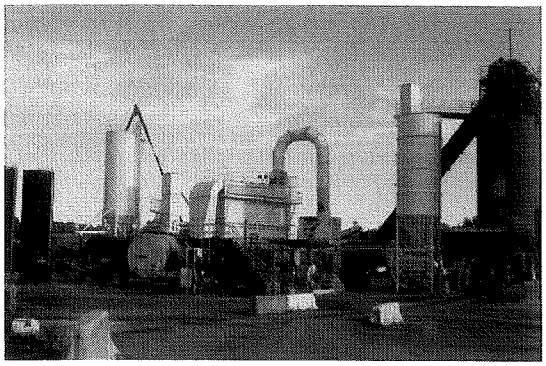
SHEET 1 OF 1

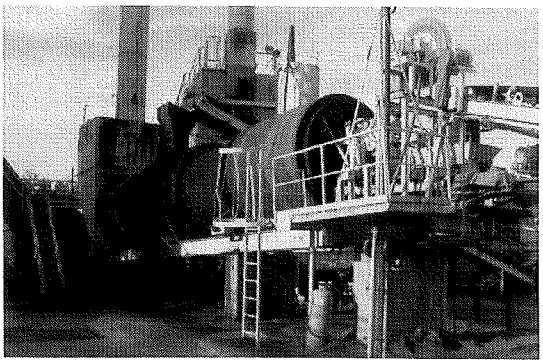
FWAACCN

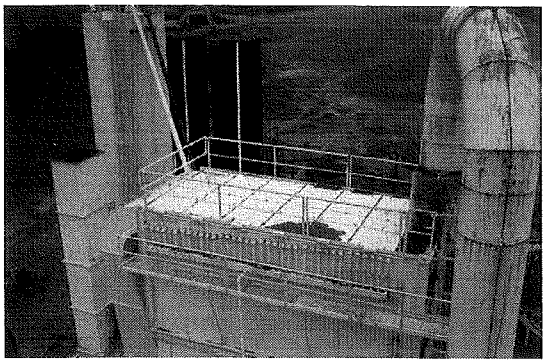
December 14, 2010 - 20:00 Dwg. Name: P:\Finocchio\Dwg\Eng\Preliminary\PRLIM SITE LAYOUT.dwg Updated By: lgriswold

