Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

DEFK14013 | 1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
TARA LYLE
304-558-2544

VENDOR:
RFQ COPY
TYPE NAME/ADDRESS HERE
QUALITY ELECTRIC SUPPLY INC
6703 PETERS REST
ST CROIX VI 00820

SHIP TO:
DIV ENGINEERING & FACILITIES
ARMORY BOARD SECTION
1707 COONSKIN DRIVE
CHARLESTON, WV
25311-1099 304-341-6368

DATE PRINTED: 09/23/2013

BID OPENING DATE: 09/26/2013 BID OPENING TIME 1:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
				ADDENDUM NO. 1		
				SEE ATTACHED PAGES.		
				END OF ADDENDUM NO. 1		
0001	1	LS		285-39		
				DIESEL GENERATOR AND AUTOMATIC TRANSFER SWITCH		
				****** THIS IS THE END OF RFQ DEFK14013 ****** TOTAL:		

09/25/13 09:31:42 AM
West Virginia Purchasing Division

Annunc

Post-it® Fax Note 7671 | Date 9/23 | # of pages 4
To DEFK14013 | From T. Lyle
Co./Dept. Vendors | Co.
Phone # | Phone #
Fax # | Fax #

SIGNATURE | TELEPHONE | DATE
TITLE | FEIN | ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO SOLICITATION, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

000003

ATTACHMENT A

Questions:

Q1: Can you advise amperage of auto transfer switch? Usually matched to the utility service amperage at that location.

A1: ATS Amperage is 2,000 amp.

Q2: How many gallons capacity in base tank?

A2: 700 Gallons.

Q3: Submittals --required with bid, or upon award of contract?

A3: Vendors should supply with the bid, to evaluate the equipment being supplied.

Other Information:

1. The bid opening remains 09/26/2013 at 1:30 pm.
2. No additional questions will be accepted on this RFQ.

000002

SOLICITATION NUMBER: DEFK14013
Addendum Number: 1

The purpose of this addendum is to modify the solicitation identified as DEFK14013 ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

[ ] Modify bid opening date and time

[ ] Modify specifications of product or service being sought

[X] Attachment of vendor questions and responses

[ ] Attachment of pre-bid sign-in sheet

[ ] Correction of error

[ ] Other

Description of Modification to Solicitation:

1. Responses to vendor questions attached.
2. The bid opening remains 09/26/2013 at 1:30 pm.

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

EXHIBIT A

DEFK14013 - Braxton Co. Armory Generator & Automatic Transfer Switch

PRICING PAGE

CONTRACT ITEM NO.	DESCRIPTION	QTY	UNIT PRICE	EXTENDED PRICE
Item No. 3.1.1	**Stationary Emergency/Standby Generator**	1	$ 76,589.21	$76,589.21
	Manufacturer Bid: CUMMINS			
	Model No. Bid: 300 DQHAB			
Item No. 3.1.2	**Automatic Transfer Switch (ATS)**	1	$ 21,321.63	$ 21,321.63
	Manufacturer Bid: CUMMINS			
	Model No. Bid: OTPC 2000			
	Unit prices to be inclusive of all freight/delivery costs **Failure to use this form may result in disqualification**	**TOTAL COST:**		$ 97,910.84

Bidder / Vendor Information:

KARL BAUKNIGHT, PRES

Name: QUALITY ELECTRIC SUPPLY INC

Address: 6703 PETERS REST

ST CROIX VI 00820

Phone: (340) 773-4630 x 306

Fax: (340) 778-7653

E-mail Address: karlbauknight@yahoo.com

Authorized Signature: Karl Bauknight

Date: 9-23-2013

000004

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: DEFK14013

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

[/]	Addendum No. 1	[ ]	Addendum No. 6
[ ]	Addendum No. 2	[ ]	Addendum No. 7
[ ]	Addendum No. 3	[ ]	Addendum No. 8
[ ]	Addendum No. 4	[ ]	Addendum No. 9
[ ]	Addendum No. 5	[ ]	Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

QUALITY ELECTRIC SUPPLY INC
Company

KARL BAUKNIGHT PRES
Authorized Signature

9-21-13
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

Our energy working for you.™

Power Generation

Quotation

Quality Electric Supply
Quality Electric Supply Inc
6703 Peters Rest
St Croix VI 00820 United States
Direct: 340-773-4630-306

September 23, 2013

Quality Electric Supply
c/o Tropical Shipping Cargo Facility
9505 NW 108th Ave
Miami FL 33178 United States

Attention:

Project Name: Braxton Armory WV

Quotation: 1355000000060735

Thank you for your inquiry. We are pleased to quote as follows:

USD

Item	Description	Qty
	Diesel Genset: 60Hz-300kW	
Install-US-Stat	U.S. EPA, Stationary Emergency Application	1
300DQHAB	Genset-Diesel,60Hz,300kW	1
A331-2	Duty Rating-Standby Power	1
L090-2	Listing-UL 2200	1
L169-2	EmissionCert,EPA,Tier 3,NSPS CI Stationary Emergency	1
F202-2	Enclosure-Steel,SndAtt,Level 2,Base Mtd,w/ExhSys	1
C207-2	Fuel Tank-Subbase,850 Gallon,UL142 Compliant	1
R098-2	Voltage-120/208,3 Phase,Wye,4 Wire	1
B256-2	Alternator-60Hz,12 Lead,Broad Range,105C	1
H643-2	SET CONTROL-PCC 2100	1
H536-2	Display Language-English	1
H605-2	Display-Control,Graphical	1
H606-2	Meters-AC Output,Analog	1
KP74-2	Stop Switch-Emergency,Externally Mounted	1
KU94-2	CB or EB or TB-Right Only	1
KC62-2	Circuit Breaker-800A,Right CB on Right side,3-Pole,UL 600,IEC 690 100%	1

KB72-2	CB or EB or TB-Bottom Entry, Right	1
KM72-2	Shunttrip-24vdc,Single Circuit Breaker	1
P175-2	Enclosure Color-Green,Steel Enclosure	1
L163-2	Listing, ULC-S601-07	1
F206-2	Wind Rating-150 MPH,Steel Housing	1
F208-2	Cooling Air Outlet-Horizontal ,Sound Attenuated	1
C215-2	Alarm-High Fuel Fill	1
C127-2	Separator-Fuel/Water	1
B786-2	Battery Charger-12 Amp, Regulated	1
E125-2	Engine Cooling-High Ambient Air Temperature	1
H389-2	Shutdown-Low Coolant Level	1
H557-2	Coolant Heater-208/240/480V, Below 40F Ambient Temp	1
D041-2	Engine Air Cleaner-Normal Duty	1
A298-2	Exhaust Connector-Slip On	1
L019-2	Test-Varied Load, 1 Hour, 2 Step	1
L028-2	Genset warranty- Base, Standby 2 years / 400 hours, Prime Power 1 year / unlimited hours, Continuous Power 1 year / unlimited hours	1
L050-2	Literature-English	1
CP01-2	Common Parts Listing	1
SPEC-G	Product Revision - G	1
0416-0439	Dry Battery-1400CCA 12V 225 Amp Hour	2
0541-0814-02	Annunciator Kit-w/Enclosure	1
	Transfer Switch-Power Command: 2000A	
OTPC2000	Transfer Switch-Onan,PwrCmd,2000 Amp	1
A078-7	Transfer Mode-Delayed Transition	1
A029-7	Poles-4	1
A035-7	Application-Utility To Genset	1
A046-7	Listing-UL 1008/CSA Certification	1
A044-7	Frequency-60 Hertz	1
A042-7	System-3 Phase,3 Wire Or 4 Wire	1
R021-7	Voltage-208 Vac	1
B001-7	Cabinet-Type 1	1
C024-7	Control-Transfer Switch,Level 2	1
M018-7	Display-Digital	1
M022-7	Monitoring-Load	1
M031-7	Interface-Communications Network,FTT-10	1
KB59-7	Battery Charger-15 Ampere, 12 Volt, 50/60 Hertz	1
L201-7	Auxiliary Relay-12 Vdc Coil-Installed Only	1
L202-7	Auxiliary Relay-Switch In Emergency Position-12VDC	1
L203-7	Auxiliary Relay-Switch In Normal Position-12VDC	1
M003-7	Terminal Block-30 Points	1
G010-7	Transfer Switch Warranty - Yr 0-2: Parts, Labor and Travel; Yr 3-5: Parts Only; Yr 6-10: Main Contacts Only	1
A050-7	Packing-Wooden Crate	1
CP01-7	Common Parts Listing	1
SPEC-B	Product Revision - B	1

