STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE:	:	
	:	
APPLICATION OF SBA TOWERS II, LLC FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, MAINTENANCE AND OPERATION OF A WIRELESS TELECOMMUNICATIONS AT ONE OF TWO ALTERNATIVE SITE LOCATIONS OFF RABBIT HILL ROAD, WARREN, CONNECTICUT	:	DOCKET NO. 378
	:	MAY 14, 2009

RESPONSES OF CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS TO THE TOWN OF WASHINGTON CONSERVATION COMMSSION INTERROGATORIES ISSUED TO APPLICANT, SBA TOWERS II, LLC

On May 5, 2009, Intervenor Town of Washington Conservation Commission ("Commission") issued Interrogatories to the Applicant, SBA Towers II, LLC ("SBA"). Cellco Partnership d/b/a Verizon Wireless ("Cellco") has also intervened in Docket No. 378 and seeks to share the Site A facility location proposed by SBA in this application.

Certain of the Commission's Interrogatories request information more appropriately addressed by Cellco. To facilitate the Council's review of this docket, Cellco is offering responses to Interrogatory Nos. 11, 13-15, 19 and 30-34.

Question No. 11

Please describe how the graphic displays on individual handheld cell phones indicate wireless service reliability and service gaps.

Response

The graphic display on a portable phone provide some indication of "level of service" in a particular area. Cellco, however, relies on far more sophisticated equipment to gather information on its signal strength in a given area. As discussed in prior Council dockets, Cellco regularly "drives" its network and gathers "base line drive data" on Cellco's signal strength along roads throughout its network. This actual drive data is used to fine-tune Cellco's propagation modeling tool, which is used to produce the coverage maps included in Cellco's Site Justification Statement.

Question No. 13

Please describe the frequency and length of electric power outages experienced on Rabbit Hill Road, and the anticipated need to provide emergency power generation at the selected site to maintain wireless service.

Response

Cellco has no information regarding the frequency or length of power outages experienced in the past along Rabbit Hill Road. Cellco does, however, have significant experience with power outage issues throughout New England. It is not uncommon, especially in Litchfield County, to have electric service interrupted due to extreme weather conditions (e.g. snow and ice storms). In these emergency situations, emergency service providers often rely on wireless communications services provided by carriers like Cellco. It is essential, therefore, that some form of back-up power be provided at each cell site so that reliable communications services can be maintained during a natural disaster or other emergency situation. Cellco provides a minimum of eight (8) hours of back-up power at each of its cell sites through a gel-

cell battery system. The battery system is used for a short period of time until the site's back-up generator is activated and becomes operational.

Question No. 14

Please describe the maximum noise level in decibels from operation of the emergency power generator. Please provide the same information at a distance of 1500 feet from each proposed tower site.

Response

Attachment 1 includes the specifications for the generator proposed to be installed inside Cellco's equipment shelter. These specifications indicate the noise levels from the generator would be 59 db at a distance of 160 feet, the approximate distance to the closest property line to the east of Site A. At 1,500 feet this noise level would drop to 38 db.

Question No. 15

Please describe the volume, composition and strength of all battery acids and other toxic fluids to be used at the selected tower site. And describe any precautions to prevent seepage into the watershed from accidental spillage.

Response

Cellco uses a self-contained gel-cell battery system, secured to an equipment rack inside its equipment shelter. In the unlikely event of a rupture or leak, contents of the batteries would be contained within Cellco's shelter.

Question No. 19

Please identify and describe the differences in projected coverage for each frequency from each proposed tower site.

Response

Site A Cellular
4.4 miles along Route 202 and 10.3 square miles overall

Site A PCS
3.75 miles along Route 202 and 7.7 square miles overall

Information regarding coverage at Cellco's 700 MHz frequencies is not currently available.

Question No. 30

Attached is a copy of a letter from the Connecticut DEP dated April 6, 2009. Please describe (a) the effects of RF emissions at the frequencies at which the proposed tower will be operating on insects such as the Bronze Copper and the Sedge Skipper, and (b) the effects of such emissions on amphibians such as the wood turtle.