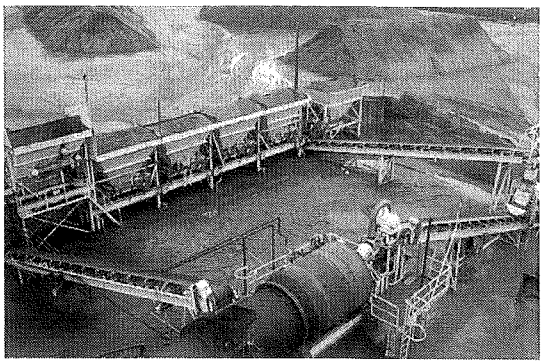
Reliable Asphalt Products INC

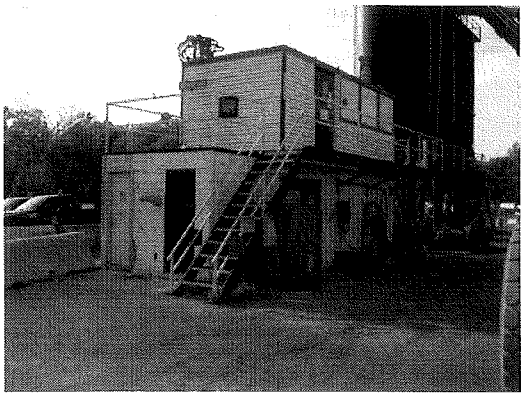
RAP-12004

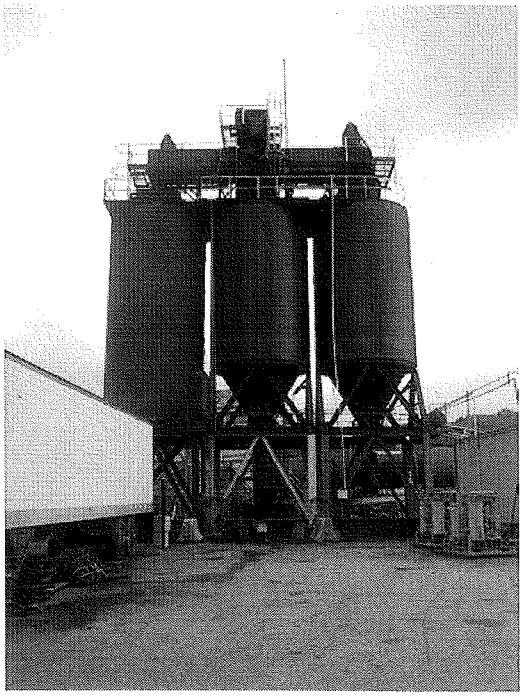












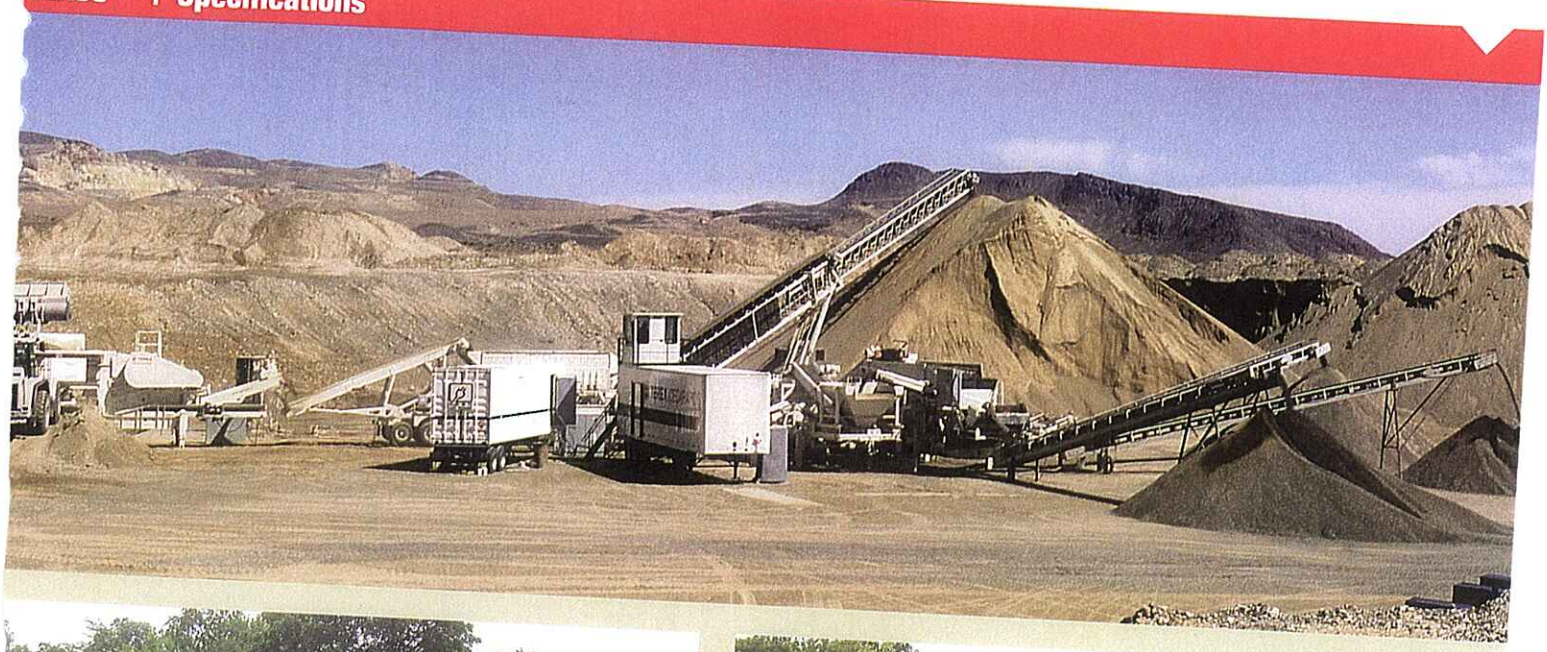
CMI SVM2000 DRUM MIX PLANT

- SVM2000 drum mixer / Hauck LJ580
- CMI Autopulse baghouse / 540 bags
- 5 bin cold feed / screen / weigh conv
- Sgl Recycle / screen / breaker
- 2) 150 Ton silos / drag / transfer slat
- AC Tank(s) / pumps / piping
- Control structure / MCC / controls

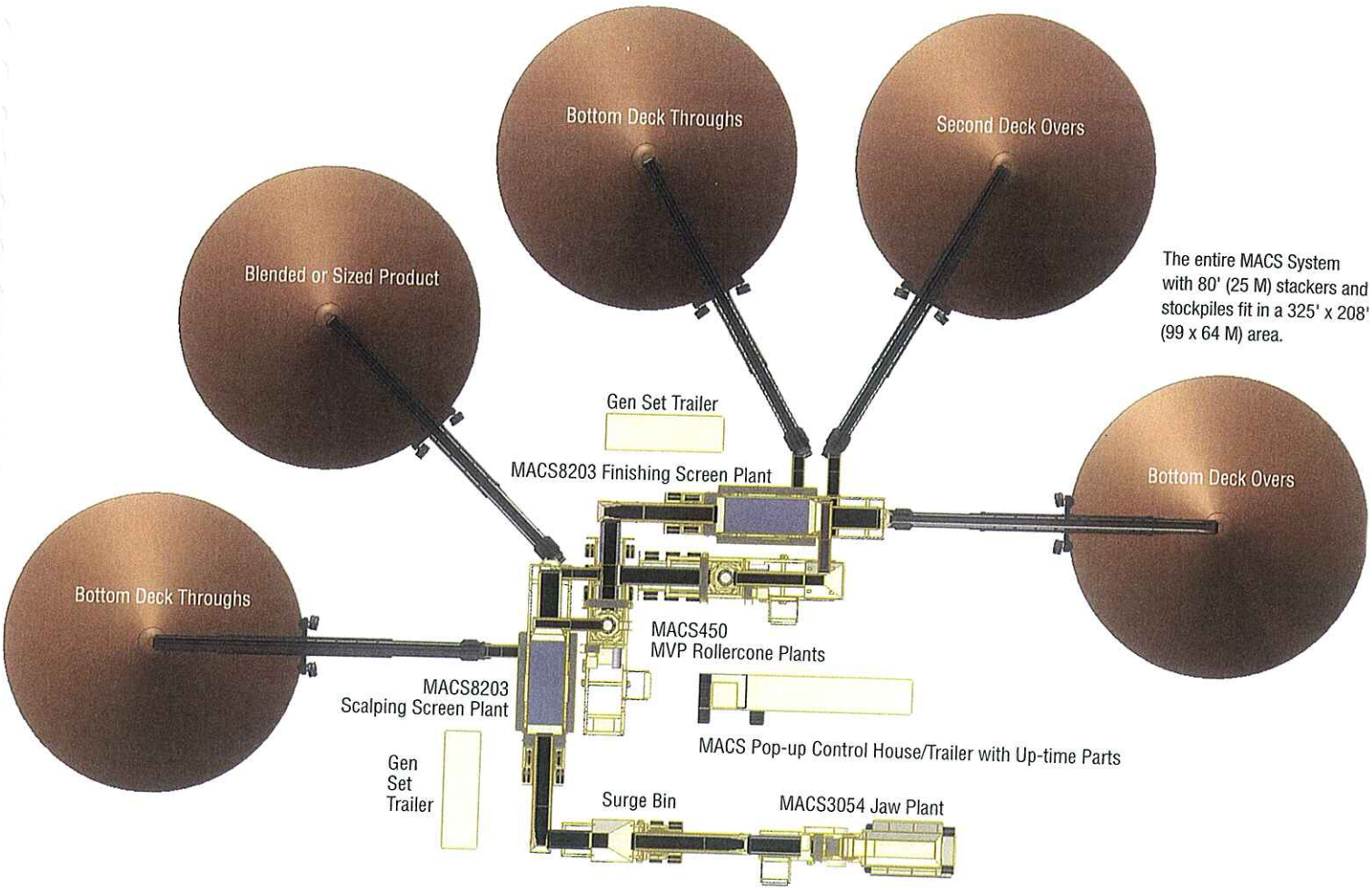
P.O. Box 519 • Shelbyville, KY 40066 • Phone (866) 647-1782 • Fax (502) 647-1786