Exceptions: unloading by others, interior enclosure light by others 1

Grand Total $97,910.84

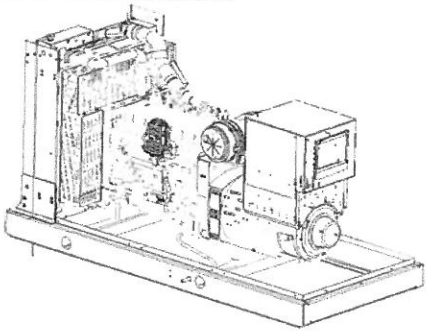
Submitted by

Karl Bauknight
karlbauknight@yahoo.com
Mobile: 340 643-0734
Fax: 340-778-7653

Diesel Generator Set

Model DQHAB 60 Hz EPA Emissions

300 kW, 375 kVA Standby
270 kW, 338 kVA Prime



Description

Cummins Power Generation commercial generator sets are fully integrated power generation systems providing optimum performance, reliability, and versatility for stationary standby or prime power applications.

A primary feature is strong motor-starting capability and fast recovery from transient load changes. The torque-matched system includes a heavy-duty Cummins 4-cycle diesel engine, an AC alternator with high motor-starting kVA capacity, and an electronic voltage regulator with three phase sensing for precise regulation under steady-state or transient loads. The GenSet accepts 100% of the nameplate standby rating in one step, in compliance with NFPA 110 Level 1 requirements.

The standard PowerCommand® digital electronic control is an integrated system that combines engine and alternator controls for high reliability and optimum GenSet performance.

Optional weather-protective enclosures and coolant heaters allow generators to perform in outdoor weather operating conditions. Environmental concerns are addressed by low exhaust emission engines, sound-attenuated enclosures, exhaust silencers, and dual-wall fuel tanks. A wide range of options, accessories, and services are available, allowing configuration to your specific power generation needs.

Every production unit is factory tested at rated load and power factor. This testing includes demonstration of rated power and single-step rated load pickup. Cummins Power Generation manufacturing facilities are registered to ISO9001 quality standards, emphasizing our commitment to high quality in the design, manufacture, and support of our products. The generator set is CSA certified (pending) and is available as UL 2200 Listed. The PowerCommand control is UL 508 Listed.

All Cummins Power Generation systems are backed by a comprehensive warranty program and supported by a worldwide network of 170 distributors and service branches to assist with warranty, service, parts, and planned maintenance support.

Features

UL Listed Generator Set - The complete generator set assembly is available as UL 2200 Listed.

Low Exhaust Emissions - Engine certified to U.S. EPA Nonroad source emissions standards, 40 CFR 89, Tier 3.

Cummins Heavy-Duty Engine - Rugged 4-cycle industrial diesel engine delivers reliable power, low emissions, and fast response to load changes.

Alternator - Several alternator sizes offer selectable motor starting capability with low reactance 2/3 pitch windings; low waveform distortion with non-linear loads, fault clearing short-circuit capability, and class H insulation. The alternator electrical insulation system is UL1446 Recognized.

Permanent Magnet Generator (PMG) - Offers enhanced motor starting and fault clearing short circuit capability.

Control System - The PowerCommand electronic control is standard equipment and provides total genset system integration, including automatic remote starting/stopping, precise frequency and voltage regulation, alarm and status message display, AmpSentry™ protection, output metering, auto-shutdown at fault detection, and NFPA 110 Level 1 compliance. PowerCommand control is Listed to UL508.

Cooling System - Provides reliable running at the rated power level, at up to 52°C ambient temperature.

Integral Vibration Isolation - Robust skid base supports the engine, alternator, and radiator on isolators, minimizing transmitted vibration.

E-Coat Finish - Dual electro-deposition paint system provides high resistance to scratches, corrosion, or fading.

Enclosures - Optional weather-protective and sound-attenuated enclosures are available.

Fuel Tanks - Dual wall sub-base fuel tanks are also offered.

Certifications - Generator sets are designed, manufactured, tested, and certified to relevant UL, NFPA, ISO, IEC, and CSA standards.

Warranty and Service - Backed by a comprehensive warranty and worldwide distributor network.

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Generator Set

The general specifications provide representative configuration details. Consult the outline drawing for installation design.

Specifications – General

See outline drawing 500-4645 for installation design specifications.

Unit Width, in (mm)	60 (1524)
Unit Height, in (mm)	71 (1803)
Unit Length, in (mm)	136 (3453)
Unit Dry Weight, lb (kg)	5900 (2676)
Unit Wet Weight, lb (kg)	6090 (2762)
Rated Speed, rpm	1800
Voltage Regulation, No Load to Full Load	±0.5%
Random Voltage Variation	±0.5%
Frequency Regulation	Isochronous
Random Frequency Variation	±0.5%
Radio Frequency Interference	IEC 801.2, Level 4 Electrostatic Discharge IEC 801.3, Level 3 Radiated Susceptibility IEC 801.4, Level 4 Electrical Fast Transients IEC 801.5, Level 5 Voltage Surge Immunity MIL STD 461C, Part 9 Radiated Emissions (EMI)

Cooling	**Standby**	**Prime**
Fan Load, HP (kW)	27 (20.1)	27 (20.1)
Coolant Capacity with radiator, US Gal (L)	8.9 (33.7)	8.9 (33.7)
Coolant Flow Rate, Gal/min (L/min)	140 (529.9)	140 (529.9)
Heat Rejection To Coolant, Btu/min (MJ/min)	10524 (11.10)	8344 (8.80)
Heat Radiated To Room, Btu/min (MJ/min)	2000 (2.11)	1789 (1.88)
Maximum Coolant Friction Head, psi (kPa)	10 (68.9)	10 (68.9)
Maximum Coolant Static Head, ft (m)	46 (14)	46 (14)

Air		
Combustion Air, scfm (m^3/min)	866.82 (24.54)	814.59 (23.06)
Alternator Cooling Air, scfm (m^3/min)	1240.0 (35.1)	1240.0 (35.1)
Radiator Cooling Air, scfm (m^3/min)	25000.0 (707.5)	25000.0 (707.5)
Max. Static Restriction, in H_2O (Pa)	0.50 (124.50)	0.50 (124.50)

Rating Definitions

Standby Rating based on: Applicable for supplying emergency power for the duration of normal power interruption. No sustained overload capability is available for this rating. (Equivalent to Fuel Stop Power in accordance with ISO3046, AS2789, DIN6271 and BS5514). Nominally rated.

Prime (Unlimited Running Time) Rating based on: Applicable for supplying power in lieu of commercially purchased power. Prime power is the maximum power available at a variable load for an unlimited number of hours. A 10% overload capability is available for limited time. (Equivalent to Prime Power in accordance with ISO8528 and Overload Power in accordance with ISO3046, AS2789, DIN6271, and BS5514). This rating is not applicable to all generator set models.

Site Derating Factors

Standby engine power available up to 875 m (2870 ft) at ambient temperature up to 40°C (104°F) or up to 400 m (1312 ft) at ambient temperatures up to 50°C (122°F). Engine power derate for altitude and temperature conditions outside those listed: derate 4% per 300 m (984 ft), and 10% per 10°C (18°F).

