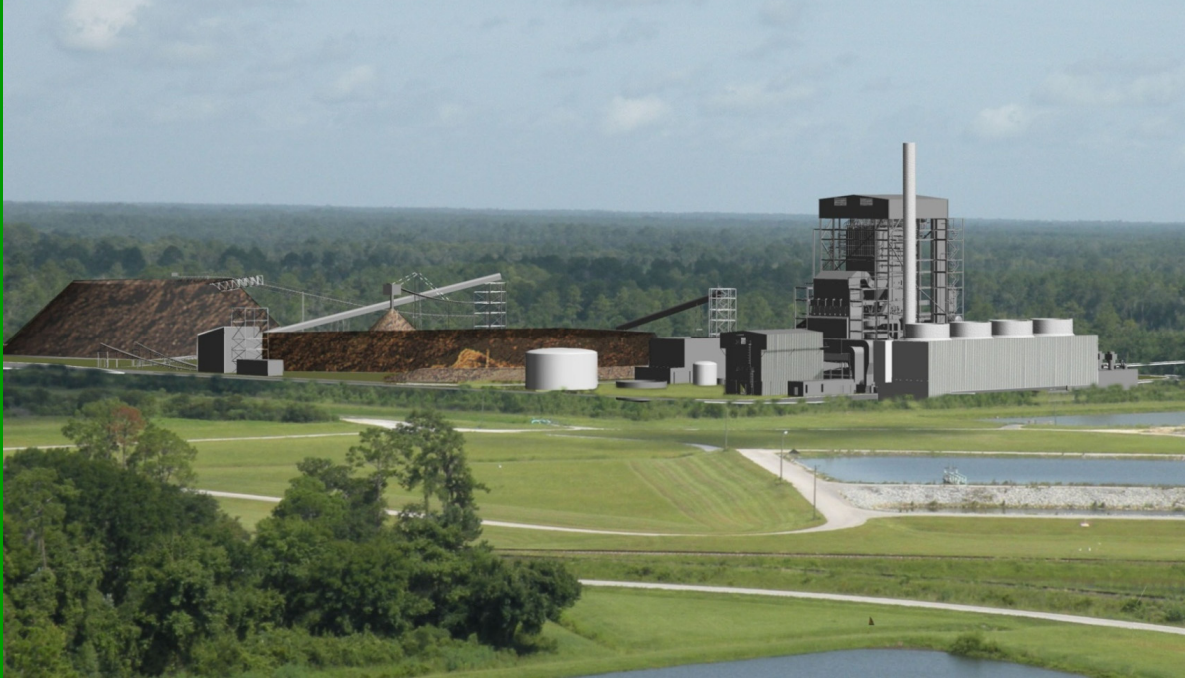


Gainesville Renewable Energy Center Site Certification Application



Gainesville
Renewable Energy Center
An American Renewables Company

Prepared by:

ECT

Environmental Consulting & Technology, Inc.

3701 Northwest 98th Street
Gainesville, Florida 32606
ECT No. 090408-0600

Volume 1

November 2009



75 Arlington Street
5th Floor
Boston, MA 02116
November 17, 2009

November 30, 2009

Mr. Mike Halpin, Administrator
Siting Coordination Office
Florida Department of Environmental Protection
Mail Station 48
3900 Commonwealth Blvd.
Tallahassee, Florida 32399

Re: Gainesville Renewable Energy Center
Site Certification Application
Alachua County, Florida

Dear Mr. Halpin:

Gainesville Renewable Energy Center, LLC (GREC LLC) is pleased to file this Site Certification Application (SCA) for the proposed construction and operation of an electrical power plant and associated facilities within the City of Gainesville (the City) in Alachua County, Florida. The proposed facility will be known as the Gainesville Renewable Energy Center (GREC). GREC will use clean, renewable, woody biomass material as fuel to generate 100 megawatts (MW) of net electrical energy (116 MW gross). GREC will be located on approximately 131 acres of property (the Site) in northwest Gainesville that GREC LLC will lease from the City of Gainesville (d/b/a/ Gainesville Regional Utilities [GRU]). The GREC Site is located within the boundaries of the previously certified site for GRU's existing Deerhaven Generating Station (DGS).