TEREX | CEDARAPIDS

MACS™ | Specifications



MACS™
MOBILE AGGREGATE CRUSHING SYSTEM



The entire MACS System with 80' (25 M) stackers and stockpiles fit in a 325' x 208' (99 x 64 M) area.

MACS™

MOBILE AGGREGATE CRUSHING SYSTEM
(Patent Pending)

Standard Components

- MACS3054 Jaw Primary Plant
- MACS Surge Bin Plant
- MACS8203 Scalping Screen Plant
- MACS450 Rollercone® Secondary Plant
- MACS8203 Finishing Screen Plant
- MACS450 Rollercone® Tertiary Plant
- MACS Pop-up Control House/Trailer
- MACS 725 Power Trailers (two)
- MACS 3080 Radial Stockpile Portable Conveyors (five)

Powering the world...responsibly.

For more information, please visit
www.ge-energy.com/wind

Printed on recycled paper. GEA-14954C (06/09)

World-class customer service

GE's wind turbine fleet is one of the fastest growing and best-run fleets in the world. Utilizing our decades of experience in product services in the power generation industry, GE provides state-of-the-art solutions to ensure optimal performance for your wind plant.

24x7 Customer Support

GE's customer support centers in Europe and the Americas provide remote monitoring and troubleshooting for our installed fleet of wind turbines around the world, 24 hours a day, 365 days a year. The customer support centers are able to quickly perform remote resets for over 250 turbine faults. It is one of the most effective ways to ensure continuous monitoring and fault resets of your wind assets by qualified technology experts.

Technical Skills and In-depth Product Knowledge

GE's wind customer support centers have dedicated teams to dispatch for troubleshooting, repair and maintenance, available 24 hours a day, 365 days a year. This model ensures wide coverage of large wind turbine fleets without compromising technical skills or quality.

GE taps into our extensive product knowledge for timely resolution of many issues. All turbine faults are investigated using a structured technical process, which is then escalated as necessary. We also use feedback from this process in product development.

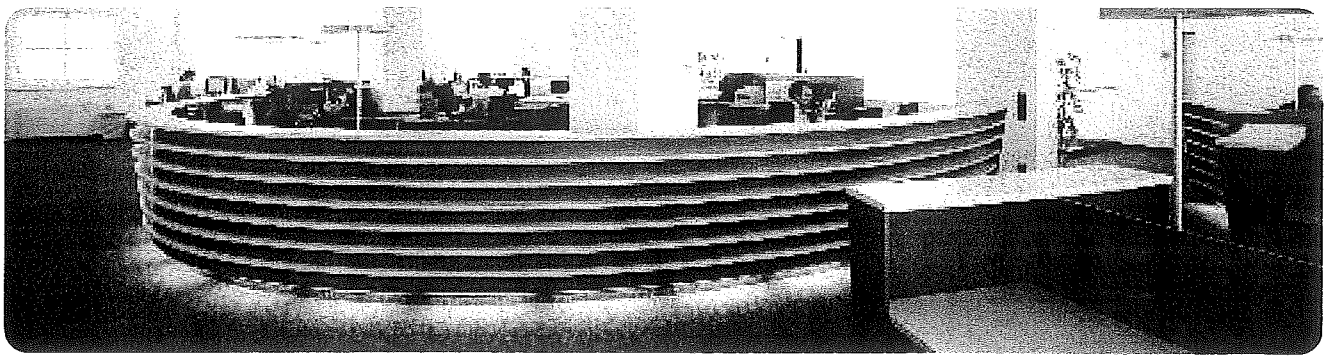
Operations and Maintenance Support

Driven by a highly skilled work force and the operating knowledge of over 12,000 1.5 MW wind turbines, GE offers a wide range of services tailored to the operation and maintenance needs of your wind assets. Our offerings range from technical advisory services, transactional services and remote operations to full on-site operations support including availability guarantees.