Response

Objection. Pursuant to the provisions of the Telecommunications Act of 1996, 47 U.S.C. § 332(c)(7)(B)(iv), the Council is preempted from regulating the placement, construction or modification of telecommunications facilities on the basis of concerns for the environmental effects of radio frequency emissions, provided the facility conforms to the FCC guidelines for such emissions. Questions directly or indirectly related to such environmental effects are, therefore, outside the scope of the Council's jurisdiction.

Question No. 31

Please describe and supply copies of any scientific studies on which the foregoing responses are based.

Response

Objection. Pursuant to the provisions of the Telecommunications Act of 1996, 47 U.S.C. § 332(c)(7)(B)(iv), the Council is preempted from regulating the placement, construction or modification of telecommunications facilities on the basis of concerns for the environmental effects of radio frequency emissions, provided the facility conforms to the FCC guidelines for such emissions. Questions directly or indirectly related to such environmental effects are, therefore, outside the scope of the Council's jurisdiction.

Question No. 32

Please provide cumulative worst-case power density calculations (assuming all channels working simultaneously at full power) and projected average power density calculations for each frequency on insects such as the Bronze Copper and the Sedge Skipper.

Response

Objection. Pursuant to the provisions of the Telecommunications Act of 1996, 47 U.S.C. § 332(c)(7)(B)(iv), the Council is preempted from regulating the placement, construction or modification of telecommunications facilities on the basis of concerns for the environmental effects of radio frequency emissions, provided the facility conforms to the FCC guidelines for such emissions. Questions directly or indirectly related to such environmental effects are, therefore, outside the scope of the Council's jurisdiction.

Question No. 33

Please provide cumulative worst-case power density calculations (assuming all channels working simultaneously at full power) and projected average power density calculations for each frequency on amphibians such as the wood turtle.

Response

Objection. Pursuant to the provisions of the Telecommunications Act of 1996, 47 U.S.C. § 332(c)(7)(B)(iv), the Council is preempted from regulating the placement, construction or modification of telecommunications facilities on the basis of concerns for the environmental effects of radio frequency emissions, provided the facility conforms to the FCC guidelines for such emissions. Questions directly or indirectly related to such environmental effects are, therefore, outside the scope of the Council's jurisdiction.

Question No. 34

Please provide cumulative worst-case power density calculations (assuming all channels working simultaneously at full power) and projected average power density calculations for each frequency on the following amphibians identified in the Yale Macricostas Management Plan section on vernal pools:

Jefferson's salamanders
Spotted salamanders
Green frogs
Wood frogs
Marbled salamanders

Response

Objection. Pursuant to the provisions of the Telecommunications Act of 1996, 47 U.S.C. § 332(c)(7)(B)(iv), the Council is preempted from regulating the placement, construction or modification of telecommunications facilities on the basis of concerns for the environmental effects of radio frequency emissions, provided the facility conforms to the FCC guidelines for such emissions. Questions directly or indirectly related to such environmental effects are, therefore, outside the scope of the Council's jurisdiction.

CERTIFICATE OF SERVICE

I hereby certify that on the 14th day of May, 2009, a copy of the foregoing was sent, postage prepaid, to:

Carrie Larson, Esq.
Pullman & Comley, LLC
90 State House Square
Hartford, CT 06103-3702

Bruce Coleman
P.O. Box 2426
New Preston, CT 06777

F. Philip Prelli, Commissioner
Department of Agriculture
165 Capitol Avenue
Hartford, CT 06106

Diane Dupuis
Town of Washington
Conservation Commission
Bryan Memorial Town Hall
P. O. Box 383
Washington Depot, CT 06794

Ray and Mary Ellen Furse
26 Jack Corner Road
Warren, CT 06777

CROWW
c/o Gabriel North Seymour, Esq.
200 Route 126
Falls Village, CT 06031

Christopher B. Fisher, Esq.
Cuddy & Feder LLP
445 Hamilton Avenue, 14th Floor
White Plains, NY 10601

Mark E. Lyon
First Selectman
Bryan Memorial Town Hall
P.O. Box 383
Washington Depot, CT 06794

Jack E. Travers
First Selectmen
Town of Warren
Town Hall
7 Sackett Hill Road
Warren, CT 06754

