

Kniville

SEP 09 2013

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF AIR POLLUTION CONTROL



9th Floor, L & C Annex
401 Church Street
Nashville, TN 37243-1531
Telephone: (615) 532-0554
FAX: (615) 532-0614

NOT TO BE USED FOR TITLE V APPLICATIONS

PERMIT APPLICATION

APC 20

PLEASE TYPE OR PRINT AND SUBMIT IN DUPLICATE FOR EACH EMISSION SOURCE. ATTACH APPROPRIATE SOURCE DESCRIPTION FORMS.

1. ORGANIZATION'S LEGAL NAME American Towers - Seymour TN #308919		/// FOR	APC COMPANY - POINT NO. 78-0317-01
2. MAILING ADDRESS (ST/RD/P.O. BOX) P.O. Box 63604		/// APC	APC LOG/PERMIT NO. 967646
CITY Phoenix	STATE AZ	ZIP CODE 85082	PHONE WITH AREA CODE 602-284-0280
3. PRINCIPAL TECHNICAL CONTACT Scot Sandefur			PHONE WITH AREA CODE 602-284-0280
4. SITE ADDRESS (ST/RD/HWY) 2452 McCleary Rd			COUNTY NAME Sevier
CITY OR DISTANCE TO NEAREST TOWN Sevierville		ZIP CODE 37876	PHONE WITH AREA CODE 602-284-0280
5. EMISSION SOURCE NO. (NUMBER WHICH UNIQUELY IDENTIFIES THIS SOURCE) E1		PERMIT RENEWAL YES () NO (✓)	
6. BRIEF DESCRIPTION OF EMISSION SOURCE			

Emergency Backup Power Generator - Industrial Generator Set
131 hp / 80Kw with 300 gallon diesel fuel belly tank

2013
SEP 27 PM 3:10

7. TYPE OF PERMIT REQUESTED				
CONSTRUCTION (✓)	STARTING DATE 12/2/13	COMPLETION DATE 12/13/13	LAST PERMIT NUMBER	EMISSION SOURCE REFERENCE NUMBER
OPERATING ()	DATE CONSTRUCTION STARTED	DATE COMPLETED	LAST PERMIT NUMBER	EMISSION SOURCE REFERENCE NUMBER
LOCATION TRANSFER ()	TRANSFER DATE		LAST PERMIT NUMBER	EMISSION SOURCE REFERENCE NUMBER
ADDRESS OF LAST LOCATION				

8. DESCRIBE CHANGES THAT HAVE BEEN MADE TO THIS EQUIPMENT OR OPERATION SINCE THE LAST CONSTRUCTION OR OPERATING PERMIT APPLICATION.

9. SIGNATURE (APPLICATION MUST BE SIGNED BEFORE IT WILL BE PROCESSED) 		DATE 8/22/13
10. SIGNER'S NAME (TYPE OR PRINT) Scot Sandefur	TITLE Director EH&S	PHONE WITH AREA CODE 602-284-0280



NOT TO BE USED FOR TITLE V APPLICATIONS

**PROCESS OR FUEL BURNING
SOURCE DESCRIPTION**

APC21(& 24)

PLEASE TYPE OR PRINT, SUBMIT IN DUPLICATE AND ATTACH TO THE PERMIT APPLICATION.

1. ORGANIZATION NAME American Towers - Seymour TN # 308919		/// FOR	APC COMPANY-POINT NO.	
2. EMISSION SOURCE NO. (AS ON PERMIT APPLICATION) E1		SIC CODE	/// APC	APC PERMIT/LOG NO.
3. DESCRIPTION OF PROCESS OR FUEL BURNING UNIT Emergency Backup Generator: Industrial Generator (Diesel) 131 hp 180Kw with 300 gallon diesel fuel belly tank				
4. NORMAL OPERATION: → Emergency	HOURS/DAY Varies	DAYS/WEEK Varies	WEEKS/YEAR Varies	DAYS/YEAR Varies
5. PERCENT ANNUAL THROUGHPUT: →	DEC.-FEB. 25%.	MARCH-MAY 25%.	JUNE-AUG. 25%.	SEPT.-NOV. 25%.
6. TYPE OF PERMIT APPLICATION				(CHECK BELOW ONE ONLY)
PROCESS SOURCE: APPLY FOR A SEPARATE PERMIT FOR EACH SOURCE. (CHECK AT RIGHT, AND COMPLETE LINES 7, 8, 13, AND 14).				(✓)
PROCESS SOURCE WITH IN-PROCESS FUEL: PRODUCTS OF COMBUSTION CONTACT MATERIALS HEATED. APPLY FOR A SEPARATE PERMIT FOR EACH SOURCE. (CHECK AT RIGHT, AND COMPLETE LINES 7, 8, AND 10 THROUGH 14)				()
NON-PROCESS FUEL BURNING SOURCE: PRODUCTS OF COMBUSTION DO NOT CONTACT MATERIALS HEATED. COMPLETE THIS FORM FOR EACH BOILER OR FUEL BURNER AND COMPLETE AN EMISSION POINT DESCRIPTION FORM (APC 22) FOR EACH STACK. (CHECK AT RIGHT, AND COMPLETE LINES 9 TO 14)				()
7. TYPE OF OPERATION: CONTINUOUS, ()		BATCH ()	NORMAL BATCH TIME	NORMAL BATCHES/DAY
8. PROCESS MATERIAL INPUTS AND IN-PROCESS SOLID FUELS		DIAGRAM* REFERENCE	INPUT RATES (POUNDS/HOUR)	
			DESIGN	ACTUAL
A.				/
B.				/
C.				/
D.				/
E.				/
F.				/
G.				/
TOTALS				/
				/

* A SIMPLE PROCESS FLOW DIAGRAM MUST BE ATTACHED.

(OVER)

9. BOILER OR BURNER DATA: (COMPLETE LINES 9 TO 14 USING A SEPARATE FORM FOR EACH BOILER)

BOILER NUMBER	STACK NUMBER**	TYPE OF FIRING***	RATED BOILER HORSEPOWER	RATED INPUT CAPACITY (10 ⁶ BTU/HR)	OTHER BOILER RATING (SPECIFY CAPACITY AND UNITS)
NA	NA	NA	NA	NA	NA
BOILER SERIAL NO.		DATE CONSTRUCTED	DATE OF LAST MODIFICATION (EXPLAIN IN COMMENTS BELOW).		
NA		NA	NA		

** BOILERS WITH A COMMON STACK WILL HAVE THE SAME STACK NUMBER.

*** CYCLONE, SPREADER (WITH OR WITHOUT REINJECTION), PULVERIZED (WET OR DRY BOTTOM, WITH OR WITHOUT REINJECTION), OTHER STOKER (SPECIFY TYPE), HAND FIRED, AUTOMATIC, OR OTHER TYPE (DESCRIBE BELOW IN COMMENTS).

10. FUEL DATA: (COMPLETE FOR A PROCESS SOURCE WITH IN-PROCESS FUEL OR A NON-PROCESS FUEL BURNING SOURCE)

PRIMARY FUEL TYPE (SPECIFY)				STANDBY FUEL TYPE(S) (SPECIFY)			
FUELS USED	ANNUAL USAGE	HOURLY USAGE		% SULFUR	% ASH	BTU VALUE OF FUEL	(FOR APC ONLY SCC CODE Y)
		DESIGN	AVERAGE				
NATURAL GAS:	10 ⁶ CUFT	CUFT	CUFT	///	///	1,000	
#2 FUEL OIL:	10 ³ GAL	GAL	GAL	.0015%	///		
Diesel #2				15ppm	///		
#5 FUEL OIL:	10 ³ GAL	GAL	GAL		///		
#6 FUEL OIL:	10 ³ GAL	GAL	GAL		///		
COAL:	TONS	LBS	LBS				
WOOD:	TONS	LBS	LBS	///	///		
LIQUID PROPANE:	10 ³ GAL	GAL	GAL	///	///	85,000	
OTHER (SPECIFY TYPE & UNITS.):							

11. IF WOOD IS USED AS A FUEL, SPECIFY TYPES AND ESTIMATE PERCENT BY WEIGHT OF BARK

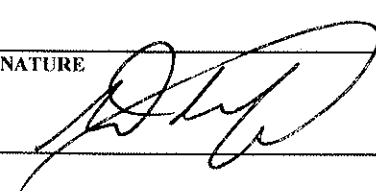
NA

12. IF WOOD IS USED WITH OTHER FUELS, SPECIFY PERCENT BY WEIGHT OF WOOD CHARGED TO THE BURNER.

NA

13. COMMENTS

14. SIGNATURE



DATE

8/22/13



NOT TO BE USED FOR TITLE V APPLICATIONS

EMISSION POINT DESCRIPTION

APC 22

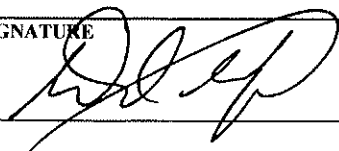
PLEASE TYPE OR PRINT AND SUBMIT IN DUPLICATE FOR EACH STACK OR EMISSION POINT.
ATTACH TO THE PERMIT APPLICATION.