Parts Offerings

GE has utilized the extensive Parts and Refurbishment experience of its Energy Services business to establish a global center of excellence for wind parts operations. The wind parts resources are aligned to provide a full range of offerings for all types of parts and refurbishment needs, including routine maintenance kits, consumables and flow parts, and key capital parts such as gearboxes and blades.

With the launch of our 24/7 parts call center (877-956-3778), and the development of online ordering tools, we are increasing the channels that our wind plant operators can utilize to order required wind turbine parts, including emergency requests for down-turbine needs.



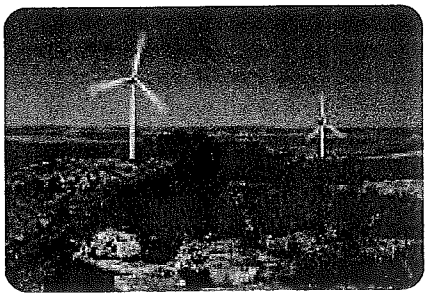
Project execution

GE understands that grid compatibility, site flexibility, and on-time delivery are critical to the economics of a wind project. That's why the 1.5 MW wind turbine has been engineered for ease of integration and delivery to a wide range of locations, including those with challenging site conditions.

Our global project management and fulfillment expertise offer customers on-time delivery and schedule certainty. Regardless of where wind turbine components are delivered, GE's integrated logistics team retains ownership and responsibility for this critical step. Utilizing the GE Energy Power Answer Center, our engineering and supply chain teams are ready to respond to any technical, mechanical or electrical questions that may arise.

As one of the world's largest power plant system providers, GE is uniquely positioned to provide customers with full-service project management solutions. With offices in North America, Europe, and Asia, our world class Global Projects Organization utilizes decades of fulfillment expertise in project management, logistics, plant start-up and integration from Gas Turbine, Combined Cycle, Hydro, and Aero plants.

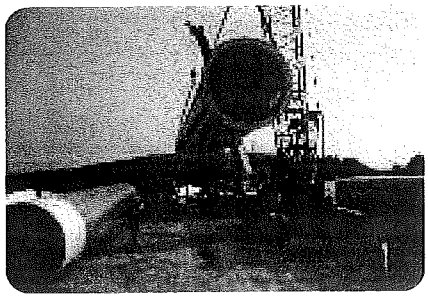
Here are some examples of how GE has worked with customers to solve project challenges and maximize their value through on-time delivery and advanced logistic capabilities:



Challenge:
Site with late grid availability due to project location change

GE's solution:
Pre-commissioning service: GE can bring portable generators on site and pre-commission turbines even without back feed power

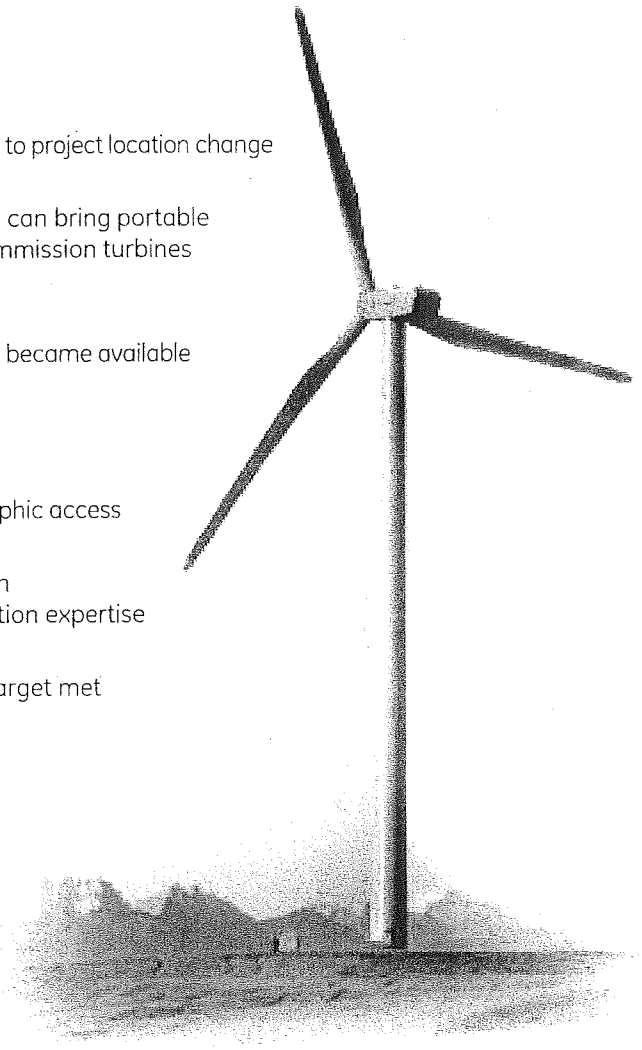
Customer benefit:
Faster commissioning once grid became available



Challenge:
Project site with difficult geographic access

GE's solution:
Well-choreographed team with challenging terrain transportation expertise