GREC LLC is seeking certification of the proposed GREC electrical power plant and the associated facilities in accordance with the Florida Electrical Power Plant Siting Act (PPSA). Based on the prior discussions between GREC LLC and the Department, it is our understanding that the Department will either amend the SCA for the DGS or modify the PPSA conditions of certification for the DGS, as appropriate, to delineate between the GREC Site and the certified site for the DGS.

Construction of GREC is scheduled to begin in December 2010 and commercial operation is scheduled for December 2013. Achieving this schedule has significant economic consequences for GRU and its customers. If GREC begins commercial operation before January 1, 2014, GREC LLC will be eligible to obtain a renewable energy grant from the federal government pursuant to H.R. 1 (the American Recovery and Reinvestment Act of 2009). If GREC obtains a renewable energy grant, GRU and its



customers will save \$8.10 per megawatt-hour (MWh), which is worth approximately \$6,400,000 per year.

Enclosed are the original and four hard copies of the GREC SCA. Each hard copy of the SCA also includes an electronic copy of the SCA on a compact disc, which is located in the front of Volume 1. Also enclosed is a check for the PPSA application fee of \$125,000.

Today GREC LLC is also filing the original and three copies of the Air Construction/Prevention of Significant Deterioration (PSD) permit application for the GREC. The original PSD permit application and the \$7,500 PSD application fee are being filed directly with the Department's Bureau of Air Regulation. A copy of the GREC SCA is also being submitted to the Bureau. Parenthetically, the PSD permit application is included in Volume 3 of the SCA.

Finally, today GREC LLC is sending copies of the SCA to all of the agencies, individuals, groups, and libraries identified in the attached distribution list.

GREC LLC looks forward to working with you and the Department during this certification proceeding. If you have any questions regarding GREC, please contact GREC LLC's project manager, Mr. Josh Levine, at (617) 482-6150 x117. If you have any questions regarding the SCA or PSD application, please contact our consulting engineer, Mr. Tom Davis, at (352) 248-3351.

Sincerely,

A handwritten signature in blue ink that reads "James S. Gordon".

James S. Gordon

Chief Executive Officer

Enclosures

cc: Ms. Trina Vielhauer, Chief
Bureau of Air Regulation
Florida Department of Environmental Protection

Distribution List for GREC SCA

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SITE CERTIFICATION APPLICATION

GAINESVILLE RENEWABLE ENERGY CENTER

Submitted by:




Thomas W. Davis, P.E.
Florida Professional Engineer Registration No. 36777

November 30, 2009

Date

Environmental Consulting & Technology, Inc.
3701 Northwest 98th Street
Gainesville, Florida 32606

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LIST OF ACRONYMS AND ABBREVIATIONS

°	degree
°C	degree Celsius
°F	degree Fahrenheit
µg/m ² /yr	microgram per square meter per year
µg/m ³	microgram per cubic meter
µS/cm	microSiemen per centimeter
AAQS	ambient air quality standard
ACEPD	Alachua County Environmental Protection Department
ACFM	actual cubic foot per minute
ACSB	Alachua County School Board
ACSR	aluminum conductor, steel-reinforced
ADT	average daily traffic
AERMOD	AMS/EPA regulatory model
American Renewables	American Renewables, LLC
AMS	American Meteorological Society
ANSI	American National Standards Institute
AQI	air quality index
AQRV	air quality-related value
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
AST	aboveground storage tank
BACT	best available control technology
BayCorp	BayCorp Holdings, Ltd.
BEA	U.S. Department of Commerce Bureau of Economic Analysis
BEBR	Bureau of Economic and Business Research
BFB	bubbling fluidized bed
BMP	best management practice
Btu/ft ³	British thermal units per cubic foot
Btu/gal	British thermal unit per gallon
Btu/hr	British thermal units per hour
Btu/lb	British thermal unit per pound
CAA	Clean Air Act
CadnaA	Computer Aided Noise Abatement
CAIR	Clean Air Interstate Rule
CCS	carbon capture and sequestration
CEC	Clay Electric Cooperative, Inc.
CEMS	continuous emissions monitoring system
CFB	circulating fluidized bed
CFR	Code of Federal Regulations
cfs	cubic foot per second
CGP	generic permit for stormwater discharge from large and small construction activities
CHP	combined heat and power
CO	carbon monoxide

LIST OF ACRONYMS AND ABBREVIATIONS
(Continued, Page 2 of 7)