Kenneth C. Baldwin

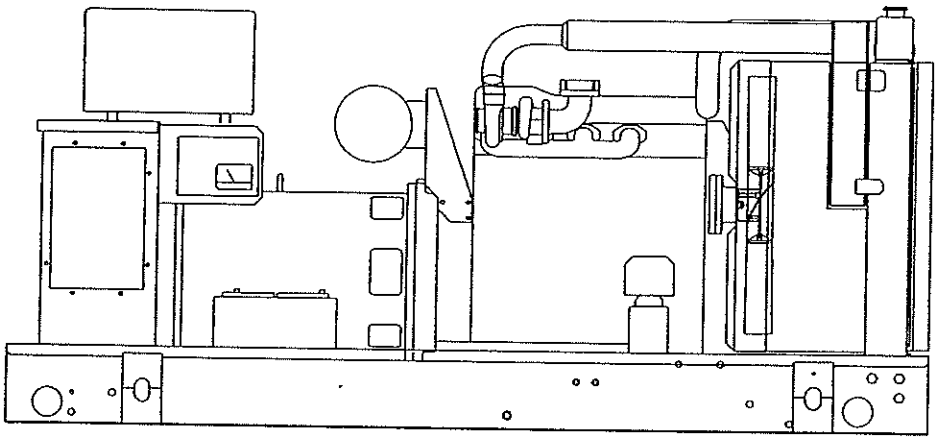
ATTACHMENT 1

SD060

Liquid Cooled Diesel Engine Generator Sets

Continuous Standby Power Rating
60KW 60 Hz / 60KVA 50 Hz

Prime Power Rating
48KW 60 Hz /48KVA 50 Hz



Power Matched
GENERAC 3.9DTA ENGINE
Turbocharged

FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.

- **TEST CRITERIA:**
  - ✓ PROTOTYPE TESTED
  - ✓ SYSTEM TORSIONAL TESTED
  - ✓ ELECTRO-MAGNETIC INTERFERENCE
  - ✓ NEMA MG1-22 EVALUATION
  - ✓ MOTOR STARTING ABILITY
  - ✓ SHORT CIRCUIT TESTING
  - ✓ UL 2200 COMPLIANCE AVAILABLE

- **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine.

- **SINGLE SOURCE SERVICE RESPONSE** from Generac's dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component. You are never on your own when you own an GENERAC POWER SYSTEM.

- **ECONOMICAL DIESEL POWER.** Low cost operation due to modern diesel engine technology. Better fuel utilization plus lower cost per gallon provide real savings.

- **LONGER ENGINE LIFE.** Generac heavy-duty diesels provide long and reliable operating life.

- **GENERAC TRANSFER SWITCHES, SWITCHGEAR AND ACCESSORIES.** Long life and reliability is synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems, accessories, switchgear and controls for total system compatibility.

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APPLICATION & ENGINEERING DATA

SD060

GENERATOR SPECIFICATIONS

TYPE	Four-pole, revolving field
ROTOR INSULATION	Class H
STATOR INSULATION	Class H
TOTAL HARMONIC DISTORTION	<3%
TELEPHONE INTERFERENCE FACTOR (TIF)	<50
ALTERNATOR	Self-ventilated and drip-proof
BEARINGS (PRE-LUBED & SEALED)	1
COUPLING	Direct, Flexible Disc
LOAD CAPACITY (STANDBY)	100%
LOAD CAPACITY (PRIME)	110%

NOTE: Emergency loading in compliance with NFPA 99, NFPA 110, paragraph 5-13.2.6. Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046 and DIN6271 standards.