1. ORGANIZATION NAME American Towers - Seymour TN # 308919				/// FOR	APC COMPANY POINT NO.	
2. EMISSION SOURCE NO. (FROM APPLICATION) E1		FLOW DIAGRAM POINT NUMBER		/// APC	APC SEQUENCE NO.	
3. LOCATION: 2452 McCleary Rd Seymourville, TN	LATITUDE 35.91076	LONGITUDE -83.7027	UTM VERTICAL 256109		UTM HORIZONTAL 3977426	
4. BRIEF EMISSION POINT DESCRIPTION (ATTACH A SKETCH IF APPROPRIATE):					DISTANCE TO NEAREST PROPERTY LINE (FT) 3'	
COMPLETE LINES 5 AND 6 IF DIFFERENT FROM THAT ON THE PROCESS OR FUEL BURNING SOURCE DESCRIPTION (APC 21)						
5. NORMAL OPERATION: Emergency	HOURS/DAY Varies	DAYS/WEEK Varies	WEEK/YEAR Varies		DAYS/YEAR Varies	
6. PERCENT ANNUAL THROUGHPUT:	DEC.-FEB. 25 %	MARCH-MAY 25 %	JUNE-AUG. 25 %		SEPT.-NOV. 25 %	
7. STACK OR EMISSION POINT DATA:	HEIGHT ABOVE GRADE (FT) 4'	DIAMETER (FT) 3"	TEMPERATURE (°F) 887	% OF TIME OVER 125°F	DIRECTION OF EXIT (UP, DOWN OR HORIZONTAL) UP	
DATA AT EXIT CONDITIONS:	FLOW (ACTUAL FT³/MIN.)	VELOCITY (FT/SEC)	MOISTURE (GRAINS/FT³)		MOISTURE (PERCENT)	
DATA AT STANDARD CONDITIONS:	FLOW (DRY STD. FT³/MIN)	VELOCITY (FT/SEC)	MOISTURE (GRAINS/FT³)		MOISTURE (PERCENT)	
8. AIR CONTAMINANTS	ACTUAL EMISSIONS			EMISSIONS* EST. METHOD	CONTROL DEVICES*	CONTROL EFFICIENCY%
	EMISSIONS (LBS/HR) AVERAGE MAXIMUM		CONCENTRATION			
PARTICULATES	0.0346		**	0.0346		
SULFUR DIOXIDE	0.5		***	0.13		
CARBON MONOXIDE	0.202		PPM 0.0505			
ORGANIC COMPOUNDS			PPM			
NITROGEN OXIDES	0.807		PPM	0.202		
FLUORIDES						
OTHER(SPECIFY)	0.75			0.19		
OTHER(SPECIFY)						

(OVER)

9. CHECK TYPES OF MONITORING AND RECORDING INSTRUMENTS THAT ARE ATTACHED:

OPACITY MONITOR (), SO2 MONITOR (), NOX MONITOR (), OTHER (SPECIFY IN COMMENTS) ()

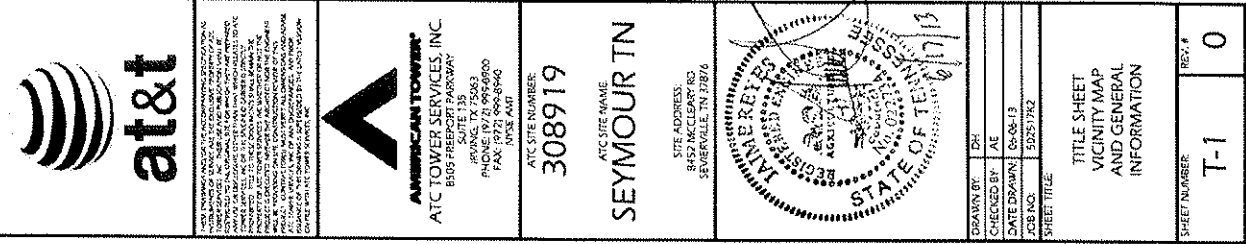
10. COMMENTS**11. SIGNATURE****DATE**

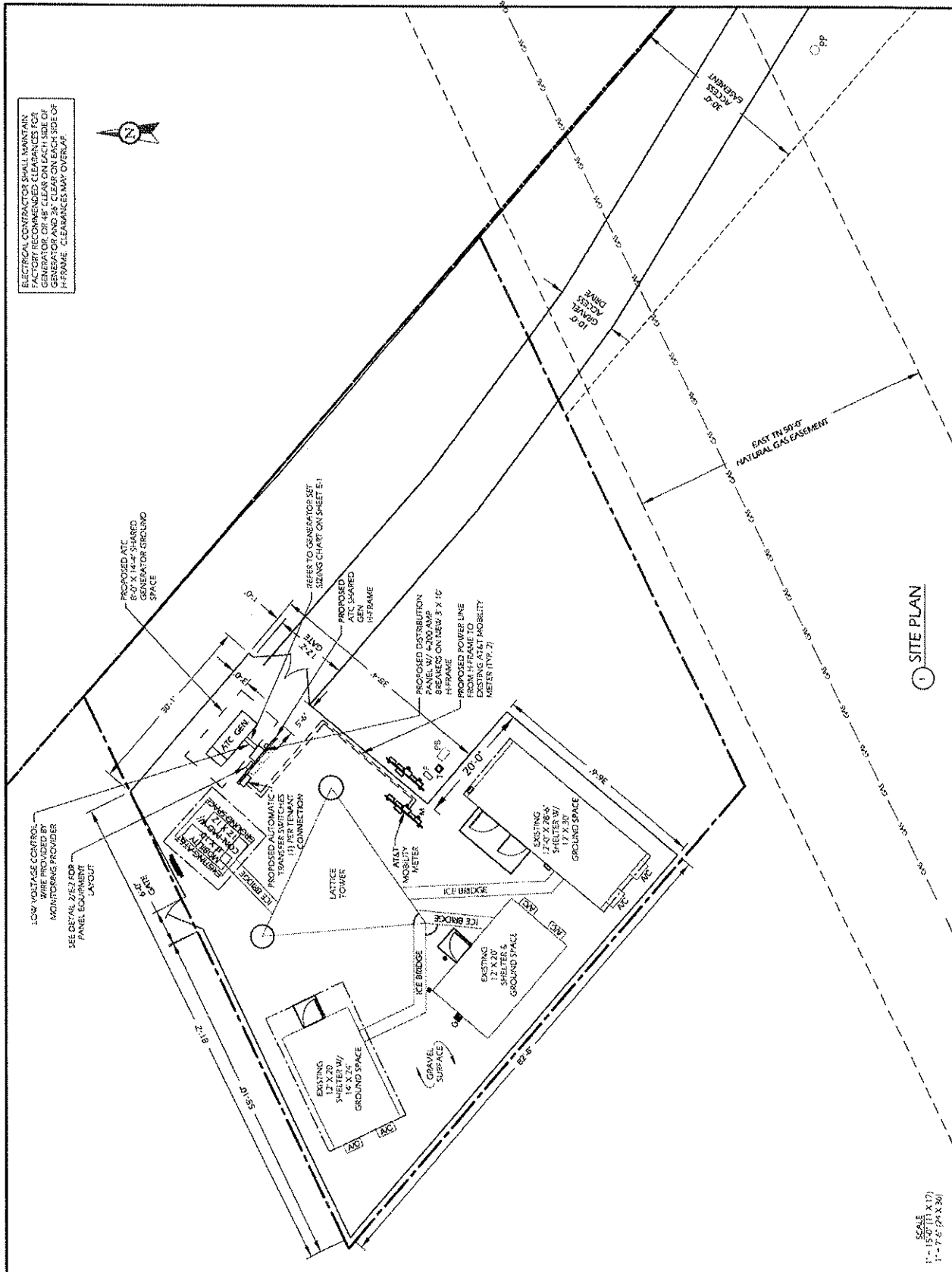
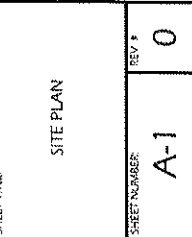
8/22/13

* REFER TO THE BACK OF THE PERMIT APPLICATION FORM FOR ESTIMATION METHOD AND CONTROL DEVICE CODES.

** EXIT GAS PARTICULATE CONCENTRATION UNITS: PROCESS — GRAINS/DRY STANDARD FT3 (70°F); WOOD FIRED BOILERS — GRAINS/DRY STANDARD FT3 (70°F); ALL OTHER BOILERS — LBS/MILLION BTU HEAT INPUT.

*** EXIT GAS SULFUR DIOXIDE CONCENTRATIONS UNITS: PROCESS — PPM BY VOLUME, DRY BASES; BOILERS — LBS/MILLION BTU HEAT INPUT.