Prime engine power available up to 1000 m (3280 ft) at ambient temperature up to 40°C (104°F) or up to 325 m (1066 ft) at ambient temperatures up to 50°C (122°F). Engine power derate for altitude and temperature conditions outside those listed: derate 4% per 300 m (984 ft), and 10% per 10°C (18°F).

Engine

Cummins heavy duty diesel engines use advanced combustion technology for reliable and stable power, low emissions, and fast response to sudden load changes.

Electronic governing provides precise speed regulation, especially useful for applications requiring constant (isochronous) frequency regulation such as Uninterruptible Power Supply (UPS) systems, non-linear loads, or sensitive electronic loads. Optional coolant heaters are recommended for all emergency standby installations or for any application requiring fast load acceptance after start-up.

Specifications – Engine

Base Engine	Cummins, Inc Model QSM11-G4, Turbocharged, EGR, and CAC, diesel-fueled
Displacement in^3 (L)	661.0 (10.8)
Overspeed Limit, rpm	2100 ±50
Regenerative Power, kW	30.6
Cylinder Block Configuration	Cast iron, In-line 6 cylinder
Battery Capacity	550 amps at ambient temperature of 32°F (-0°C) and above
Battery Charging Alternator	70 amps
Starting Voltage	24-volt, negative ground
Lube Oil Filter Types	Single spin-on, combination full flow and bypass filters
Standard Cooling System	125°F (52°C) ambient radiator

Power Output	**Standby**	**Prime**
Gross Engine Power Output, bhp (kWm)	470 (350)	427 (318)
BMEP at Rated Load, psi (kPa)	314 (2165)	285 (1965)
Bore, in. (mm)	4.92 (125)	4.92 (125)
Stroke, in. (mm)	5.79 (147.1)	5.79 (147.1)
Piston Speed, ft/min (m/s)	17.37 (0.88)	17.37 (0.88)
Compression Ratio	17:1	17:1
Lube Oil Capacity, qt. (L)	38.8 (36.72)	38.8 (36.72)
Fuel Flow		
Fuel Flow at Rated Load, US Gal/hr (L/hr)	75 (284)	75 (284)
Maximum Inlet Restriction, in. Hg (mm Hg)	8 (204)	8 (204)
Maximum Return Restriction, in. Hg (mm Hg)	8 (204)	8 (204)
Air Cleaner		
Maximum Air Cleaner Restriction, in. H_2O (kPa)	25.0 (6.2)	25.0 (6.2)
Exhaust		
Exhaust Flow at Rated Load, cfm (m^3/min)	2345 (66.4)	2135 (60.46)
Exhaust Temperature, °F (°C)	1011 (543.8)	955 (513)
Max Back Pressure, in. H_2O (kPa)	40.8 (10.15)	34.0 (8.46)

Fuel System	Direct injection, number 2 diesel fuel; fuel filter (with water separator); automatic electric fuel shutoff

Fuel Consumption		**Standby**				**Prime**			
60 Hz Ratings, kW (kVA)		**300 (375)**				**270 (338)**			
	Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full
	US Gal/hr	6.67	11.57	17.12	23.15	6.28	10.66	15.51	20.66
	L/hr	25.25	43.80	64.81	87.63	23.77	40.35	58.71	78.21

Alternator

Several alternators are available for application flexibility based on the required motor-starting kVA and other requirements. Larger alternator sizes have lower temperature rise for longer life of the alternator insulation system. In addition, larger alternator sizes can provide a cost-effective use of engine power in across-the-line motor-starting applications and can be used to minimize voltage waveform distortion caused by non-linear loads.

Single-bearing alternators couple directly to the engine flywheel with flexible discs for drivetrain reliability and durability. No gear reducers or speed changers are used. Two-thirds pitch windings eliminate third-order harmonic content of the AC voltage waveform and provide the standardization desired for paralleling of generator sets. The standard excitation system is a PMG excited system.

Alternator Application Notes

Separately Excited Permanent Magnet Generator (PMG) System - This standard system uses an integral PMG to supply power to the voltage regulator. A PMG system generally has better motor-starting performance, lower voltage dip upon load application, and better immunity from problems with harmonics in the main alternator output induced by non-linear loads. This system provides improved performance over self-excited regulators in applications that have large transient loads, sensitive electronic loads (especially UPS applications), harmonic content, or that require sustained short-circuit current (sustained 3-phase short circuit current at approximately 3 times rated for 10 seconds).

Alternator Sizes - On any given model, various alternator sizes are available to meet individual application needs. Alternator sizes are differentiated by maximum winding temperature rise, at the generator set standby or prime rating, when operated in a 40°C ambient environment. Available temperature rises range from 80°C to 150°C. Not all temperature rise selections are available on all models. Lower temperature rise is accomplished using larger alternators at lower current density. Lower temperature rise alternators have higher motor-starting kVA, lower voltage dip upon load application, and they are generally recommended to limit voltage distortion and heating due to harmonics induced by non-linear loads.

Alternator Space Heater - is recommended to inhibit condensation.

Available Output Voltages

Three Phase Reconnectable

[ ] 110/190
[ ] 115/200
[ ] 115/230
[ ] 120/208
[ ] 127/220
[ ] 139/240
[ ] 120/240
[ ] 220/380
[ ] 230/400
[ ] 240/416
[ ] 254/440
[ ] 277/480

Three Phase Non-Reconnectable

[ ] 347/600

Specifications – Alternator

Design	Brushless, 4 pole, drip proof revolving field
Stator	2/3 pitch
Rotor	Direct coupled by flexible disc
Insulation System	Class H per NEMA MG1-1.65
Standard Temperature Rise	125°C Standby, 105°C @ Prime
Exciter Type	Permanent Magnet Generator (PMG)
Phase Rotation	A (U), B (V), C (W)
Alternator Cooling	Direct drive centrifugal blower
AC Waveform Total Harmonic Distortion	<5% total no load to full linear load <3% for any single harmonic
Telephone Influence Factor (TIF)	<50 per NEMA MG1-22.43
Telephone Harmonic Factor (THF)	<3

Three Phase Table[1]		**80° C**	**105° C**	**105° C**	**125° C**	**125° C**	**125° C**	**125° C**					
Feature Code		B302	B256	B301	B258	B252	B246	B300					
Alternator Data Sheet Number		342	342	342	342	341	340	340					
Voltage Ranges		347/600	120/208 Thru 139/240 240/416 Thru 277/480	347/600	110/190 Thru 139/240 220/380 Thru 277/480	120/208 Thru 139/240 240/416 Thru 277/480	277/480	347/600					
Surge kW		321	316	321	317	318	318	318					
Motor Starting kVA (at 90% sustained voltage)	PMG	1372	1372	1372	1372	1210	1028	1028					

Full Load Current - Amps at Standby Rating	120/208 1042	127/220 985	139/240 903	220/380 570	240/416 521	254/440 492	277/480 452	347/600 361

Notes:
Single phase power can be taken from a three phase generator set at up to 40% of the generator set nameplate kW rating at unity power factor.

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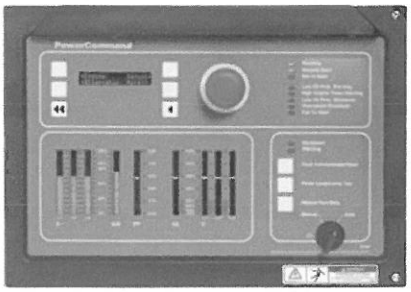
Control System



PowerCommand Control with AmpSentry™ Protection (PCC2100 CAN)

- The PowerCommand Control is an integrated generator set control system providing governing, voltage regulation, engine protection, and operator interface functions.
- PowerCommand Controls include integral UL Listed AmpSentry protection. AmpSentry provides a full range of alternator protection functions that are matched to the alternator provided.
- Controls provided include Battery monitoring and testing features.
- Integral PCCNet interface, to allow high speed network interconnections to remote input/output (I/O) and annunciator modules.
- InPower PC-based service tool available for detailed diagnostics.
- NEMA 3R enclosure.
- Suitable for operation in ambient temperatures from -40C to +70C, and altitudes to 13,000 feet (5000 meters).
- Prototype tested; UL, CSA, and CE compliant.