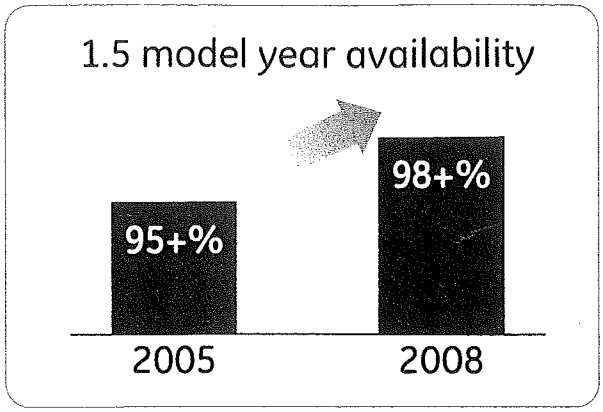
Customer benefit:
More site flexibility; schedule target met

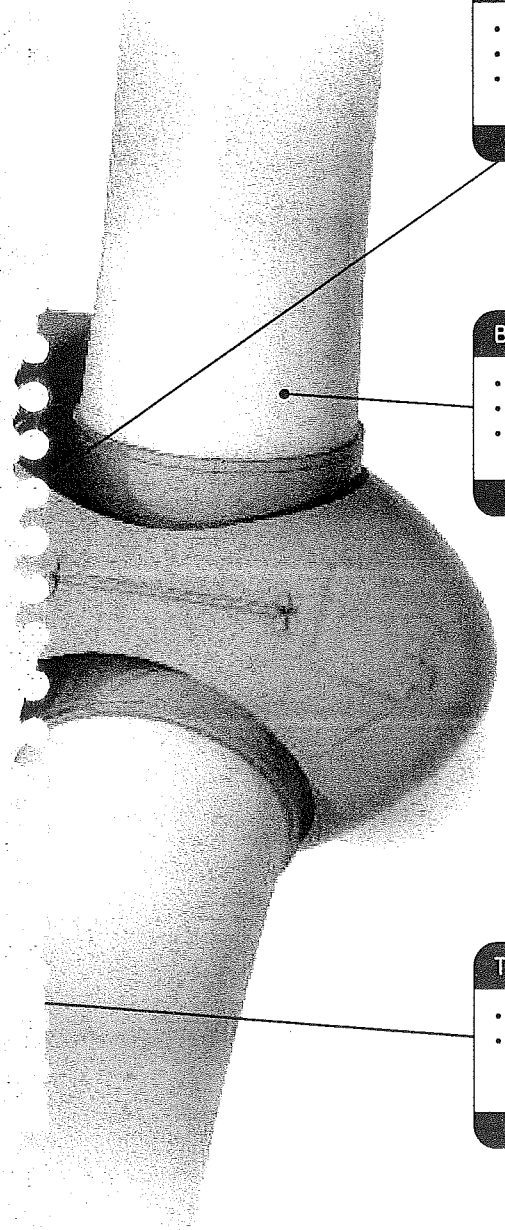


ınce

Delivering reliability through advanced technology

To optimize turbine reliability and availability, GE focuses on reducing the number of downtime faults, and providing faster Return-to-Service (RTS). Our rigorous design and testing process—including specialized 20-year fatigue testing and Highly Accelerated Life Testing (HALT)—reflects our ongoing investment in key turbine components.





PITCH

- GE designed pitch electronics
- Increased pitch drive robustness
- Greater torque

BLADES

- Includes GE designs
- Improved capacity factor
- HALT testing

TOWER

- Modular tower system
- Hub height flexibility

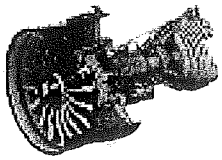
Technological expertise

GE Infrastructure

Energy

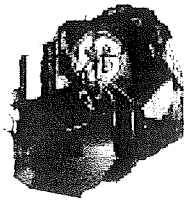
- Controls, materials, power electronics
- Fulfillment and logistics capability
- Efficient supply chain management