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ATC TOWER SERVICES, INC.
 8555 FREEDOM PARKWAY
 SUITE 100
 IRVING, TX 75039
 PHONE: 972.999.8900
 FAX: 972.999.8940
 INTERNET: WWW.ATCTOWER.COM

ATC SITE NUMBER:
308919

ATC SITE NAME:
SEYMOUR TN

SITE ADDRESS:
 8452 MCCLEARY RD
 SEYMOUR, TN 37076

DESIGNED BY: EAH

CHECKED BY: AE

DATE DRAWN: 05/06/13

JOB NO.: 50251712

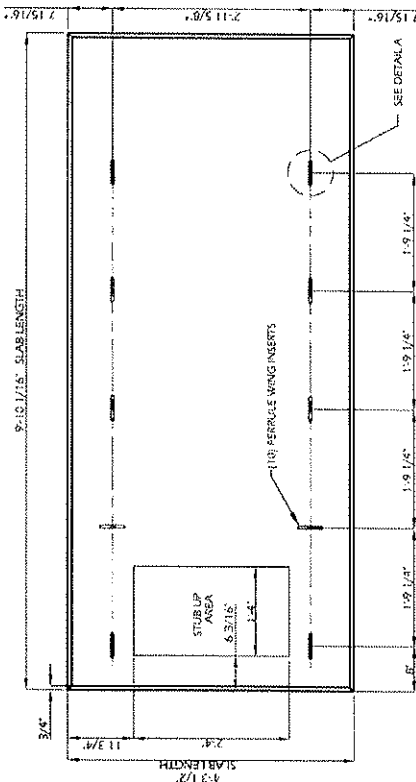
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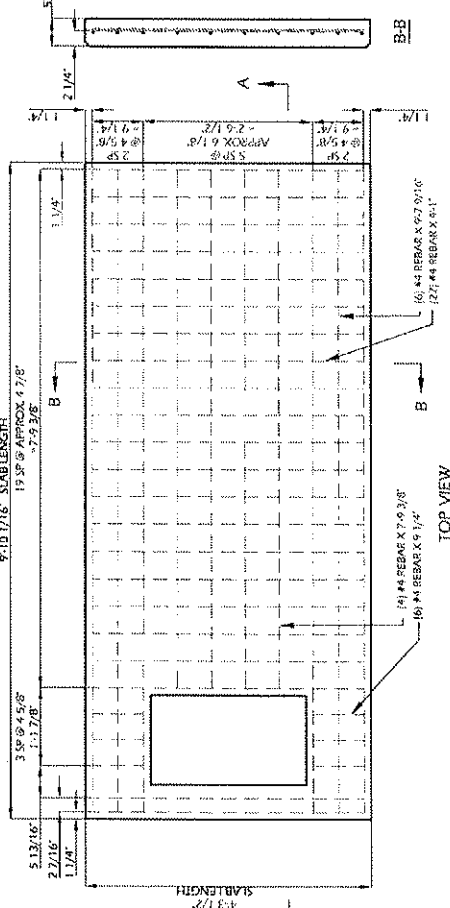
CONCRETE PAD
 DETAILS

SHEET NUMBER:
A-2

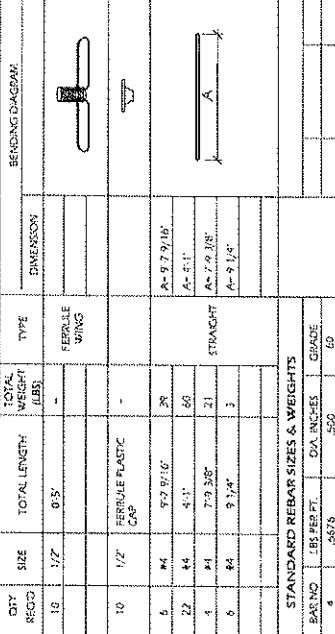
REV. #
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PLAN VIEW

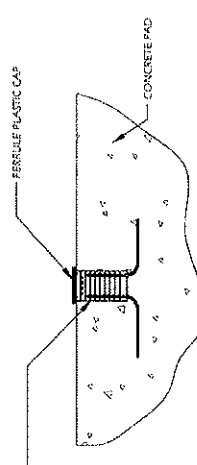


TOP VIEW

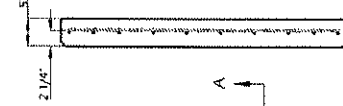


BENDING DIAGRAM

DETAIL A



DETAIL B



CONCRETE PAD CONSTRUCTION NOTES

- ALL REBAR (HORIZONTAL & VERTICAL) SHALL BE SECURELY WIRE TIED TO PREVENT DISPLACEMENT DURING POURING OF CONCRETE.
- CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI.
- REINFORCED CONCRETE CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH ACI STANDARDS 318.
- MINIMUM CONCRETE COVER OVER REBAR IS 1 1/4".
- REINFORCING MATERIAL SHALL BE IN ACCORDANCE WITH ASTM SPECIFICATION A615/B6.

CONCRETE PAD AND EMBEDMENT TOLERANCES

- EMBEDMENTS: PLUS OR MINUS 1/16"
- CONCRETE DIMENSIONS: PLUS OR MINUS 1/4"
- REINFORCING STEEL PLACEMENT: PLUS OR MINUS 1/4" INCLUDING CONCRETE COVER

NOTES

- FOUNDATION WAS DESIGNED BY ASSUMING ALLOWABLE SOIL BEARING CAPACITY OF 1000 PSF. THE SOIL BEARING CAPACITY FOR EACH SITE MUST BE VERIFIED USING THE SITE SPECIFIC GEOTECH REPORT. IF SHALLOW GROUNDWATER IS 3 FT. WAS DETECTED, A FURTHER REVIEW OF THE DESIGN OR SPECIAL DESIGN MAY BE REQUIRED.
- THE SOIL UNDERNEATH THE CONCRETE PAD MUST BE FREE OF ORGANIC MATTER OR OTHER DELETERIOUS SUBSTANCES AND SHOULD BE COMPACTED AND LEVELLED BEFORE PLACING THE FOUNDATION. PAD SHALL BE INSTALLED LEVEL TO WITHIN +/- 1/8".
- CONCRETE SLUMPS: 1"-2".
- CONCRETE VOLUME: 0.78 CUBIC YARDS.

DESIGN

1. MAXIMUM DESIGN BASIC WIND SPEED (3-SECOND GUST):
 90 MPH FOR GENERATOR MODELS SD050 AND SD080

PRE-CAST GENERATOR PAD



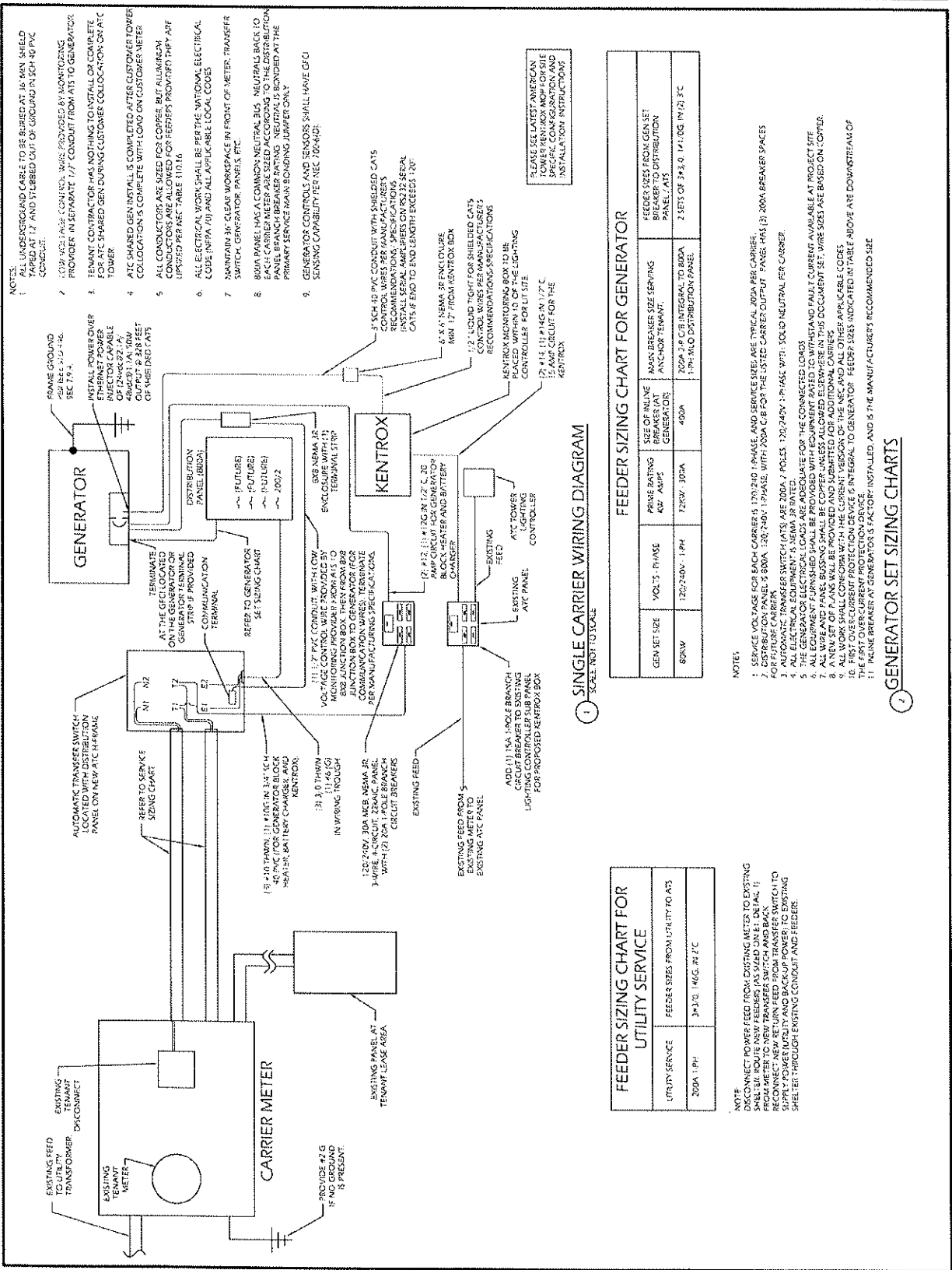


AMERICAN TOWER
ATC TOWER SERVICES, INC.
8505 PEEPLES PARKWAY
SUITE 135
SEYMOUR, TN 37083
PHONE (931) 999-8900
FAX (931) 999-8910
TOLL FREE 1-800-368-6789