AmpSentry AC Protection	Engine Protection	Operator Interface
• Overcurrent and short circuit shutdown • Overcurrent warning • Single & 3-phase fault regulation • Over and under voltage shutdown • Over and under frequency shutdown • Overload warning with alarm contact • Reverse power and reverse Var shutdown • Excitation fault	• Overspeed shutdown • Low oil pressure warning and shutdown • High coolant temperature warning and shutdown • High oil temperature warning (optional) • Low coolant level warning or shutdown • Low coolant temperature warning • High and low battery voltage warning • Weak battery warning • Dead battery shutdown • Fail to start (overcrank) shutdown • Fail to crank shutdown • Redundant start disconnect • Cranking lockout • Sensor failure indication	• OFF/MANUAL/AUTO mode switch • MANUAL RUN/STOP switch • Panel lamp test switch • Emergency Stop switch • Alpha-numeric display with pushbutton access, for viewing engine and alternator data and providing setup, controls, and adjustments • LED lamps indicating genset running, not in auto, common warning, common shutdown • (5) configurable LED lamps • LED Bargraph AC data display (optional)
Alternator Data	**Engine Data**	**Other Data**
• Line-to-line and line-to-neutral AC volts • 3-phase AC current • Frequency • Total and individual phase kW and kVA	• DC voltage • Lube oil pressure • Coolant temperature • Lube oil temperature (optional)	• Genset model data • Start attempts, starts, running hours • KW hours (total and since reset) • Fault history • Load profile (hours less than 30% and hours more than 90% load) • System data display (optional with network and other PowerCommand gensets or transfer switches
Governing	**Voltage Regulation**	**Control Functions**
• Digital electronic isochronous governor • CAN data-link interface to full authority electronic engine control	• Integrated digital electronic voltage regulator • 3-phase line to neutral sensing • PMG (Optional) • Single and three phase fault regulation • Configurable torque matching	• Data logging on faults • Fault simulation (requires InPower) • Time delay start and cooldown • Cycle cranking • (4) Configurable customer inputs • (4) Configurable customer outputs • PCCNet Interface, network interconnections to I/O modules, annunciators, and other equipment
Options		
[ ] Analog AC Meter Display [ ] Thermostatically-Controlled Space Heater	[ ] Key-type mode switch [ ] Engine oil temperature sensing and alarm [ ] Auxiliary Relays (3)	[ ] Echelon LonWorks interface [ ] LonWorks network input and output module(s) (loose) (8) Configurable inputs and (16) outputs [ ] Remote network annunciator (loose) - LonWorks

Generator Set Options

Engine

[ ] 240 V, 300 W lube oil heater
[ ] 480 V, 300 W lube oil heater
[ ] 208/240-480 V, 4500 W coolant heater
[ ] 208/240-480 V, 6500 W coolant heater
[ ] Heavy Duty Air Cleaner

Fuel System

[ ] 270 Gallon (L) sub-base tank
[ ] 300 Gallon (L) sub-base tank
[ ] 400 Gallon (L) sub-base tank
[ ] 500 Gallon (L) sub-base tank
[ ] 600 Gallon (L) sub-base tank
[ ] 660 Gallon (L) sub-base tank
[ ] 850 Gallon (L) sub-base tank
[ ] 1700 Gallon (L) sub-base tank
[ ] Day Tank with pump control

Alternator

[ ] 80°C Rise Alternator
[ ] 105°C rise alternator
[ ] 125°C rise alternator
[ ] 120 V, 100 W anti-condensation heater
[ ] 240 V, 100 W anti-condensation heater

Control Panel

[ ] 120 V, 30 W control anti-condensation heater
[ ] 240 V, 30 W control anti-condensation heater
[ ] Exhaust pyrometer
[ ] Ground fault indication
[ ] Remote fault signal package
[ ] Run relay package

Exhaust System

[ ] Critical grade exhaust silencer
[ ] Exhaust packages
[ ] Industrial grade exhaust silencer
[ ] Residential grade exhaust silencer

Generator Set

[ ] AC entrance box
[ ] Batteries
[ ] Battery charger
[ ] Export box packaging
[ ] UL 2200 Listed
[ ] Main line circuit breaker
[ ] PowerCommand Network Communication Module (NCM)
[ ] QuietSite Stage 1 housing w/silencer
[ ] QuietSite Stage 2 housing w/silencer
[ ] Remote annunciator panel
[ ] Spring isolators
[ ] Weather protective enclosure with silencer
[ ] 2 year prime power warranty
[ ] 2 year standby warranty
[ ] 5 year basic power warranty
[ ] 10 year major components warranty

Available Products and Services

A wide range of products and services is available to match your power generation system requirements. Cummins Onan products and services include:

Diesel and Spark-Ignited Generator Sets

Transfer Switches

Bypass Switches

Parallel Load Transfer Equipment

Digital Paralleling Switchgear

PowerCommand Network and Software

Distributor Application Support

Planned Maintenance Agreements

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Warranty

All components and subsystems are covered by an express limited one-year warranty. Other optional and extended factory warranties and local distributor maintenance agreements are available. Contact your distributor/dealer for more information.

Certifications

ISO9001 - This generator set was designed and manufactured in facilities certified to ISO9001.

CSA - This generator set is CSA certified to product class 4215-01 (pending).

PTS - The Prototype Test Support (PTS) program verifies the performance integrity of the generator set design. Products bearing the PTS symbol have been subjected to demanding tests in accordance to NFPA 110 Level 1 to verify the design integrity and performance under both normal and abnormal operating conditions including short circuit, endurance, temperature rise, torsional vibration, and transient response, including full load pickup.

UL - The generator set is available Listed to UL 2200, Stationary Engine Generator Assemblies (pending). The PowerCommand control is Listed to UL 508 - Category NITW7 for U.S. and Canadian usage.

See your distributor for more information

Power Generation

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Detector and AmpSentry are trademarks of Cummins Inc.

Important: Backfeed to a utility system can cause electrocution and/or property damage. Do not connect generator sets to any building electrical system except through an approved device or after building main switch is open.

Model: DQHAB
Frequency: 60
Fuel type: Diesel
KW rating: 300 standby
270 prime
Emissions level: EPA NSPS Stationary Emergency Tier 3

Generator set data sheet

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Exhaust emission data sheet:	**EDS-1082**
Exhaust emission compliance sheet:	**EPA-1116**
Sound performance data sheet:	**MSP-1054**
Cooling performance data sheet:	**MCP-169**
Prototype test summary data sheet:	**PTS-277**
Standard set-mounted radiator cooling outline:	**0500-4645**
Optional set-mounted radiator cooling outline:	
Optional heat exchanger cooling outline:	
Optional remote radiator cooling outline:	

Fuel consumption

	Standby				Prime				Continuous
	kW (kVA)				kW (kVA)				kW (kVA)
Ratings	300 (375)				270 (338)				
Load	**1/4**	**1/2**	**3/4**	**Full**	**1/4**	**1/2**	**3/4**	**Full**	**Full**
US gph	6.67	11.57	17.12	23.15	6.28	10.66	15.51	20.66	
L/hr	25.25	43.80	64.81	87.63	23.77	40.35	58.71	78.21	