EXCITATION SYSTEM

☐ BRUSHLESS	Magnetically coupled DC current ✓
	Eight-pole exciter w/ battery-driven field boost ✓
	Mounted outboard of main bearing ✓
☐ PERMANENT MAGNET EXCITER	Eighteen pole exciter ✓
	Magnetically coupled DC current ✓
	Mounted outboard of main bearing ✓
REGULATION	Solid-state ✓
	±1% regulation ✓

GENERATOR FEATURES

- Four pole, revolving field generator is directly connected to the engine shaft through a heavy-duty, flexible disc for permanent alignment.
- Generator meets temperature rise standards for class "F" insulation as define by NEMA MG1-32.6 and NEMA1-1.65, while the insulation system meets the requirements for the higher class "H" rating.
- All models have passed a three-phase symmetrical short circuit test to assure system protection and reliability.
- Unit is tested with an oscillograph for motor-starting ability by measuring instantaneous voltage dip.
- All models utilize an advanced wire harness design for reliable interconnection within the circuitry.
- Magnetic circuit, including amortisseur windings, tooth and skewed stator design, provides a minimal level of waveform distortion and an electromagnetic interference level which meets accepted requirements for standard AM radio, TV, and marine radio telephone applications.
- Voltage waveform deviation, total harmonic content of the AC waveform, T.I.F. (Telephone Influence Factor) and non-linear loading have been evaluated to acceptable standards in accordance with NEMA MG1.
- Alternator is self-ventilated and drip-proof constructed.
- Fully life-tested protective systems, including "field circuit and thermal overload protection" and optional main-line circuit breakers are capable of handling full output capacity.
- System Torsional acceptability confirmed during Prototype Testing.

ENGINE SPECIFICATIONS

MAKE	GENERAC
MODEL	3.9DTA
CYLINDERS	4 in-line
DISPLACEMENT	3.9 Liter (238 cu.in.)
BORE	104 mm (4.09 in.)
STROKE	115 mm (4.52 in.)
COMPRESSION RATIO	16.5:1
INTAKE AIR	Turbocharged/Aftercooled
NUMBER OF MAIN BEARINGS	5
CONNECTING RODS	4-Drop Forged Steel
CYLINDER HEAD	Cast Iron Overhead Valve
PISTONS	4- Aluminum Alloy
CRANKSHAFT	Hardened, Steel

VALVE TRAIN

LIFTER TYPE	Solid
INTAKE VALVE MATERIAL	Special Heat Resistant Steel
EXHAUST VALVE MATERIAL	Special Heat Resistant Steel
HARDENED VALVE SEATS	Replaceable

ENGINE GOVERNOR

☐ MECHANICAL (Gear Driven)	Standard
FREQUENCY REGULATION, NO-LOAD TO FULL LOAD	5.0%
STEADY STATE REGULATION	±0.33%
☐ ELECTRONIC	Optional
FREQUENCY REGULATION, NO-LOAD TO FULL LOAD	0.5%
STEADY STATE REGULATION	±0.25%

LUBRICATION SYSTEM

TYPE OF OIL PUMP	Gear
OIL FILTER	Full flow, Cartridge
CRANKCASE CAPACITY	18 Litres (19 qts.)
OIL COOLER	Oil to water

COOLING SYSTEM

TYPE OF SYSTEM	Pressurized, Closed Recovery
WATER PUMP	Pre-Lubed, Self-Sealing
TYPE OF FAN	Pusher
NUMBER OF FAN BLADES	7
DIAMETER OF FAN	457 mm (18 in.)
COOLANT HEATER	120V, 1800 W

FUEL SYSTEM

FUEL	#2D Fuel (Min Cetane #40) (Fuel should conform to ASTM Spec.)
FUEL FILTER	Single Cartridge
FUEL INJECTION PUMP	Stanadyne
FUEL PUMP	Mechanical
INJECTORS	Multi-Hole, Nozzle Type
ENGINE TYPE	Direct Injection
FUEL LINE (Supply)	7.94 mm (0.31 in.)
FUEL RETURN LINE	6.35 mm (0.25 in.)
STARTING AID	Glow Plugs

ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR	30 Amps at 24 V
STARTER MOTOR	24 V
RECOMMENDED BATTERY	(2)—12 Volt, 90 A.H., 4DLT
GROUND POLARITY	Negative

Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). Prime (Unlimited Running Time): Applicable for supplying electric power in lieu of commercially purchased power. Prime power is the maximum power available at variable load. A 10% overload capacity is available for 1 hour in 12 hours. (All ratings in accordance with BS5514, ISO3046, ISO8528 and DIN6271).