308919
ATC SITE NAME
SEYMOUR TN

6/23/13
DATE
DRAWN BY: AE
CHECKED BY: AE
DATE DRAWN: 06/20/13
JOB NO.: 50051782
SHEET TITLE:
**WIRING
DIAGRAM &
H-FRAME
LAYOUT**

SHEET NUMBER
E-1
REV #
0





5505 FREEDOM PARKWAY
SUITE 135
IRVING, TX 75063
PHONE: (972) 999-3900
FAX: (972) 999-6940

ATC SITE NUMBER:

308919

SEYMOUR TN
ATC SITE NAME:

STATE ADDRESS
8455 MCCLEARY RD
SPRINGFIELD, TN 37376

DRAWN BY	DH
CHECKED BY	AE
DATE DRAWN	05-26-73
IDB NO.	502517Q2
SHEET TITLE	

SHEET NUMBER	E-2	REV. #	0
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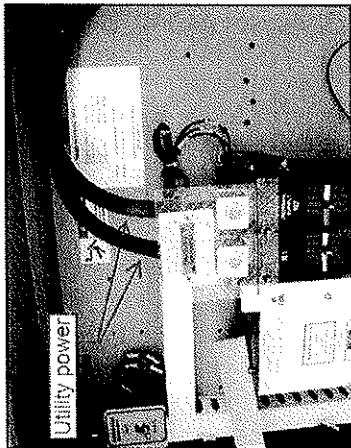
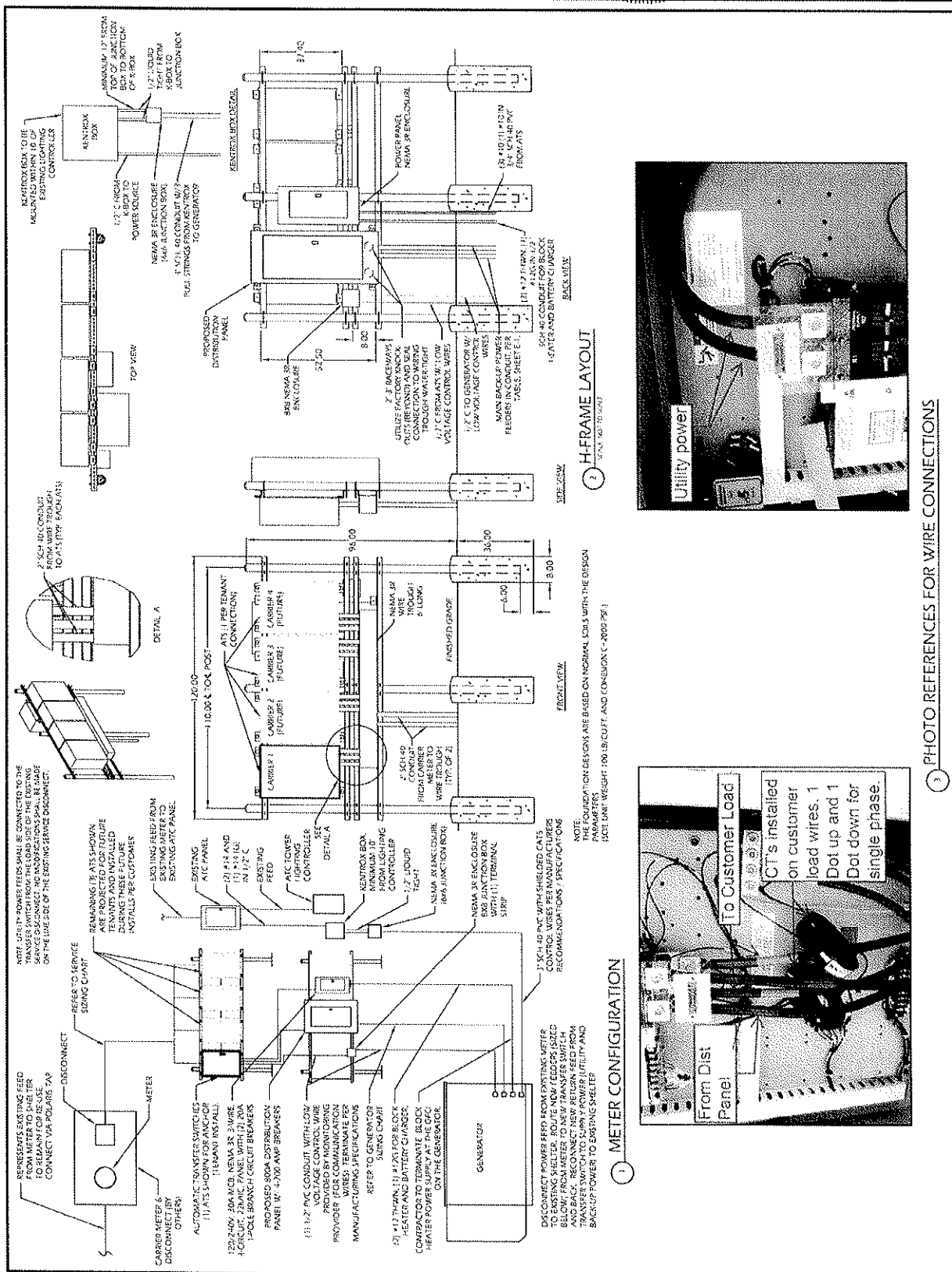
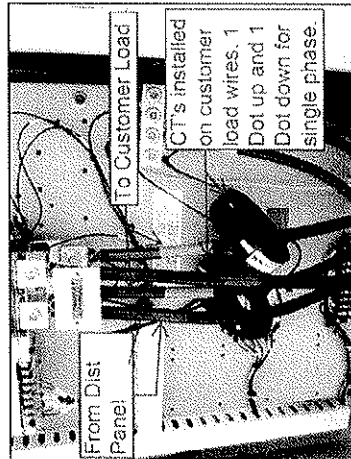


PHOTO REFERENCES FOR WIRE CONNECTIONS



③

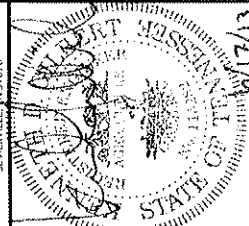


AT&T COMMUNICATIONS SERVICES, INC.
A T&T COMPANY
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FAX: (214) 764-1001
WWW.ATT.COM