Engine

	Standby rating	Prime rating	Continuous rating
Engine manufacturer	Cummins Inc.		
Engine model	QSM11-G4		
Configuration	Cast iron, in-line 6 cylinder		
Aspiration	Turbocharged, EGR and CAC		
Gross engine power output, kWm (bhp)	350 (470)	318 (427)	
BMEP at set rated load, kPa (psi)	2165 (314)	1965 (285)	
Bore, mm (in)	125 (4.92)		
Stroke, mm (in)	147.1 (5.79)		
Rated speed, rpm	1800		
Piston speed, m/s (ft/min)	0.88 (17.37)		
Compression ratio	17:1		
Lube oil capacity, L (qt)	36.72 (38.8)		
Overspeed limit, rpm	2100 ± 50		
Regenerative power, kW	30.6		

Fuel flow

Fuel flow at rated load, L/hr (US gph)	284 (75)	
Maximum inlet restriction, mm Hg (in Hg)	204 (8)	
Maximum return restriction, mm Hg (in Hg)	204 (8)	

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Air	Standby rating	Prime rating	Continuous rating
Combustion air, m^3/min (scfm)	24.54 (866.82)	23.06 (814.59)	
Maximum air cleaner restriction, kPa (in H_2O)	6.2 (25.0)		
Alternator cooling air, m^3/min (scfm)	35.1 (1240.0)		

Exhaust

Exhaust flow at set rated load, m^3/min (cfm)	66.4 (2345)	60.46 (2135)	
Exhaust temperature, °C (°F)	543.8 (1011)	513 (955)	
Maximum back pressure, kPa (in H_2O)	10.15 (40.8)	8.46 (34.0)	

Standard set-mounted radiator cooling

Ambient design, °C (°F)	52 (125)		
Fan load, kW_m (HP)	20.1 (27)		
Coolant capacity (with radiator), L (US gal)	33.7 (8.9)		
Cooling system air flow, m^3/min (scfm)	707.5 (25000)		
Total heat rejection, MJ/min (Btu/min)	13.21 (12524)	10.68 (10133)	
Maximum cooling air flow static restriction, kPa (in H_2O)	0.12 (0.5)		

Optional set-mounted radiator cooling

Ambient design, °C (°F)			
Fan load, kW_m (HP)			
Coolant capacity (with radiator), L (US gal)			
Cooling system air flow, m^3/min (scfm)			
Total heat rejection, MJ/min (Btu/min)			
Maximum cooling air flow static restriction, kPa (in H_2O)			

Optional heat exchanger cooling

Set coolant capacity, L (US gal)			
Heat rejected, jacket water circuit, MJ/min (Btu/min)			
Heat rejected, aftercooler circuit, MJ/min (Btu/min)			
Heat rejected, fuel circuit, MJ/min (Btu/min)			
Total heat radiated to room, MJ/min (Btu/min)			
Maximum raw water pressure, jacket water circuit, kPa (psi)			
Maximum raw water pressure, aftercooler circuit, kPa (psi)			
Maximum raw water pressure, fuel circuit, kPa (psi)			
Maximum raw water flow, jacket water circuit, L/min (US gal/min)			
Maximum raw water flow, aftercooler circuit, L/min (US gal/min)			
Maximum raw water flow, fuel circuit, L/min (US gal/min)			
Minimum raw water flow at 27 °C (80 °F) inlet temp, jacket water circuit, L/min (US gal/min)			
Minimum raw water flow at 27 °C (80 °F) inlet temp, aftercooler circuit, L/min (US gal/min)			
Minimum raw water flow at 27 °C (80 °F) inlet temp, fuel circuit, L/min (US gal/min)			
Raw water delta P at min flow, jacket water circuit, kPa (psi)			
Raw water delta P at min flow, aftercooler circuit, kPa (psi)			
Raw water delta P at min flow, fuel circuit, kPa (psi)			
Maximum jacket water outlet temp, °C (°F)			
Maximum aftercooler inlet temp, °C (°F)			
Maximum aftercooler inlet temp at 25 °C (77 °F) ambient, °C (°F)			

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Optional remote radiator cooling[1]	Standby rating	Prime rating	Continuous rating
Set coolant capacity, L (US gal)			
Max flow rate at max friction head, jacket water circuit, L/min (US gal/min)			
Max flow rate at max friction head, aftercooler circuit, L/min (US gal/min)			
Heat rejected, jacket water circuit, MJ/min (Btu/min)			
Heat rejected, aftercooler circuit, MJ/min (Btu/min)			
Heat rejected, fuel circuit, MJ/min (Btu/min)			
Total heat radiated to room, MJ/min (Btu/min)			
Maximum friction head, jacket water circuit, kPa (psi)			
Maximum friction head, aftercooler circuit, kPa (psi)			
Maximum static head, jacket water circuit, m (ft)			
Maximum static head, aftercooler circuit, m (ft)			
Maximum jacket water outlet temp, °C (°F)			
Maximum aftercooler inlet temp at 25 °C (77 °F) ambient, °C (°F)			
Maximum aftercooler inlet temp, °C (°F)			
Maximum fuel flow, L/hr (US gph)			
Maximum fuel return line restriction, kPa (in Hg)			

Weights[2]

Unit dry weight kgs (lbs)	2676 (5900)
Unit wet weight kgs (lbs)	2762 (6090)

Notes:

[1] For non-standard remote installations contact your local Cummins Power Generation representative.

[2] Weights represent a set with standard features. See outline drawing for weights of other configurations.

Derating factors

Standby	Engine power available up to 875 m (2870 ft) at ambient temperature up to 40 °C (104 °F) or up to 400 m (1312 ft) at ambient temperatures up to 50 °C (122 °F). For operation above these conditions, derate at 4% per 300 m (984 ft), and 10% per 10 °C (18 °F).
Prime	Engine power available up to 1000 m (3280 ft) at ambient temperature up to 40 °C (104 °F) or up to 325 m (1066 ft) at ambient temperatures up to 50 °C (122 °F). For operation above these conditions, derate at 4% per 300 m (984 ft), and 10% per 10 °C (18 °F).
Continuous	

Ratings definitions

Emergency standby power (ESP):	**Limited-time running power (LTP)**:	**Prime power (PRP)**:	**Base load (continuous) power (COP)**:
Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.	Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) is in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.

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Alternator data

Three phase table[1]		80 °C	105 °C	105 °C	125 °C	125 °C	125 °C	125 °C				
Feature code		B302	B256	B301	B258	B252	B246	B300				
Alternator data sheet number		342	342	342	342	341	340	340				
Voltage ranges		347/600	120/208 thru 139/240 240/416 thru 277/480	347/600	110/190 thru 139/240 220/380 thru 277/480	120/208 thru 139/240 240/416 thru 277/480	277/480	347/600				
Surge kW		321	316	321	317	318	318	318				
Motor starting kVA (at 90% sustained voltage)	Shunt											
	PMG	1372	1372	1372	1372	1210	1028	1028				

Full load current amps at standby rating	120/208	127/220	139/240	220/380	240/416	254/440	277/480	347/600
	1042	985	903	570	521	492	452	361

[1] Single phase power can be taken from a three phase generator set at up to 40% of the generator set nameplate kW rating at unity power factor.

Formulas for calculating full load currents:

Three phase output

$$\frac{kW \times 1000}{Voltage \times 1.73 \times 0.8}$$

Single phase output

$$\frac{kW \times SinglePhaseFactor \times 1000}{Voltage}$$

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Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

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PROTOTYPE TEST SUPPORT (PTS)
60 HZ TEST SUMMARY

GENERATOR SET MODELS		REPRESENTATIVE PROTOTYPE	
275DQHAA	300DQHAB	Model:	300DQHAB
		Alternator:	HC4D
		Engine:	QSM11-G4

The following summarizes prototype testing conducted on the designated representative prototype of the specified models. This testing is conducted to verify the complete generator set electrical and mechanical design integrity. Prototype testing is conducted only on generator sets not sold as new equipment.