Aviation



Aerodynamic and aero-acoustic modeling expertise

Rail



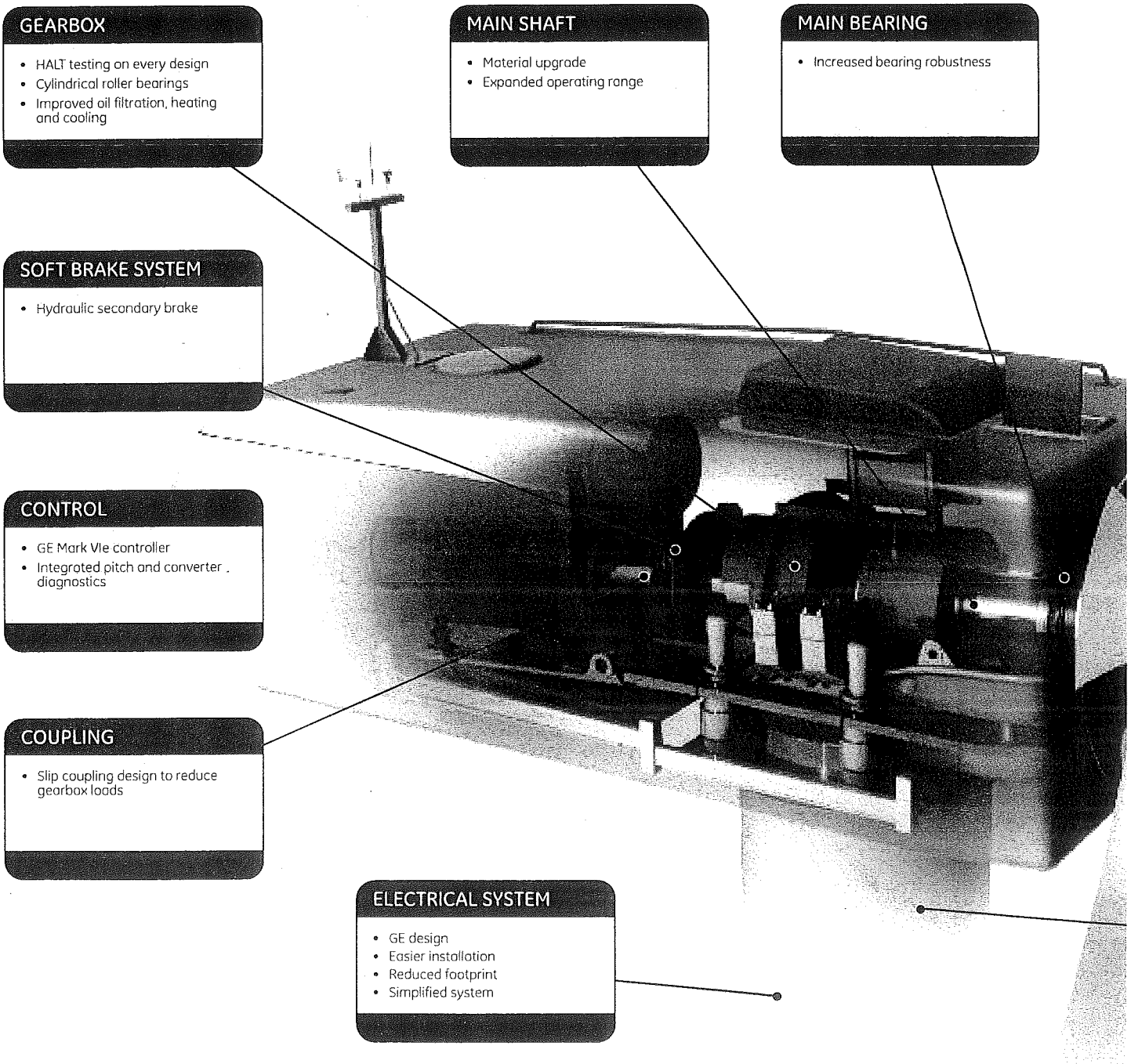
Gearbox and drive train technologies

GE Global Research

- Energy conversion
- Material sciences
- Smart grids

Leading reliability and availability perform

GE's 1.5 MW wind turbine and services are designed to set the industry standard for product reliability and availability performance. GE's continual investments in technology, established infrastructure, research capabilities and globally recognized business processes allow GE to create and deliver customer value by maximizing energy capture and return on investment. This is evident through our model year performance trend where availability performance significantly improves each year.



Commitment to continued investment

GE's commitment to investing in technology and increasing customer value is demonstrated with our exciting new customer options for increasing turbine performance, flexibility and reliability.

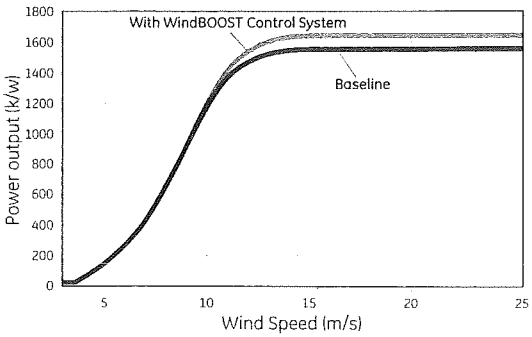
Enhanced performance

WindBOOST* Control System

This exciting new customer option for increasing performance, WindBOOST* control system, is a unique offering in the wind industry and the latest addition to the 1.5 MW product platform. This software upgrade provides:

- Up to 4% increased annual energy production (AEP), resulting in higher return on investment.
- Patent-pending control technology for optimum rotational speed, resulting in increased energy production.
- Remote capability to turn feature on and off at the turbine level.
- Increased power output while maintaining grid stability.

WindBOOST* Control System Power Curve Density 1.2 (kg/m^3)



Improved flexibility

Reinforced Tower

GE's investment in a reinforced tower design opens up new potential wind sites for our customers, enabling us to deliver reliable and safe products that meet product and regulatory compliance expectations. GE's reinforced tower sections have the same length and external diameter as the standard GE North American modular system, but are specially built to handle seismic loads.

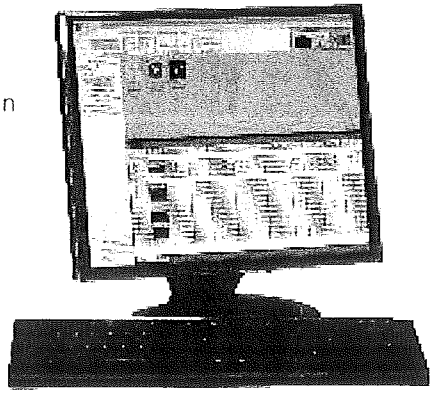
- Allows wind farms to be located in designated seismic prone areas with good wind resources.
- GE provides an evaluation to determine if the site requires reinforced tower due to seismic activity.