CO ₂	carbon dioxide
col/100 mL	colony per 100 milliliters
CR	County Road
CSX	CSX Transportation, Inc.
dB	decibel
dBA	A-weighted decibel
dBc	C-weighted decibel
dBZ	flat-frequency-weighted decibel
DGS	Deerhaven Generating Station
DSI	dry sorbent injection
DSM	demand-side management
ECT	Environmental Consulting & Technology, Inc.
EGEAS	Electrical Generation Expansion Analysis System
EMI	Energy Management, Inc.
EMS	emergency medical service
EPA	U.S. Environmental Protection Agency
EPC	engineer, procure, and construct
EPRI	Electric Power Research Institute
ERP	environmental resource permit
ET	evapotranspiration
F.A.C.	Florida Administrative Code
F.S.	Florida Statutes
FAS	Floridan aquifer system
FBC	fluidized bed combustion
FDACS	Florida Department of Agriculture and Consumer Services
FDEP	Florida Department of Environmental Protection
FDHR	Florida Division of Historical Resources
FDLES	Florida Department of Labor and Employment Security
FDOT	Florida Department of Transportation
FEMA	Federal Emergency Management Agency
FGS	Florida Geological Survey
FIRM	flood insurance rate map
FIT	feed-in tariff
FLAG	Federal Land Managers' Air Quality Related Values Workgroup
Florida Greenbook	FDOT's Manual of Uniform Minimum Standards for Design, Construction, and Maintenance for Streets and Highways
FLUCFCS	Florida Land Use, Cover, and Forms Classification System
FNAI	Florida Natural Areas Inventory
FPL	Florida Power & Light Company
FPSC	Florida Public Service Commission
ft	foot

LIST OF ACRONYMS AND ABBREVIATIONS
(Continued, Page 3 of 7)

ft bls	foot below land surface
ft/day	foot per day
ft/ft	foot per foot
ft/yr	foot per year
ft ²	square foot
ft ² /day	square feet per day
ft-msl	foot above mean sea level
ft-NGVD	foot National Geodetic Vertical Datum of 1929
FWC	Florida Fish and Wildlife Conservation Commission
G/ACRESUB	Gainesville/Alachua County Regional Electric and Sewer Utilities Board
g/s	gram per second
GAQM	Guideline on Air Quality Models
GB	gigabyte
GCTL	groundwater cleanup target level
GDS	GDS Associates
GE	General Electric
GEAC	Gainesville Energy Advisory Committee
Genesis	Genesis Group
GHG	greenhouse gas
GMA	Gainesville Metropolitan Area
gpd	gallon per day
gpm	gallon per minute
gr/100 dscf	grain per 100 dry standard cubic foot
gr/dscf	grain per dry standard cubic foot
GRA	Gainesville Regional Airport
GRA	Gainesville Regional Airport
GREC	Gainesville Renewable Energy Center
GREC LLC	Gainesville Renewable Energy Center, LLC
GRU	Gainesville Regional Utilities
GSE	GSE Engineering & Consulting, Inc.
H ₂ SO ₄	sulfuric acid
HAP	hazardous air pollutant
HCREC	Hamilton County Renewable Energy Center
Hg ⁰	elemental mercury
Hg ²⁺	compounds of oxidized mercury
Hg _p	particle-bound mercury
HHV	higher heating value
hp	horsepower
hr/yr	hour per year
Hz	Hertz
i	hydraulic gradient
I-75	Interstate 75

LIST OF ACRONYMS AND ABBREVIATIONS

(Continued, Page 4 of 7)

IAS	intermediate aquifer system and intermediate confining unit
ICF	ICF Consulting
IGCC	integrated gasification combined-cycle
IRP	integrated resource planning
ISO	International Organization for Standardization
JIA	Jacksonville International Airport
K	hydraulic conductivity
kcmil	thousand circular mil
kV	kilovolt
K _v	vertical hydraulic conductivity
kV/m	kilovolt per meter
kW	kilowatt
lb/hr	pound per hour
lb/MMBtu	pound per million British thermal units
lb/MWh	pound per megawatt-hour
lb/yr	pound per year
LCOE	levelized cost of energy
LDC	land development code
LDC	land development code
L _{eq}	equivalent continuous sound level
L _{eq} (1)	1-hour equivalent sound level
L _{eq} (24)	24-hour equivalent sound level
LFA	Lower Floridan aquifer
L _{max}	maximum sound level
L _{min}	minimum sound level
LOS	level of service
L _{wA}	overall sound power level
m/s	meter per second
MCR	maximum current rating
MDN	Mercury Deposition Network
MFL	minimum flows and levels
mG	milliGauss
mg/L	microgram per liter
MGD	million gallons per day
mi ²	square mile
mi ²	square mile
MMBtu/hr	million British thermal units per hour
MODFLOW	Modular Three-Dimensional Finite Difference Groundwater Flow Model
mph	mile per hour
MSDS	material safety data sheet
MSGP	multisector generic permit for stormwater discharge associated with industrial activity