Maximum Surge Power: 350

The generator set was evaluated to determine the stated maximum surge power.

Maximum Motor Starting: 1372

The generator set was tested to simulate motor starting by applying the specified kVA load at low lagging power factor (0.4 or lower). With this load applied, the generator set recovered to a minimum of 90% rated voltage

Torsional Analysis and Testing:

The generator set was tested to verify that the design is not subjected to harmful torsional stresses. A spectrum analysis of the transducer output was conducted over the speed range of 1800 to 1800 RPM.

Cooling System: 52 ℃ Ambient
0.5 in. H2O restriction

The cooling system was tested to determine ambient temperature and static restriction capabilities. The test was performed at full rated load in elevated ambient temperature under stated static restriction conditions.

Durability:

The generator set was subjected to a minimum 500 hour endurance test operating at variable load up to the standby rating based upon MIL-STD-705 to verify structural soundness and durability of the design.

Electrical and Mechanical Strength:

The generator set was tested to several single phase and three phase faults to verify that the generator can safely withstand the forces associated with short circuit conditions. The generator set was capable of producing full rated output at the conclusion of the testing.

Steady State Performance:

The generator set was tested to verify steady state operating performance was within the specified maximum limits.

Voltage Regulation:	±0.28%
Random Voltage Variation:	±0.32%
Frequency Regulation:	Isochronous
Random Frequency Variation:	±0.31%

Transient Performance:

The generator set was tested with the standard alternator to verify single step loading capability as required by NFPA 110. Voltage and frequency response on load addition or rejection were evaluated. The following results were recorded:

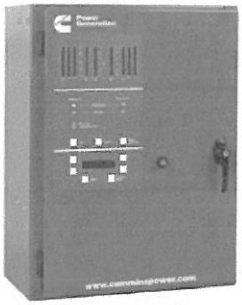
Full Load Acceptance:		
Voltage Dip:	46.5	%
Recovery Time:	4.2	Second
Frequency Dip:	12.0	%
Recovery Time:	5.2	Second
Full Load Rejection:		
Voltage Rise:	27.4	%
Recovery Time:	4.0	Second
Frequency Rise:	7.3	%
Recovery Time:	3.1	Second

Harmonic Analysis:

(per MIL-STD-705B, Method 601.4)

	Line to Line		Line to Neutral	
Harmonic	No Load	Full Load	No Load	Full Load
3	0.09	0.035	0.16	0.054
5	0.62	1.95	0.66	2
7	0.58	0.73	0.6	0.72
9	0.028	0.029	0.058	0.098
11	0.7	0.375	0.7	0.36
13	0.31	0.37	0.33	0.36
15	0.05	0.016	0.08	0.076

OTPC
transfer switch
open and closed transition



> Specification sheet
40 - 4000 Amp

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Description

OTPC transfer switches are designed for operation and switching of electrical loads between primary power and standby generator sets. They are suitable for use in emergency, legally required and optional standby applications. The switch monitors both power sources, signals generator set startup, automatically transfers power, and returns the load to the primary power source when the utility returns and stabilizes.

OTPC transfer switches are available with closed transition transfer. By briefly connecting the two sources (for 100 msec or less), the transfer from the alternate source back to the normal source occurs without interruption in the power supply to loads.

UL	All switches are UL 1008 Listed with UL Type Rated cabinets and UL Listed CU-AL terminals.
CSA	All switches are certified to CSA 282 Emergency Electrical Power Supply for Buildings, up to 600 VAC.
NEC	Suitable for use in emergency, legally required and standby applications per NEC 700, 701 and 702.
NFPA	All switches comply with NFPA 70, 99 and 110 (Level 1).
NEMA	All switches comply with NEMA ICS 10.
IEEE	All switches comply with IEEE 446 Recommended Practice for Emergency and Standby Power Systems.
ISO 9001	This transfer switch is designed and manufactured in facilities certified to ISO9001.

Features

PowerCommand® control - A fully featured microprocessor-based control with digital display. Controls allow operator to enter settings and make adjustments to software-enabled features easily and accurately. Accommodates up to eight event schedules.

Programmed transition – Open transition timing can be adjusted to completely disconnect the load from both sources for a programmed time period, as recommended by NEMA MG-1 for transfer of inductive loads.

Advanced transfer switch mechanism – Unique bi-directional linear actuator provides smooth, continuous transfer switch action during automatic operation.

Robust control system design - Optically isolated logic inputs and isolation transformers for AC power inputs provide high-voltage surge protection.

Main contacts - Heavy-duty silver alloy contacts with multi-leaf arc chutes are rated for 100% load interruption. They require no routine contact maintenance and provide 100% continuous current ratings.

Communications capability - The transfer switch is capable of communicating with other transfer switches, SCADA and remote monitoring systems, or Cummins Power Generation generators utilizing LonWorks® protocol.

Easy service/access - Single-plug harness connection and compatible terminal markings simplify servicing. Access space is ample. Door-mounted controls are field-programmable; no tool is required.

Complete product line - Cummins Power Generation offers a wide range of equipment, accessories and services to suit virtually any backup power application.

Warranty and service - Products are backed by a comprehensive warranty and a worldwide network of distributors with factory-trained service technicians.

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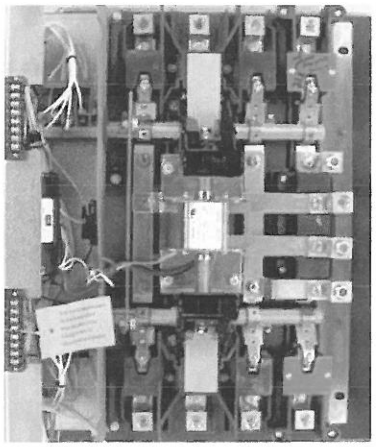
S-1270ac (9/10)

Transfer switch mechanism



- Transfer switch mechanism is electrically operated and mechanically held in the Source 1 and Source 2 positions. The transfer switch incorporates electrical and mechanical interlocks to prevent inadvertent interconnection of the sources.
- Independent break-before-make action is used for both 3-pole and 4-pole/ switched neutral switches. This design allows use of sync check operation when required, or control of the operating speed of the transfer switch for proper transfer of motor and rectifier-based loads (programmed transition feature).
- True 4-pole switching allows for proper ground (earth) fault sensing and consistent, reliable operation for the life of the transfer switch. The neutral poles of the transfer switch have the same ratings as the phase poles and are operated by a common crossbar mechanism, eliminating the possibility of incorrect neutral operation at any point in the operating cycle, or due to failure of a neutral operator.
- High pressure silver alloy contacts resist burning and pitting. Separate arcing surfaces further protect the main contacts. Contact wear is reduced by multiple leaf arc chutes that cool and quench the arcs. Barriers separate the phases to prevent interphase flashover. A transparent protective cover allows visual inspection while inhibiting inadvertent contact with energized components.
- Switch mechanism, including contact assemblies, is third party certified to verify suitability for applications requiring high endurance switching capability for the life of the transfer switch. Withstand and closing ratings are validated using the same set of contacts, further demonstrating the robust nature of the design.

Specifications

Voltage rating	600 VAC, 50 or 60 Hz.
Arc interruption	Multiple leaf arc chutes provide dependable arc interruption.
Neutral bar	A full current-rated neutral bar with lugs is standard on enclosed 3-pole transfer switches.
Auxiliary contacts	Two isolated contacts (one for each source) indicating switch position are provided for customer use. Contacts are normally open, and close to indicate connection to the source. Wired to terminal block for easy access. Rated at 10 amps continuous and 250 VAC maximum. UL recognized, and CSA-certified.
Operating temperature	-40 °F (-40 °C) to 140 °F (60 °C)
Storage temperature	-40 °F (-40 °C) to 140 °F (60 °C)
Humidity	Up to 95% relative, non-condensing
Altitude	Up to 10,000 ft (3,000 m) without derating
Surge withstand ratings	Voltage surge performance and testing in compliance with the requirements of IEEE C62.41 (Category B3) and IEEE C62.45.
Total transfer time (source-to-source)	Will not exceed 6 cycles at 60 Hz with normal voltage applied to the actuator and without programmed transition enabled.
Manual operation handles	Transfer switches rated through 1000 amps are equipped with permanently attached operating handles and quick-break, quick-make contact mechanisms suitable for manual operation. Transfer switches over 1000 amps are equipped with manual operators. All switches must be de-energized before manual operation is attempted.