Increased reliability

Condition Based Maintenance (CBM)

GE Energy's integrated Condition Based Maintenance (CBM) system proactively detects impending drive train issues, enabling increased availability and decreased maintenance expenses. Factory or field installed and tested, the CBM solution can improve reliability on a single wind farm or multiple wind farms. GE's CBM allows operators to understand an issue weeks—or even months—in advance. This permits operators to:

- Continue to produce power while parts, crane, and labor are resourced.
- Plan multiple maintenance events with the same resources.
- Reduce or limit the extent of damage to the drivetrain and reduce repair costs.



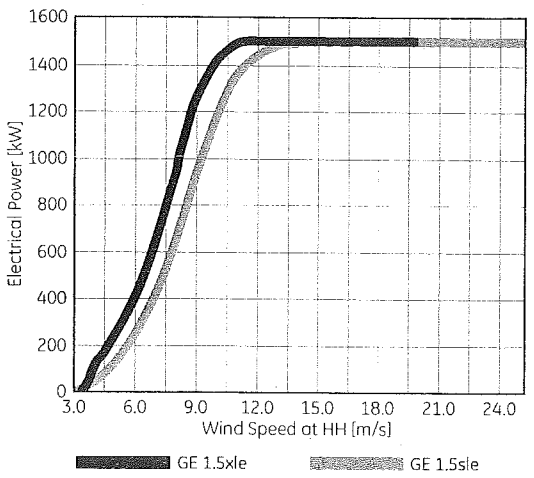
Advancing wind capture performance

As a leading global provider of energy products and services, GE continues to invest in advancing its 1.5 MW wind turbine product platform. With a core focus on enhancing efficiency, reliability, site flexibility and delivering multi-generational product advancements, GE's 1.5 MW wind turbine is the most widely used turbine in its class. Our commitment is to fully understand our customer's needs and respond with new technology enhancements aimed at capturing maximum wind energy to deliver additional return on investment.

Technical data

		1.5sle	1.5xle
Operating Data			
Rated Capacity:		1,500 kW	1,500 kW
Temperature Range: (with Cold Weather Extreme Package)	Operation:	-30°C – +40°C	-30°C – +40°C
	Survival:	-40°C – +50°C	-40°C – +50°C
Cut-in Wind Speed:		3.5 m/s	3.5 m/s
Cut-out Wind Speed (10 min avg.):		25 m/s	20 m/s
Rated Wind Speed:		14 m/s	11.5 m/s
Wind Class – IEC:		IIa (V_{e50} = 55 m/s V_{ave} = 8.5 m/s)	IIIb (V_{e50} = 52.5 m/s V_{ave} = 8.0 m/s)
Electrical Interface			
Frequency		50/60 Hz	50/60 Hz
Voltage		690V	690V
Rotor			
Rotor Diameter:		77 m	82.5 m
Swept Area:		4657 m²	5346 m²
Tower			
Hub Heights:		65/80 m	80 m
Power Control		Active Blade Pitch Control	Active Blade Pitch Control

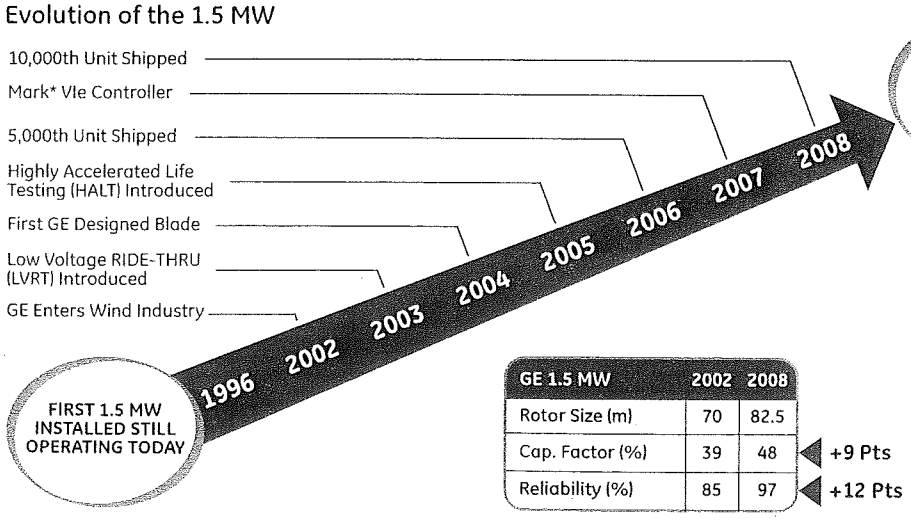
Power curve



1.5sle — *Classic workhorse, an efficient and reliable machine with proven technology*
1.5xle — *Built on the success of the 1.5sle platform, captures more wind energy with 15% greater swept area*

GE's 1.5 MW wind turbine is designed to maximize customer value by providing proven performance and reliability. GE's commitment to customer satisfaction drives our continuous investment in the evolution of the 1.5 MW wind turbine through technological enhancements.