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SD060

OPERATING DATA

		STANDBY		PRIME	
		SD060		SD060	
GENERATOR OUTPUT VOLTAGE/KW-60Hz			Rated AMP		Rated AMP
120/240V, 1-phase, 1.0 pf		60	250	48	200
120/208V, 3-phase, 0.8 pf	NOTE: Consult your Generac dealer for additional voltages.	60	208	48	166
120/240V, 3-phase, 0.8 pf		60	180	48	144
277/480V, 3-phase, 0.8 pf		60	90	48	72
600V, 3-phase, 0.8 pf		60	72	48	58
GENERATOR OUTPUT VOLTAGE/KVA-50Hz			Rated AMP		Rated AMP
110/220V, 1-phase, 1.0 pf		48	218	38	172
115/200V, 3-phase, 0.8 pf	NOTE: Consult your Generac dealer for additional voltage	60	173	48	138
100/200V, 3-phase, 0.8 pf		60	173	48	138
231/400V, 3-phase, 0.8 pf		60	87	48	69
480V, 3-phase, 0.8 pf		60	72	48	58
MOTOR STARTING KVA					
Maximum at 35% instantaneous voltage dip		120/208/240V	277/480V	120/208/240V	277/480V
with standard alternator; 50/60 Hz		100/120	117/141	100/120	117/141
with optional alternator; 50/60 Hz		234/281	276/331	234/281	276/331
FUEL					
Fuel consumption—60 Hz	Load	100%	80%	100%	80%
	gal./hr.	4.3	3.6	3.6	3.0
	liters/hr.	16.3	13.5	13.6	11.3
Fuel consumption—50 Hz	gal./hr.	3.6	3.0	3.0	2.5
	liters/hr.	13.5	11.2	11.3	9.3
Fuel pump lift					
COOLING					
Coolant capacity	System - lit. (US gal.)	15.9 (4.2)		15.9 (4.2)	
	Engine - lit. (US gal.)	6.4 (1.7)		6.4 (1.7)	
	Radiator - lit. (US gal.)	9.5 (2.5)		9.5 (2.5)	
Coolant flow/min.	60 Hz - lit. (US gal.)	128 (34)		128 (34)	
	50 Hz - lit. (US gal.)	107 (28)		107 (28)	
Heat rejection to coolant 60 Hz full load	BTU/hr.	170,900		136,700	
Heat rejection to coolant 50 Hz full load	BTU/hr.	142,400		113,900	
Inlet air to radiator	60 Hz - m^3/min. (cfm)	204 (7,200)		204 (7,200)	
	50 Hz - m^3/min. (cfm)	170 (6004)		170 (6004)	
Max. air temperature to radiator	°C (°F)	54.4 (130)		54.4 (130)	
Max. ambient temperature	°C (°F)	48.9 (120)		48.9 (120)	
COMBUSTION AIR REQUIREMENTS					
Flow at rated power	60 Hz - cfm	209		168	
	50 Hz - m^3/min.	4.7		3.8	
EXHAUST					
Exhaust flow at rated output	60 Hz - m^3/min. (cfm)	15.5 (549)		12.4 (439)	
	50 Hz - m^3/min. (cfm)	12.3 (434)		10 (353)	
Max recommended back pressure	"Hg	1.5		1.5	
Exhaust temperature 60 Hz (full load)	°C (°F)	524 (975)		459 (858)	
Exhaust outlet size		3"		3"	
ENGINE					
Rated RPM	60 Hz	1800		1800	
	50 Hz	1500		1500	
HP at rated KW	60 Hz	92		74	
	50 Hz	73		59	
Piston speed	60 Hz - m/min. (ft./min.)	414 (1358)		414 (1358)	
	50 Hz - m/min. (ft./min.)	345 (1132)		345 (1132)	
BMEP	60 Hz - psi	170		138	
	50 Hz - psi	161		130	
DERATION FACTORS					
Temperature					
5% for every 10°C above - °C		25		25	
2.77% for every 10°F above - °F		77		77	
Altitude					
1.1% for every 100 m above - m		1829		1829	
3.5% for every 1000 ft. above - ft.		6000		6000	