ATC SITE NUMBER:
308919
ATC SITE NAME:
SEYMOUR TN

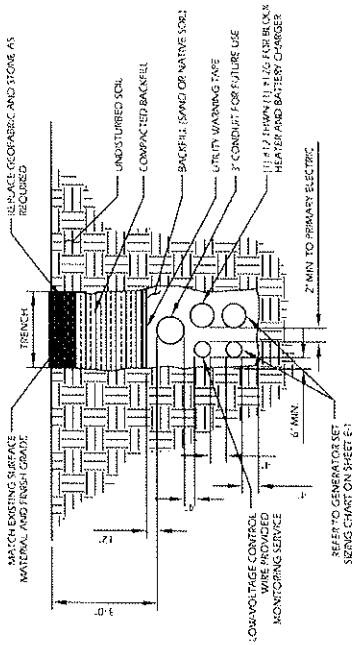
SITE ADDRESS:
8457 MCCLARY RD
SEYMOUR, TN 37086



DRAWN BY: DH
CHECKED BY: AE
DATE DRAWN: 04-04-13
JOB NO: 308919
SHEET TITLE: COMPOUND GROUNDING

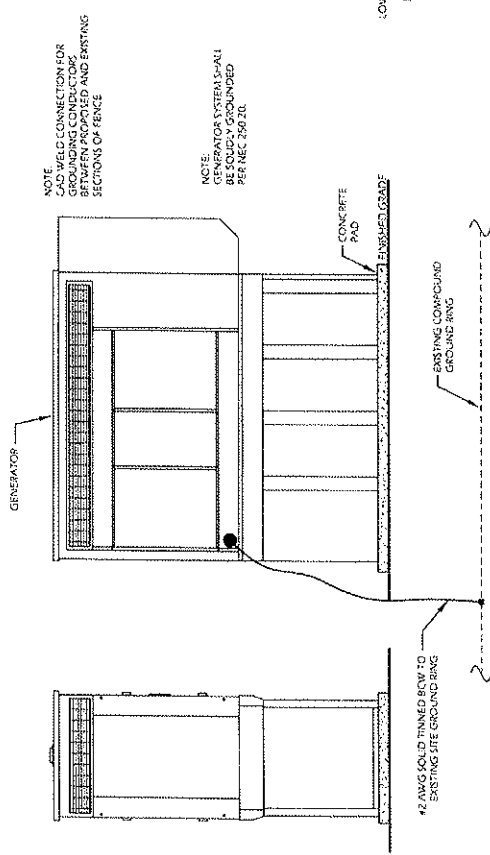
SHEET NUMBER: G-1
REV # 0

- NOTES:
1. CONTRACTOR TO HANGING ALL NEW TRENCHES ROSE COMPOUND.
 2. SEPARATION UNKNOWN TO BE VIEWED WITH LOCAL UTILITY COMPANY REQUIREMENTS.

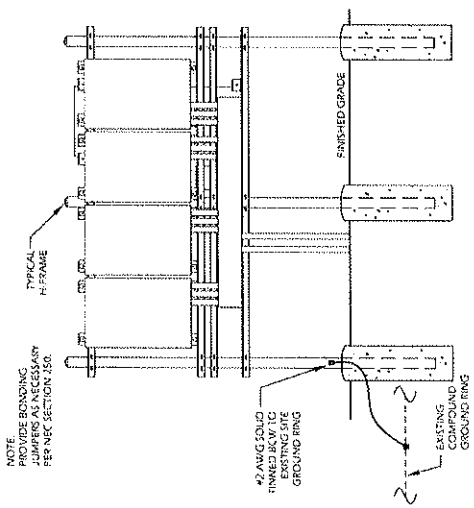


2 TRENCH DETAIL
SCALE: NOT TO SCALE

- NOTES:
1. ELECTRICIAN SHALL VERIFY THAT GENERATOR IS INSTALLED SO THAT ELECTRICAL BACKFEEDS ARE NOT POSSIBLE.
 2. ELECTRICIAN SHALL VERIFY THAT GROUNDING IS INSTALLED SO THAT NO CIRCULATING CURRENTS ARE POSSIBLE BY FOLLOWING DETAIL 3 SO GROUNDING IS CONNECTED TO EXISTING TOWER GROUND RING.
 3. ALL LIGHTNING GROUNDING SHALL BE FREE OF KINKS AND SHALL HAVE LONG RADIUS BENDS (MINIMUM 8').
 4. ALL GROUNDING SHOULD BE INSTALLED PER CURRENT NEC, SECTION 250.
 5. USE #2 AWG SOLID TINNED COPPER WIRE TO EXISTING 12\"/>



1 GENERATOR ELEVATION



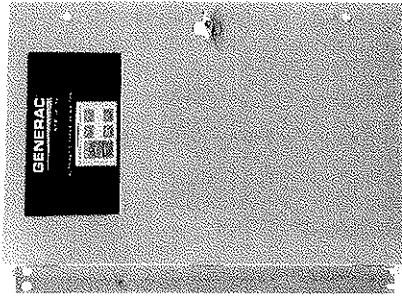
3 H-FRAME ELEVATION

GENERAC 80KW

GENERAL ASSEMBLY AND INSTALLATION SUPPLEMENT

100 - 400 Amps,
600 VAC HTS

Automatic Transfer Switches



200 Amp HTS NEMA 1

Standard Features

- Single coil design, electrically operated and mechanically held
- Programmable exercise time
- SPDT aux contacts
- Main contacts are silver alloy
- Conformal coating protects the printed circuit board
- UL1008 Listed
- Indicating LED's for switch position, standby operating, utility available

Optional Accessories

- NEMA 12 enclosure (100-400 Amps)
- NEMA 3R enclosure (All)

Description

- The Generac HTS Transfer Switch is a "State of the Art" Smart Switch designed to operate in conjunction with the Generac HT103 Series generator controller.
- The HTS Transfer Switch has a 2 wire RS485 communication link to the generator controller.
- The utility voltage is monitored by the HTS along with signal before transfer timing, time delay neutral and inphase transfer.
- Switch operation is instigated by the generator controller.
- All timers and voltage setpoints are programmable through GenLink Communications Software.
- Time delay neutral and inphase monitor are included.

- 3 position test switch: Fast Test, Auto, Normal Test
- Arc shutes on main contacts
- Signal before transfer contacts
- Rated to all classes of loads
- Remote start, stop and transfer through GenLink[®] Communications Software
- Up to four transfer switches per generator
- 50/60 hertz operation

- NEMA 4 and 4x enclosure
- 4 pole for separately derived systems

100 - 400 Amps, 600 VAC

1 of 2

100 - 400 Amps, 600 VAC

2 of 2

Interconnections

- Standby Operating LED
- Utility Available LED
- Fast Test Switch
- Return to Normal Switch
- Safety Disconnect Switch

Standby Accept Voltage	85-95%
Standby Accept Frequency	85-95%
Normal Voltage	.1 Volt Imbalance
Allowable Deviation of Utility	1-100%
Line Interruption Delay	1-10 Seconds
Engine Warning Time	1-300 Seconds
Minimum Run Time	5-60 Minutes
Return to Utility Time	1-30 Minutes
Engine Cutdown Timer	1-30 Minutes
Signal Before Transfer Time	1-30 Seconds
Transfer Time	1-30 Seconds
Phase Difference for Inphase Transfer	Inphase Time Delay Neutral -7 +0 Degrees

HTS 100-400 Amp

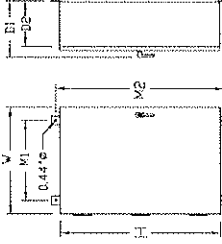
100 - 400 Amps, 600 VAC

2 of 2

Withstand Current - 600 Volt HTS Series

HTS RATED AMPS	100	150	200	300	400
FUSE PROTECTED					
Maximum RMS Symmetrical					
Fault Current - Amps	200,000	200,000	200,000	200,000	200,000
Maximum Fuse Size - Amps	200	400	400	600	600
Fuse Class	J.T	J.T	J.T	J.T	J.T
CIRCUIT BREAKER PROTECTED					
Maximum RMS Symmetrical					
Fault Current - Amps	14,000	25,000	25,000	35,000	35,000
Protective Device Continuous	150	300	300	600	600
Rating (Max.) - Amps					

- Tested in accordance with the withstand and closing requirements of UL 1008 and CSA Standards.
- Current ratings are listed @ 480 VAC.



Unit Dimensions

HTS RATED AMPS	VOLTAGE	ENCLOSURE HEIGHT H	ENCLOSURE WIDTH W	ENCLOSURE DEPTH D1	WALL MOUNT BOLT PATTERN D2	ENCLOSURE DEPTH D2	WEIGHT (lbs.)
100	ALL	36	24	18	18	18	130
150	ALL	36	24	18	18	18	130
200	ALL	36	24	18	18	18	130
300	ALL	48	36	24	24	24	235
400	ALL	48	36	24	24	24	235
600	ALL	48	36	24	24	24	235
800	ALL	48	36	24	24	24	235
1000	ALL	48	36	24	24	24	235

Terminal Lug Wire Ranges

HTS RATED AMPS	CONTRACTOR TERMINALS (1 LUG PER POLE)	# LUGS	NEUTRAL BAR*	GROUND LUG (1 PROVIDED)
100	20 - 14 AWG	4	20 - 14 AWG	20 - 14 AWG
150	400KCM - 4 AWG	4	350KCM - 6 AWG	350KCM - 6 AWG
200	400KCM - 4 AWG	4	350KCM - 6 AWG	350KCM - 6 AWG
300	600KCM - 4 AWG	4	600KCM - 4 AWG	350KCM - 6 AWG
400	600KCM - 4 AWG	4	600KCM - 4 AWG	350KCM - 6 AWG
600	600KCM - 4 AWG	4	600KCM - 4 AWG	350KCM - 6 AWG
800	600KCM - 4 AWG	4	600KCM - 4 AWG	350KCM - 6 AWG
1000	600KCM - 4 AWG	4	600KCM - 4 AWG	350KCM - 6 AWG

- Not included in HTS with switched neutral. ** Allowable wire range in brackets is for 2 wires per lug.

Highway 59 & Hillside Rd.
Waukesha, WI 53188
Phone# 262-544-4811



Ref: All Generac Power Systems fuel tank bases supplied from the factory are manufactured and labeled per U.L. 142 and are warranted through Generac Power Systems.