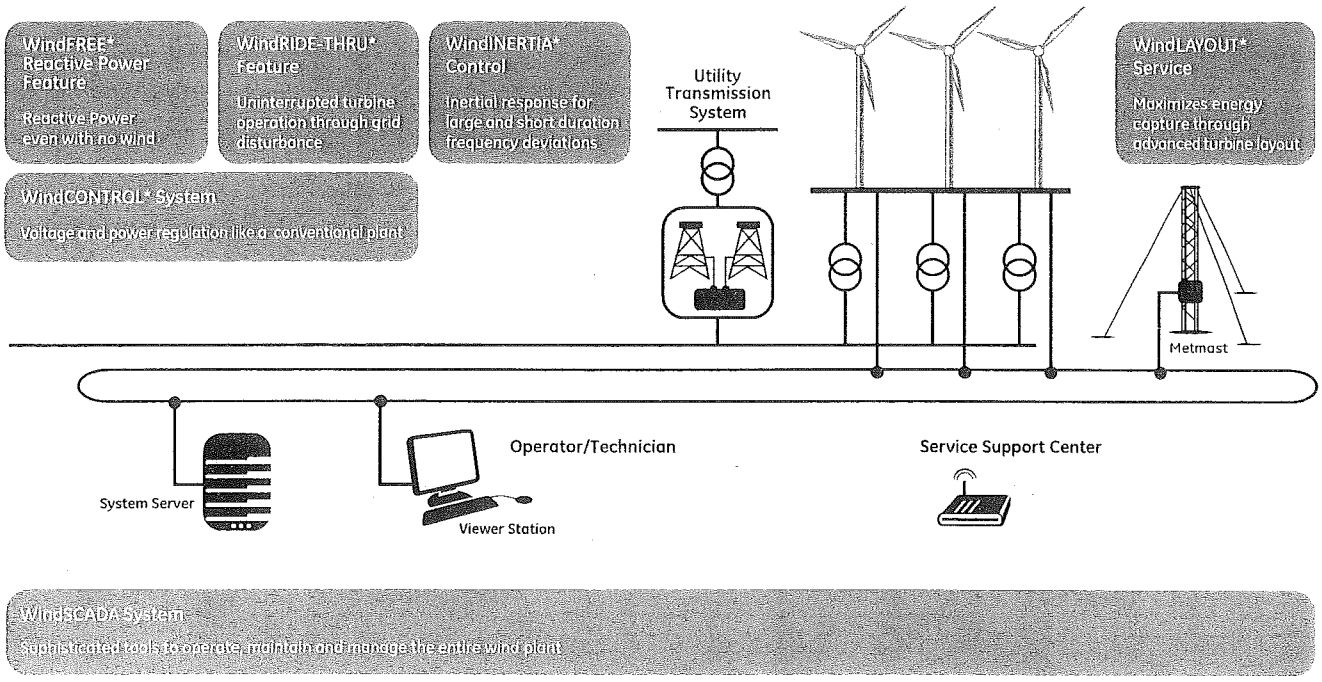
Evolution of the 1.5 MW



GE 1.5 MW	2002	2008	
Rotor Size (m)	70	82.5	
Cap. Factor (%)	39	48	+9 Pts
Reliability (%)	85	97	+12 Pts

Optimized wind power plant performance

Wind turbine performance is a critical issue in light of increasingly stringent grid requirements. GE's unrivaled experience in power generation makes us the industry leader in grid connection. By providing a sophisticated set of grid-friendly benefits similar to conventional power plants, GE's patented integrated suite of controls and electronics take your wind power plant to the frontline of performance and seamless grid integration.



FEATURE	DESCRIPTION	BENEFITS
WindCONTROL* System	Voltage and power regulation like a conventional power plant	Ability to supply and regulate reactive and active power to the grid Additional features include power frequency droop, power ramp rate limiters and integrated capacitor/reactor bank control
WindFREE* Reactive Power Feature	Provides reactive power even with no wind	Provides smooth fast voltage regulation by delivering controlled reactive power through all operating conditions Eliminates the need for grid reinforcements specifically designed for no-wind conditions
WindRIDE-THRU* Feature	Low voltage, zero voltage and high voltage ride-through of grid disturbances	Uninterrupted turbine operation through grid disturbances Meets present and emerging transmission reliability standards
WindINERTIA* Control	Provides temporary boost in power for under-frequency grid events	Provides inertial response capability to wind turbines that is similar to conventional synchronous generators without additional hardware
WindLAYOUT* Service	Service to optimize turbine layout for a site	Opportunity to increase annual energy production for a site
WindSCADA System	Tools to operate, maintain and manage wind power plant	Real-time data visualization, reporting on historical data, alarm management and secure user access

For wind plant operators looking for additional benefits that a contractual parts relationship with GE can offer, the wind parts team has developed tailored offerings that can provide ongoing inventory-level support and parts lead-time guarantees. One of the exciting advantages of a GE wind parts and refurbishment program is membership in the capital parts pool, with a priority access to often hard-to-source capital parts.

Conversions, Modifications and Uprates (CM&U)

Continuous technological improvements are key for GE to be a world leader in the wind industry. Our CM&U offerings utilize the new technology developments in the 1.5 MW platforms to improve the performance of existing assets. These offerings are designed to improve reliability and availability, and increase turbine output and improve grid integration.

Long-Term Asset Management Support

GE is your reliable partner as we strive to build long-term relationships with asset managers. Utilizing our strengths, we can provide parts solutions, field technician and customer training, and a wide range of specialized services to complement local on-site capabilities.

Environmental Health and Safety, a GE commitment

Maintaining high Environmental Health and Safety (EHS) standards is more than simply a good business practice; it is a fundamental responsibility to our employees, customers, contractors, and the environment we all share.

GE is committed to maintaining a safe work environment. We incorporate these values into every product, service and process, driving EHS processes to the highest standards.