STANDARD ENGINE & SAFETY FEATURES

SD060

- High Coolant Temperature Automatic Shutdown
- Low Coolant Level Automatic Shutdown
- Low Oil Pressure Automatic Shutdown
- Overspeed Automatic Shutdown (Solid-state)
- Crank Limiter (Solid-state)
- Oil Drain Extension
- Radiator Drain Extension
- Factory-Installed Cool Flow Radiator
- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Rubber-Booted Engine Electrical Connections
- Secondary Fuel Filter
- Fuel Lockoff Solenoid
- Stainless Steel Flexible Exhaust Connection
- Battery Charge Alternator
- Battery Cables
- Battery Tray
- Vibration Isolation of Unit to Mounting Base
- 12 Volt, Solenoid-activated Starter Motor
- Air Cleaner
- Fan Guard
- Control Console
- Radiator Duct Adapter

OPTIONS

OPTIONAL COOLING SYSTEM ACCESSORIES
- O Coolant Heater 120V

OPTIONAL FUEL ACCESSORIES
- O Flexible Fuel Lines
- O UL Listed Fuel Tanks
- O Base Tank Low Fuel Alarm
- O Primary Fuel Filter
- O Primary Fuel Filter with Heater

OPTIONAL EXHAUST ACCESSORIES
- O Critical Exhaust Silencer

OPTIONAL ELECTRICAL ACCESSORIES
- O Battery, 12 Volt, 135 A.H., 4DLT
- O 2A Battery Charger
- O 10A Dual Rate Battery Charger
- O Battery Heater

OPTIONAL ALTERNATOR ACCESSORIES
- O Alternator Upsizing
- O Alternator Strip Heater
- O Alternator Tropicalization
- O Voltage Changeover Switch
- O Main Line Circuit Breaker

CONTROL CONSOLE OPTIONS
- O Analog Control "C" Panel (Bulletin 0151160SBY)
- O Analog/Digital Control "E" Panel (Bulletin 0161310SBY)

ADDITIONAL OPTIONAL EQUIPMENT
- O Automatic Transfer Switch
- O Isochronous Governor
- O 3 Light Remote Annunciator
- O 5 Light Remote Annunciator
- O 20 Light Remote Annunciator
- O Remote Relay Panels
- O Unit Vibration Isolators (Pad/Spring)
- O Oil Make-Up System
- O Oil Heater
- O 5 Year Warranties
- O Export Boxing
- O GenLink® Communications Software

OPTIONAL ENCLOSURE
- O Weather Protective
- O Sound Attenuated
- O Aluminum and Stainless Steel
- O Enclosed Muffler

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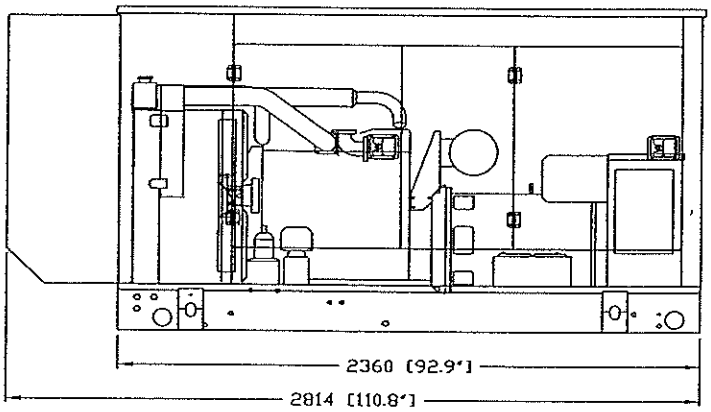

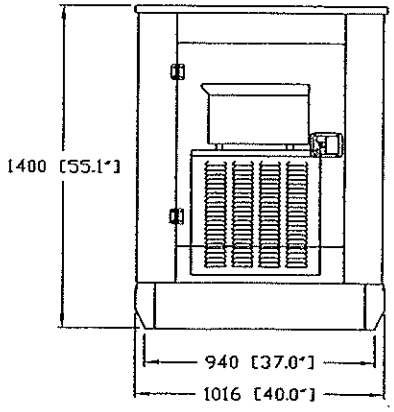

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GENERAC® POWER SYSTEMS, INC. • P.O. BOX 8 • WAUKESHA, WI 53187
262/544-4811 • FAX 262/544-4851

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