UL registration number: MH18459

U.L. 142 DOUBLE WALL FUEL TANK BASE SPECIFICATION

Fuel tank base construction:

- Be constructed in accordance with Underwriters Laboratories Standard UL-142. Be constructed in accordance with Flammable and Combustible Liquids Code, NFPA 30; The Standard for Installation and use of Stationary Combustible Engine and Gas Turbines, NFPA 37; and The Standard for Emergency and Standby Power Systems, NFPA 110. Include reinforced steel box channel for generator support, with load rating of 5,000 lbs. per gen-set mounting hole location. Full height gussets shall be provided at gen-set mounting holes. Be shipped with a certificate of Structural/Mechanical Integrity, certifying that it has met standards through rigorous testing and has demonstrated specified capabilities.

Sub Base Tank Testing:

Primary tank and secondary containment basin sections shall be pressurized at 3-5 psi and leak-checked to ensure integrity of sub base weld seams per U.L-142 standards

Sub Base Tank Fittings:

The sub base tank shall include the following fittings:

- Appropriately sized NPT
- Fuel supply Fuel return fitting
- NPT for normal vent, sized as appropriate NPT for emergency vent, sized as appropriate
- 2" NPT for manual fill
- NPT for level gauge, sized as appropriate.
- 2" NPT for electronic fuel level; includes Low fuel alarm. High fuel level alarm
- NPT fitting for leak detection alarm

Fuel Level Gauge

The sub base tank shall include a direct-reading fuel level gauge.

Low Fuel Level

Factory Pre-set at 40% remaining for Alarm

Factory Pre-set at 20% remaining for Shut-down

High Fuel Level

Factory Pre-set at 90% full for Alarm

Fuel Containment Basin

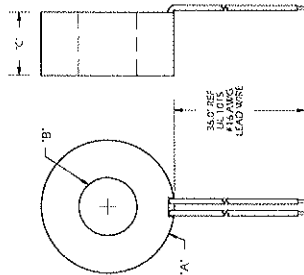
Sub base tank shall include a welded steel containment basin, sized at a minimum of 110% of the tank capacity to prevent escape of fuel into the environment in the event of a tank rupture. A fuel containment basin leak detector switch shall be provided.

Sub Base Tank Venting

Normal and Emergency Venting:

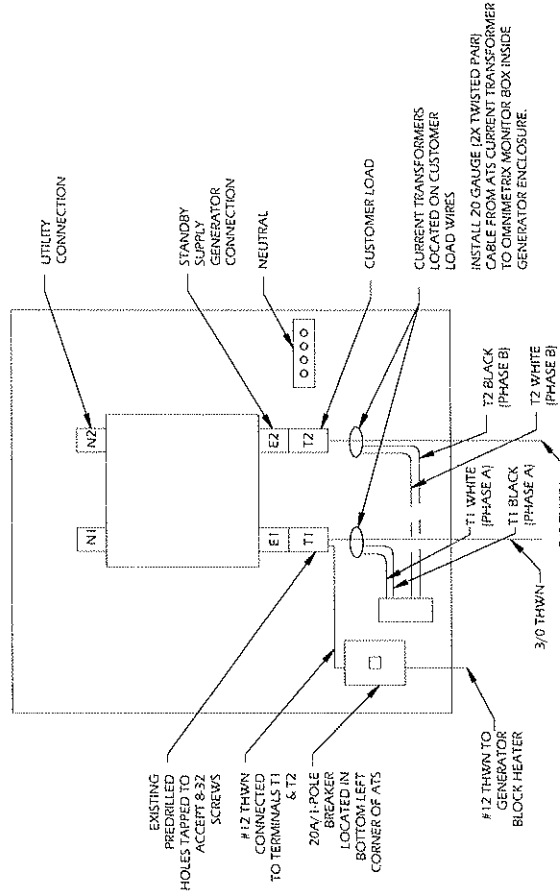
Normal and Emergency venting shall be sized per U.L. 142 specifications for wetted surface area of tank.

PART NO.	RATIO	MODEL NO.	#%	VA.	OHMS	"A"	"B"	"C"
0F7784A	100:1A	635-1000-01436	1	1	31	65	28	30.5
0F7784B	200:1A	635-2000-01436	1	5	95	65	28	30.5
0F7784C	300:1A	A-300-01436	1	4.5	06	112	57.1	27.4
0F7784D	400:1A	A-400-01436	1	4	11	112	57.1	27.4
0F7784E	500:1A	A-500-01436	1	6.5	13	112	57.1	27.4
0F7784F	600:1A	A-600-01436	1	7.5	15	112	57.1	27.4
0F7784G	800:1A	MW-800-01436	1	10	20	143.5	89	29.2
0F7784H	1000:1A	MW-1000-01436	1	12	22	143.5	89	29.2
0F7784J	1500:1A	MW-1500-01436	1	15	50	143.5	89	29.2
0F7784K	2000:1A	MW-2000-01436	1	12	67	143.5	89	29.2
0F7784L	3000:1A	MW-3000-01436	1	25	1.0	143.5	89	29.2



NOTE:
1. ORIGINAL CURRENT TRANSFORMER.