Transition modes

Open transition/programmed: Controls the time required for the device to switch from source to source, so that the load-generated voltages decay to a safe level before connecting to an energized source. Recommended by NEMA MG-1 to prevent nuisance-tripping breakers and load damage. Adjustable 0-60 seconds, default 0 seconds.
Programmed transition is standard on 150-1200 amp switches, and optional on 1600-4000 amps.

Open transition/in-phase: Initiates open transition transfer when in-phase monitor senses both sources are in phase. Operates in a break-before-make sequence. Includes ability to enable programmed transition as a back-up. If sources are not in phase within 120 seconds, switches from 40-1200 amps will transfer using programmed transition (not available on open transition switches over 1200 amps).

Closed transition: Used in applications where loads are sensitive to the momentary power interruption that occurs when performing open transition between sources. Closed transition is accomplished by briefly (<100 msec) paralleling two good sources to eliminate the momentary break in the power supply.
Closed transition is only available as an option on OTPC models from 1000-4000 amps.

Genset-to-genset: Either genset can be designated as the lead genset. If the lead genset goes down or is taken offline, the transfer switch starts the second genset and transfers the load. The control can be programmed to alternate between the two gensets at a set interval up to 336 hours (2 weeks).

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PowerCommand control

PowerCommand controls are microprocessor based and developed specifically for automatic transfer switch operation. The control includes all of the features and options required for most applications.

- LED lamps indicate source availability, source connected, exercise mode and test mode.
- Flash memory stores the control settings.
- Contents of the memory are not lost even if power to the controller is lost.
- On-board battery maintains the real-time clock setting and the engine start time delay.
- Choice of two control packages allows selection of the most suitable control for the application.

Control functions

Level 1 control (C023)

Open transition (in-phase)
Open transition (programmed)
Utility-to-genset applications
Software adjustable time delays:
Engine start: 0 to 120 sec
Transfer normal to emergency: 0 to 120 sec
Re-transfer emergency to normal: 0 to 30 min
Engine stop: 0 to 30 min
Programmed transition: 0 to 60 sec
Undervoltage sensing: 3-phase normal, 1-phase emergency
Accuracy: =/- 2%
Pickup: 85% to 100% of nominal voltage
Dropout: 75% to 98% of pickup setting
Dropout time delay: 0-4 sec
Overvoltage sensing: 3-phase normal, 1-phase emergency
Accuracy: =/- 2%
Pickup: 95% to 99% of dropout setting
Dropout: 105% to 135% of nominal voltage
Dropout time delay: 0 to 120 sec
Over/under frequency sensing:
Accuracy: ±0.05 Hz
Pickup: ±5% to ±20% of nominal frequency
Dropout: 1-5% beyond pickup
Dropout time delay: 0.1 to 15.0 sec
Programmable genset exerciser: One event/schedule with or w/o load
Basic indicator panel:
Source available/connected LED indicators
Test/exercise/override buttons
Digital display – optional (M018)
Analog bar graph meter display – optional (D009)
Date/time-stamped event recording: 50 events
Load sequencing: Optional with network communications module M031. Provides control for eight steps of load with an adjustable time delay for each step on transfer, re-transfer or both.

Level 2 control (C024)

Open transition (in-phase)
Open transition (programmed)
Closed transition (includes fail-to-disconnect timer to prevent extended paralleling with the utility)
Utility-to-genset applications
Utility-to-utility applications
Genset-to-genset applications
Software adjustable time delays:
Engine start: 0 to 120 sec
Transfer normal to emergency: 0 to 120 sec
Re-transfer emergency to normal: 0 to 30 min
Engine stop: 0 to 30 min
Programmed transition: 0 to 60 sec
Undervoltage sensing: 3-phase normal, 3-phase emergency
Accuracy: +/- 2%
Pickup: 85% to 100% of nominal voltage
Dropout: 75% to 98% of pickup setting
Dropout time delay: 0-4 sec
Overvoltage sensing: 3-phase normal, 3-phase emergency
Accuracy: ±2%
Pickup: 95% to 99% of dropout setting
Dropout: 105% to 135% of nominal voltage
Dropout time delay: 0 to 120 sec
Over/under frequency sensing:
Accuracy: =/- 0.05 Hz
Pickup: ±5% to ±20% of nominal frequency
Dropout: 1-5% beyond pickup
Dropout time delay: 0.1 to 15.0 sec
Voltage imbalance sensing:
Dropout: 2% to 10%
Pickup: 90% of dropout
Time delay: 2.0 to 20.0 sec
Phase rotation sensing:
Time delay: 100 msec
Loss of single phase detection:
Time delay: 100 msec
Programmable genset exerciser: Eight events/schedules with or w/o load
Basic indicator panel:
Source available/connected LED indicators
Test/exercise/override buttons
Digital display – standard
Analog bar graph meter display – optional (D009)
Date/time-stamped event recording: 50 events
Load sequencing: Optional with network communications module M031. Provides control for eight steps of load with an adjustable time delay for each step on transfer, re-transfer, or both.
Genset-to-genset: Same functions as above, for lead and secondary generators.
Utility-to-utility: Same functions as above, for preferred and alternate source.

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Time-delay functions

Engine start: Prevents nuisance genset starts due to momentary power system variation or loss. Not included in utility-to-utility systems.

Transfer normal to emergency: Allows genset to stabilize before application of load. Prevents power interruption if normal source variation or loss is momentary. Allows staggered transfer of loads in multiple transfer switch systems. For genset-to-genset applications, delays transfer of load from lead to secondary generator.

Re-transfer emergency to normal: Allows the utility to stabilize before re-transfer of load. Prevents needless power interruption if return of normal source is momentary. Allows staggered transfer of loads in multiple transfer switch systems. For genset-to-genset applications, delays re-transfer of load from secondary back to lead generator.

Engine stop: Maintains availability of the genset for immediate reconnection if the normal source fails shortly after retransfer. Allows gradual genset cool down by running unloaded. Not included in utility-to-utility systems.

Elevator pre-transfer signal: Requires optional relay signal module (M023). Signals elevator system that transfer is pending and delays transfer for pre-set interval of 0-60 seconds to prevent a power interruption during elevator operation.

User interfaces

Basic interface panel

LED indicators provide at-a-glance source and transfer switch status for quick summary of system conditions. Test and override buttons allow delays to be bypassed for rapid system checkout.

Digital display (M018)

The digital display provides a convenient method for monitoring load power conditions, adjusting transfer switch parameters, monitoring PowerCommand network status or reviewing transfer switch events. Password protection limits access to adjustments to authorized personnel. The digital display is optional with the PowerCommand Level 1 control and comes standard with the Level 2 control.

User interface options

Front panel security key (M017)

Locks front panel to prohibit access to digital control settings. Prevents unauthorized activation of transfer or test functions.

Bar graph meter display (D009)

An LED bar graph display provides an easy-to-read indicator of the level of power being supplied to the load. Information displayed includes: 3-phase voltage and current, frequency, power factor, and kilowatts. Green, amber, and red LEDs provide at-a-glance indication of system acceptability. Available as an option with the Level 2 PowerCommand microprocessor control.