LIST OF ACRONYMS AND ABBREVIATIONS
(Continued, Page 5 of 7)

MTPO	Metropolitan Transportation Planning Organization
MW	megawatt
MWh	megawatt-hour
n	effective porosity
NAAQS	national ambient air quality standard
NAD	North American Datum 1983
NADP	National Atmospheric Deposition Program
NADSC	natural attenuation default source concentration
NCFRPC	North Central Florida Regional Planning Council
NESC	National Electrical Safety Code
ng/m ³	nanogram per cubic meter
NH ₃	ammonia gas
NO ₂	nitrogen dioxide
NOI	notice of intent
NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPV	net present value
NREL	National Renewable Energy Laboratory
NRHP	National Register of Historic Places
NSPS	New Source Performance Standards
NSR	New Source Review
NSSCOU	nonsteady or steady state coupled
NWA	National Wilderness Area
NWI	National Wetlands Inventory
NWR	National Wildlife Refuge
OSHA	Occupational Safety and Health Administration
PC	pulverized coal
PEF	Progress Energy Florida
Petition	petition filed by GRU and GREC LLC for a FPSC determination of need for the proposed GREC
PF	Public Facilities zoning district
PM	particulate matter
PM ₁₀	particulate matter less than or equal to 10 micrometers
PM _{2.5}	particulate matter less than or equal to 2.5 micrometers
PPA	power purchase agreement
ppm	part per million
ppmw	part per million by weight
PPSA	Florida Electrical Power Plant Siting Act
PS	Public Services and Operations zoning district
PSD	Prevention of Significant Deterioration
psig	pound per square inch gauge
PV	photovoltaic
RARE	Roadless area review and evaluation

LIST OF ACRONYMS AND ABBREVIATIONS
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RCP	reinforced concrete pipe
RDF	refuse-derived fuel
RFP	request for biomass proposal
RGM	reactive gaseous divalent mercury
RO	reverse osmosis
RUC	Regional Utilities Committee
s.u.	standard unit
s.u.	standard unit
SAS	surficial aquifer system
SCA	site certification application
SCR	selective catalytic reduction
SFCU	sub-Floridan confining unit
SIL	significant impact level
Site	approximately 131 acres where GREC will be located
SJRWMD	St. Johns River Water Management District
SO ₂	sulfur dioxide
SO _x	sulfur oxides
SPL	sound pressure level
SR	State Road
SRCC	Southeast Regional Climate Center
SRPP	strategic regional policy plan
SRWMD	Suwannee River Florida Water Management District
SWPPP	stormwater pollution prevention plan
TDS	total dissolved solid
the City	the City of Gainesville
TIITF	Trustees of the Internal Improvement Trust Fund
TMDL	total maximum daily load
tpd	ton per day
tph	ton per hour
tpy	ton per year
TRC	total resource cost
TSS	total suspended solid
Tyr Energy	Tyr Energy, Inc.
U.S. 441	U.S. Highway 441
UFA	Upper Floridan aquifer
UIC	Underground Injection Control
ULSD	ultra-low sulfur diesel
UMAM	Uniform Mitigation Assessment Methodology
USDA	U. S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
v	linear flow velocity

LIST OF ACRONYMS AND ABBREVIATIONS
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VISTAS	Visibility Improvement State and Tribal Association of the Southeast
VMT	vehicle-mile traveled
VOC	volatile organic compound
WBAN	Weather-Bureau-Army-Navy
WBID	water body identification
WMD	water management district
WTE	waste-to-energy
WUP	water use permit
yd ³	cubic yard
ZLD	zero liquid discharge