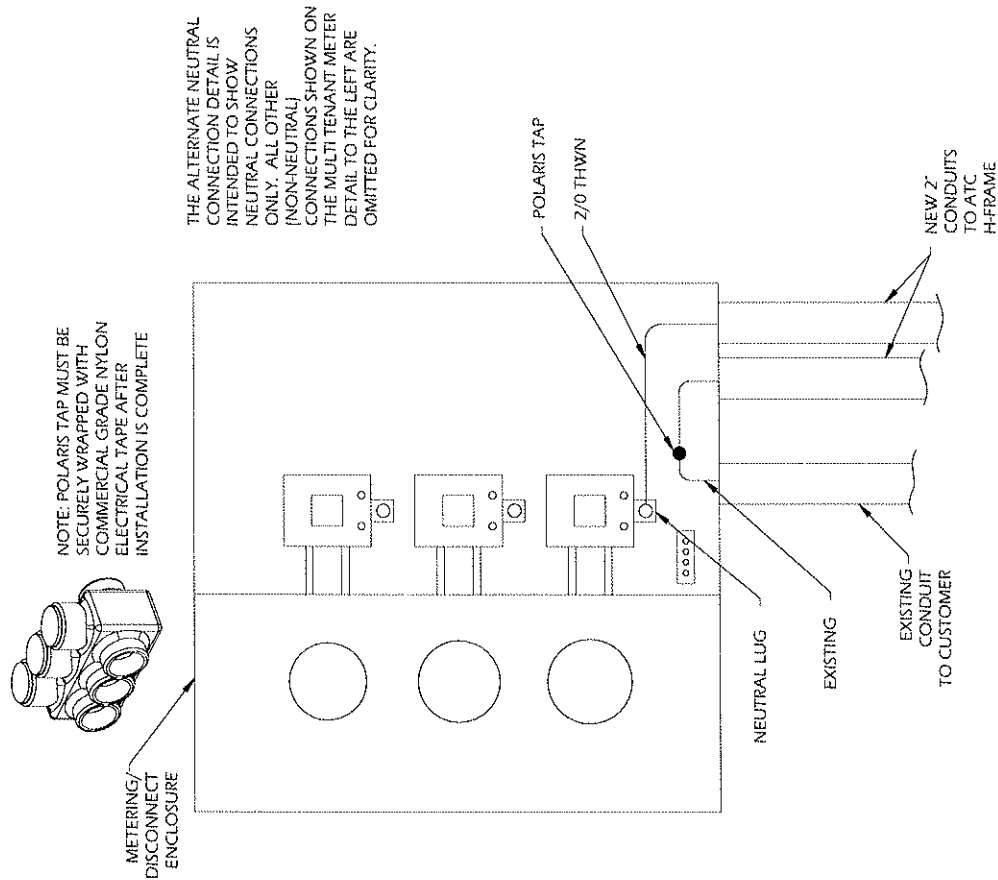
CURRENT FLOW METER IN ATS



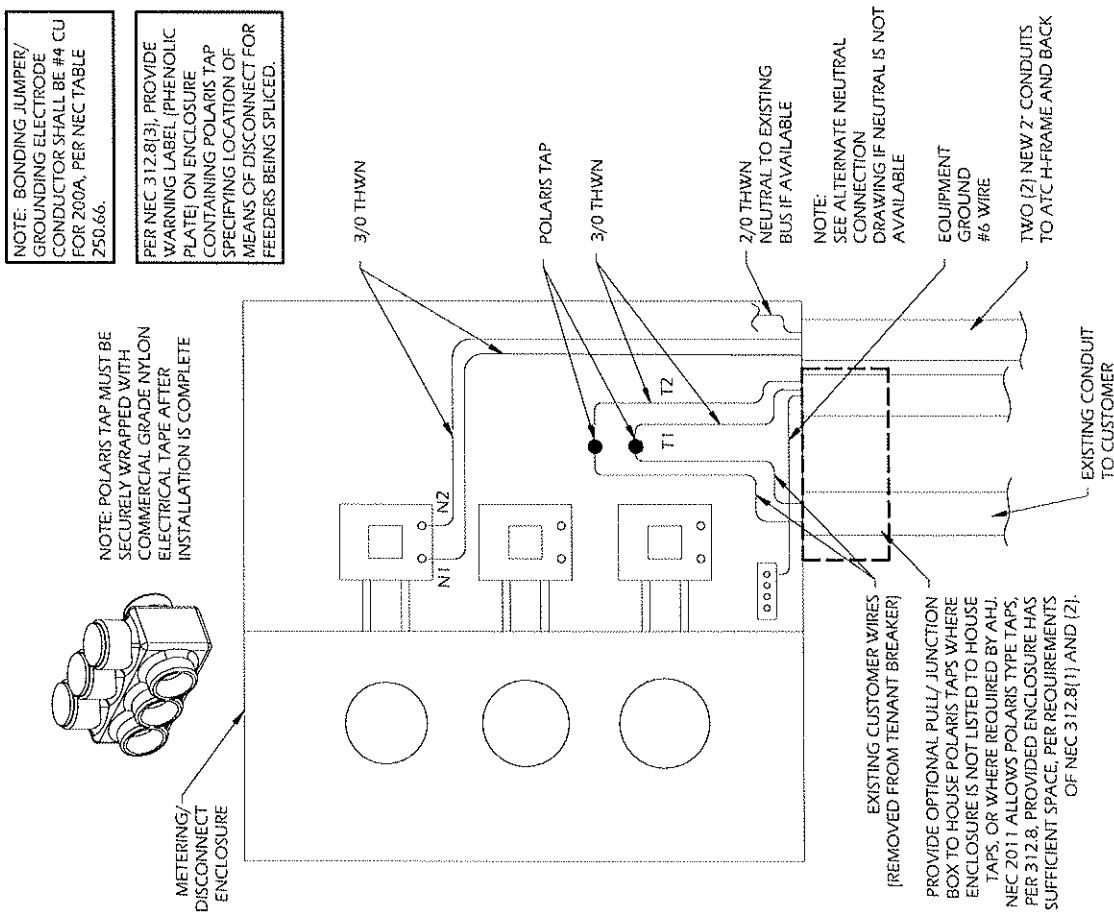
NOTES:
1. CONNECT TO TENANT BREAKER AT METER.
2. CONNECT TO DISTRIBUTION CENTER BRANCH BREAKER



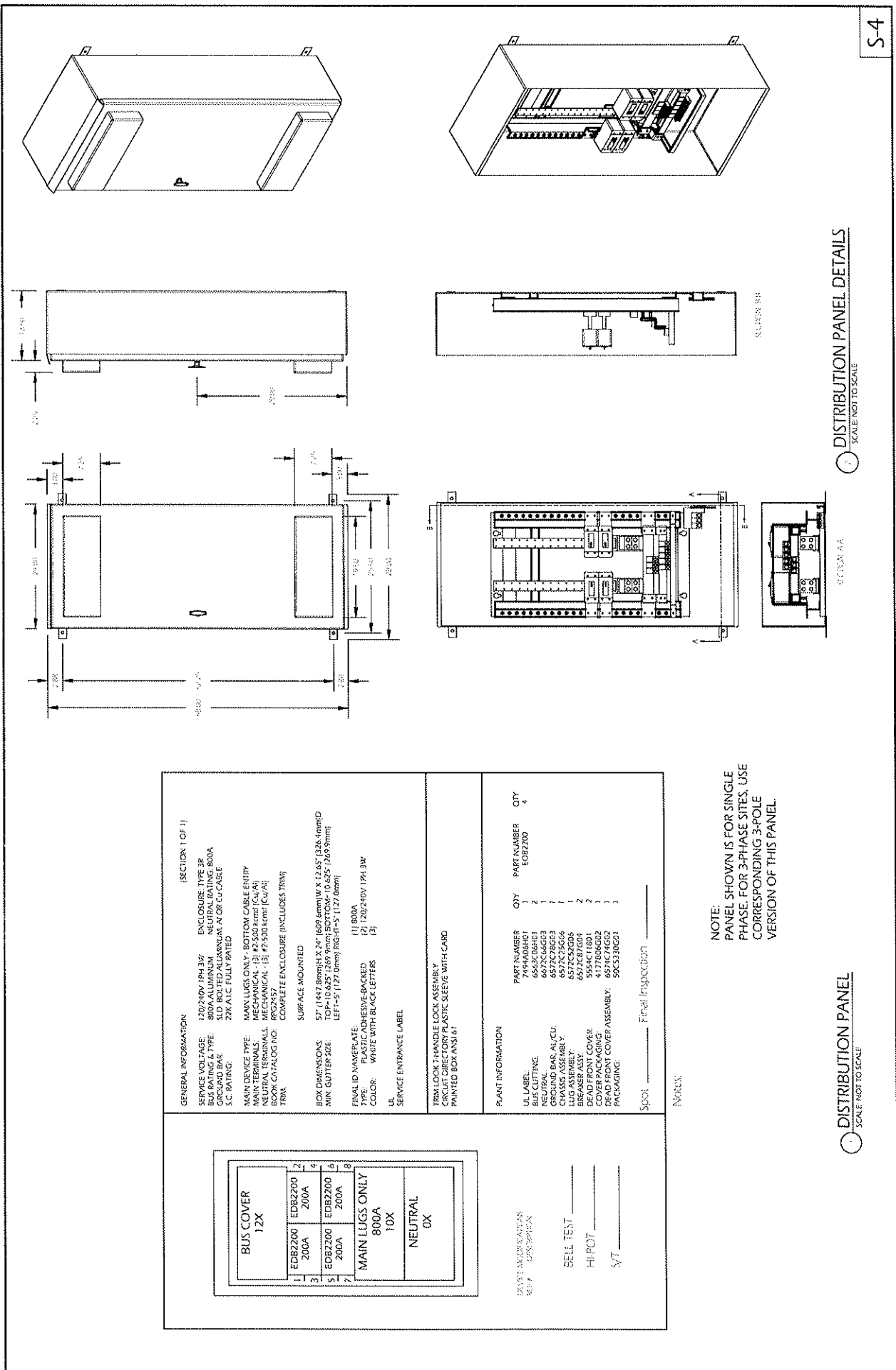
*SINGLE PHASE



ALTERNATE NEUTRAL CONNECTION FOR MULTI-TENANT METER OPTION



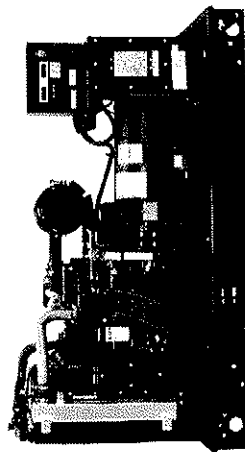
MULTI TENANT METER OPTION
SCALE: NOT TO SCALE



SD080

Industrial Diesel Generator Set
EPA Emissions Certification: Tier III

EPA Emissions Certification: Tier III



Standby Power Rating
100 kVA 80 kW 60 Hz

Prime Power Rating
90 kVA 72 kW 60 Hz

features



- | Generators Set | |
|---|--|
| <ul style="list-style-type: none"> • AND OTHERS, COMPOUNDLY TESTED • UL2000 TESTED • ENDOCRINE-PAINT SYSTEM • WARE RANGE OF ENCLOSURES AND PANS | <ul style="list-style-type: none"> ➤ PROVIDES A PROVEN UNIT ➤ ENHANCES A QUALITY PRODUCT ➤ APPROVES RESERVES TO ELEMENTS ➤ PROVIDED A SINGLE SOURCE SOLUTION |
| Engine | |
| <ul style="list-style-type: none"> • EPA-TEST COMPLAINT • INDUSTRIAL TESTED GENERATOR APPROVED • POWERMANAGED TO OUTPUT • INDUSTRIAL GRADE | <ul style="list-style-type: none"> ➤ ENVIRONMENTAL FRIENDLY ➤ EXCEEDS INDUSTRIAL STANDARDS ➤ ENGINEEDED FOR PERFORMANCE ➤ IMPROVE LONGEVITY AND RELIABILITY |
| Alternator | |
| <ul style="list-style-type: none"> • TWO THRESH PITCH • LAYER WIZARD MOTOR & STATOR • GLASS WINDINGS • DIGITAL LINEAGE VOLTAGE CONTROL | <ul style="list-style-type: none"> ➤ ELEMENTS HARBORITL AND HARMONIC ➤ REDUCES COILS ➤ NEAR-TOLERANT DESIGN ➤ FAST AND ACCURATE RESPONSE |
| Controls | |
| <ul style="list-style-type: none"> • ENCAPSULATED BOARD W/ HEATED HANDBUS • 4-20MA VOLTAGE FREQUENCY SENSORS • SURTECHMANT TECHNOLOGY • ADVANCED DIAGNOSTICS & COMMUNICATIONS | <ul style="list-style-type: none"> ➤ EASY, AFFORDABLE REPLACEMENT ➤ NOISE RESISTANT 19" MONITORING ➤ PROVIDES REMOTE RESISTANCE ➤ HANDLES RELIABILITY |

primary codes and standards



080075

application and engineering data

ENGINE SPECIFICATIONS

<u>General</u>	
Make	Ward
Model	1977
Engine Description	See Emission Data Sheet
Engine Performance	See Emission Data Sheet
Cylinder #	4
Type	Diocal
Displacement - l (cu. in.)	4.5 (274)
Bore - mm (in.)	105 (4.1)
Stroke - mm (in.)	127 (5.0)
Compression Ratio	13.5:1
Oil Capacity - l (qt.)	10.5 (11.1)
Cylinder Head Type	Intercooled
Cylinder Band Type	2 Valve
Valve Type	Aluminum
Exhaust Type	Fixed Steel
Crankshaft Type	Cast Iron/Alloy Steel
Engine Block Type	
<u>Engine Governor</u>	
Engine Governor	Electronic
Frequency Regulation (Steady State)	+/-0.25%
<u>Lubrication System</u>	
Lubrication Type	Wet
Oil Filter Type	Full Flow
Oil Capacity - l (qt.)	13.9 (14.6)
Oil Drain Valve	1 (optional)
<u>Cooling System</u>	
Cooling System Type	Water Pump
Water Pump	See Emission Data Sheet
Fan Type	Pulley
Fan Blade Number	25-38 (10)
Fan Diameter (in.)	26
Coolant Heater Voltage	1900
Coolant Heater Standard Voltage	170
<u>Fuel System</u>	
Fuel Type	Ultra Low Sulfur Diesel Fuel
Fuel Specification	ASTM
Fuel Filtering (microns)	5
Fuel Type/Coolant Water	Standing
Fuel Pump Type	Engine Driven Gear
Injector Type	MEC Injectors
Fuel Supply Line (mm in.)	1/4 inch Type
Fuel Return Line - mm (in.)	1/4 inch NPT
<u>Engine Electrical System</u>	
System Voltage	12VDC
Battery Charging Alternator	90 Amp
Battery Capacity (kWh)	3.0
Battery Group	31
Battery Voltage	12 volt DC
Grounded Polarity	Negative

ALTERNATOR SPECIFICATIONS

Model	390 mm Genesect
Date	4
Fiber Type	Revolving
Insulation Class	H
Insulation Class Notes	H
Insulation Class - Status	OK
Total Harmonic Distortion	2.60
Power Factor Correction (PFC)	Yes
Autotransformer Type	Synchromotor Switch Out Ring
Bearings	Cone - Firm Lubricated & Sealed Directs, Resizable Disc
Controls	72
Load Capacity - Standby	80
Load Capacity - Prime	Y
Prototype Short Circuit Test	Y

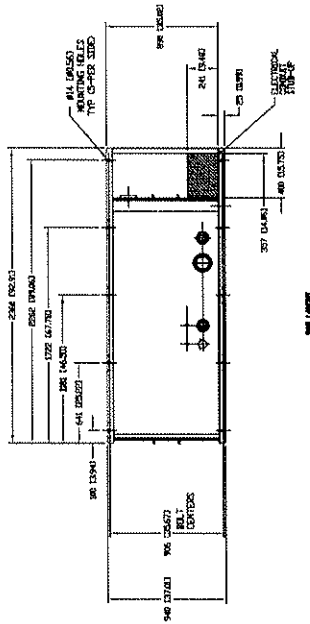
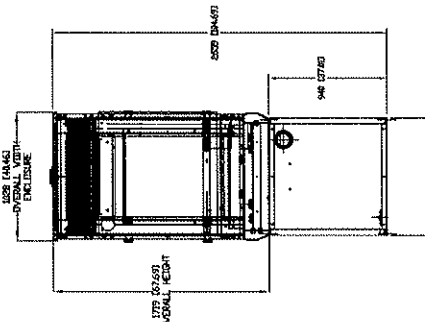
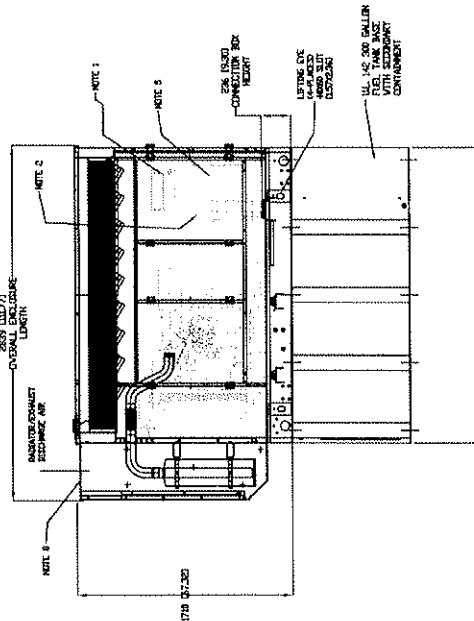
Voltage Regulator Type
 Number of Speed Phases
 Regulation Accuracy (Steady state)
 Digital
 3
 +/-0.25%

CODES AND STANDARDS COMPLIANCE (WHERE APPLICABLE)

IEEE STANDARD CONFORMANCE TEST PROCEDURES

IEEE 793
IEEE 800
ISO 6538/5
ISO 17084.5
ISO 3046
BS5514
SAE J1349
DIN 6271
IEEE C62.41 TESTING
MEMA (CS 1)

During the operation:
- Switching: Applicable for a warning emergency load for the duration of a safety power outage with no overcapacity; (Max. load factor = 70%).
- Reserve: Applicable for supplying power to a warning load in lieu of utility for an unlimited amount of running time; (Max. load factor = 80%). A 10% overcapacity capacity is required for a total of forty (40) hours.
- Standby: Applicable for a total of forty (40) hours.

[illegible]

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RECOMMENDED ELECTRICAL STANDARDS SEE DETAIL VEA-3 TOP VIEW		TO 1/2 IN. SEE DET. VEA-1		TO 1/2 IN. SEE DET. VEA-1
		TO 1/2 IN. SEE DET. VEA-1		TO 1/2 IN. SEE DET. VEA-1

ENGINE EXHAUST CONNECTIONS

TEST DATA

REFERENCE DRAWING CHECKED FOR INSTALLATION
FILE TANK DRAWING 0445304

Abstract

GENERATOR POWER SYSTEMS OBTAINS THE CONSENT OF THE BOARDING AGENCIES TO BE USED IN CONFINEMENT AND MUST NOT BE USED FOR ANY PURPOSE OTHER THAN FOR WHICH IT IS SUPPLIED WITHOUT THE EXPRESS WRITTEN CONSENT OF GENERATOR POWER SYSTEMS.

INSTALLATION DRAWING

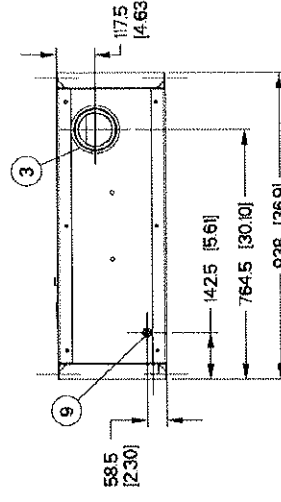
SD80		GENERAC POWER SYSTEMS Waukeeshi P.O. BOX 8 WAUKEGISHA, WIS. 53187				
DIESEL 4.5L IVECO	FILE NAME	0H5302C-B A/C D/W G		SIZE	B	
TURBOCHARGED & AFTERCOOLED	SCALE	N/A	USE	D4.5L IVECO		
SOUND ATTENUATED ENSL., LVL 2	ENCL NO.					
W/ 300 GALLON FTB	0H5302C-ATC		REV B			

ITEM #	TANK FITTING	FUNCTION
1	3/8" NPT COUPLING	FUEL SUPPLY
2	3/8" NPT COUPLING	FUEL RETURN
3	4" NPT WELD FLANGE	EMERGENCY VENT (OUTER)
4		FUEL LEVEL
5	2" NPT WELD FLANGE	FUEL FILL
6	4" NPT WELD FLANGE	EMERGENCY VENT (INNER)
7	2" NPT WELD FLANGE	VENT
8	3/4" NPT COUPLING	DRAIN
9	Ø 22 HOLE	LEAK DETECTOR

TANK P/N	0H480805T03	0H480905T03	0H481005T03
DIM "A"	330 [13]	635 [25]	940 [37]
TOTAL TANK CAPACITY	318 [94]	734 [194]	1154 [305]
USABLE TANK CAPACITY	299 [79]	716 [189]	1134 [300]
DRY WEIGHT (EST)	237 [522]	344 [758]	445 [982]

NOTES

- ALL DIMENSIONS ARE:
LENGTH: mm [inch]
WEIGHT: kg [lbs]
CAPACITY: L [gall]
- UL #142 LISTED



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GENERAC

TITLE B-GROUP, DW TYPE 2 TANKS

INSTALLATION DRAWING

DRAWING CREATED FROM PRO/ENGINEER 3D FILE. ECO MODIFICATION TO BE APPLIED TO SOLID MODEL ONLY.