Control options

Relay signal module (M023)

Provides relay output contacts for sending information to the building monitoring and control system. Relay outputs include: Source 1 connected/available, Source 2 connected/available, not in auto, test/exercise active, failed to disconnect, failed to synchronize, failed to transfer/re-transfer, and elevator control pre-transfer signal.

Loadshed (M007)

Removes the load from the emergency power source by driving the transfer switch to the neutral position when signaled remotely. Transfers load back to the emergency source when the signal contacts open. Immediately re-transfers back to the primary source when available. Available for utility-to-genset applications only.

PowerCommand network interface (M031)

Provides connection to the PowerCommand network. LonWorks compatible for integration with building monitoring and control system.

Load power and load current monitoring (M022)

Measures load phase and neutral current, power factor, real power (kW) and apparent power (kVA). Warns of excessive neutral current resulting from unbalanced or nonlinear loads. Minimum current level detection is 3%.

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UL withstand and closing ratings

OTPC transfer switches must be protected by circuit breakers or fuses. Referenced drawings include detailed listings of specific breakers or fuse types that must be used with the respective transfer switches. Consult with your distributor/dealer to obtain the necessary drawings. Withstand and closing ratings (WCR) are stated in symmetrical RMS amperes.

	MCCB protection			Special circuit breaker protection		
Transfer switch ampere	**WCR @ volts max with specific manufacturers MCCBs**	**Max MCCB rating**	**Drawing reference**	**With specific current limiting breakers (CLB)**	**Max CLB rating**	**Drawing reference**
40, 70, 125 3-pole	14,000 at 480 14,000 at 600	225 A	0098-6885	200,000 at 480 100,000 at 600	225 A	0098-6918
40, 70, 125 4-pole	30,000 at 480 30,000 at 600	400 A	0098-6886	200,000 at 480 100,000 at 600	400 A	0098-6919
150, 225, 260	30,000 at 480 30,000 at 600	400 A	0098-6886	200,000 at 480 100,000 at 600	400 A	0098-6919
300, 400, 600	65,000 at 480 65,000 at 600	1200 A	0098-6887	200,000 at 480 100,000 at 600	1200 A	0098-6920
800, 1000 open	65,000 at 480 50,000 at 600	1400 A	0098-6888	150,000 at 480 100,000 at 600	1400 A	0098-6921
1000, 1200 closed	85,000 at 480 65,000 at 600*	1600 A	0098-7312	85,000 at 480 65,000 at 600	1600 A	0098-7312
1200 open	85,000 at 480 65,000 at 600	1600 A	A030U183	200,000 at 480 200,000 at 600	1600 A	A030U185
1600, 2000	100,000 at 480 85,000 at 600*	4000 A	0098-7311	100,000 at 480 85,000 at 600	4000 A	0098-7311
3000	100,000 at 480 85,000 at 600*	4000 A	0098-7313	100,000 at 480 85,000 at 600	4000 A	0098-7313
4000	100,000 at 480 85,000 at 600*	5000 A	0098-8576	100,000 at 480	5000 A	0098-8576

Fuse protection

Transfer switch ampere	**WCR @ volts max. with current limiting fuses**	**Max fuse, size and type**	**Drawing reference**
40, 70, 125 3- and 4-pole	200,000 at 480 200,000 at 600	200 A Class, J, RK1, RK5, T	0098-6885
150, 225, 260	200,000 at 480 200,000 at 600	600 A Class, J, RK1, RK5 1200 A Class L or T	0098-6886
300, 400, 600	200,000 at 480 200,000 at 600	600 A Class, RK1 or RK5 1200 A Class L or T	0098-6887
800, 1000 open	200,000 at 480 200,000 at 600	600 A Class, J, RK1 or RK5 1200 A Class T 2000 A Class L	0098-6888
1000, 1200 closed	200,000 at 480 150,000 at 600*	3000 A Class L	0098-7312
1200 open	200,000 at 480 150,000 at 600*	3000 A Class L	A030U183
1600, 2000	200,000 at 480 150,000 at 600*	2500 A Class L	0098-7311
3000	200,000 at 480 150,000 at 600*	4000 A Class L	0098-7313
4000	200,000 at 480 150,000 at 600*	6000 A Class L	0098-8576

* CSA only

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3-cycle ratings

Transfer switch ampere	WCR @ volts max 3-cycle rating	Max MCCB rating	Drawing reference
1000, 1200 closed	50,000 at 480	1600 A	0098-7312
	42,000 at 600*		
1200 open	50,000 at 480	2000 A	A030U183
	42,000 at 600*		
1600, 2000	100,000 at 480	4000 A	0098-7311
	85,000 at 600*		
3000	100,000 at 480	4000 A	0098-7313
	85,000 at 600*		
4000	100,000 at 480	5000 A	0098-8576
	85,000 at 600*		

* CSA only

Transfer switch lug capacities

All lugs accept copper or aluminum wire unless indicated otherwise.

Amp rating	Cables per phase	Size
40, 70, 125 3-pole	1	#12 AWG-2/0
40 4-pole	1	#14 AWG-2/0
70, 125 4-pole	1	#6 AWG - 300 MCM
150, 225	1	#6 AWG - 300 MCM
260	1	#6 AWG - 400 MCM
300, 400	1	3/0 - 600 MCM
	1 or 2	3/0 - 250 MCM
600	2	250 - 500 MCM
800, 1000 open	4	250 - 500 MCM
1000, 1200 closed	4	#2 AWG to 600 MCM
1200 open	4	#2AWG to 750 MCM
1600, 2000	8	#2 AWG to 600 MCM (lugs optional)
3000	8	#2 AWG to 750 MCM (lugs optional)
4000	12	1/0 AWG to 750 MCM (lugs optional)

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Power Generation

Enclosures

The transfer switch and control are mounted in a key-locking enclosure. Switches from 40-1000 amps are wall-mounted. Switches from 1200-4000 amps are floor-mounted. Wire bend space complies with 2009 NEC.

Dimensions - transfer switch in UL type 1 enclosure

Amp rating	Height		Width		Depth				Weight		Outline drawing
					Door closed		Door open				
	in	mm	in	mm	in	mm	in	mm	lb	kg	
40, 70, 125 3-pole	27.0	686	20.5	521	12.0	305	31.5	800	82	37	0310-0544
40, 70, 125 4-pole	35.5	902	26.0	660	16.0	406	41.0	1042	165	75	0500-4896
150, 225	35.5	902	26.0	660	16.0	406	41.0	1042	165	75	0310-0414
260	43.5	1105	28.5	724	16.0	406	43.0	1093	170	77	0310-0540
300, 400, 600	54.0	1372	25.5	648	18.0	457	42.0	1067	225	102	0310-1307
800, 1000 open	68.0	1727	30.0	762	20.6	524	48.5	1232	360	163	0310-0417
1000, 1200 closed	76.3	1937	36.0	915	22.7	577	54.0	1372	450	204	0310-0482
1200 open	90.0	2290	39.0	991	27.5	699	64.7	1644	730	331	A030L605
1600, 2000*	90.0	2290	36.0.	915	48.0	1219	84.0	2134	1100	499	0310-0483
3000*	90.0	2290	36.0	915	48.0	1219	84.0	2134	1250	567	0310-0484
4000*	90.0	2290	46.5	1180	60.0	1520	106	2700	1850	839	0500-4485

Dimensions - transfer switch in UL type 3R, 4 or 12 enclosure

Amp rating	Height		Width		Depth				Weight		Cabinet type	Outline drawing
					Door closed		Door open					
	in	mm	in	mm	in	mm	in	mm	lb	kg		
40, 70, 125 3-pole	34.0	864	26.5	673	12.5	318	36.5	927	125	57	3R, 12	0310-0453
											4	0310-0445
40, 70, 125 4-pole	42.5	1080	30.5	775	16.0	406	44.0	1118	190	86	3R, 12	0500-4896
											4	0500-4896
150, 225	42.5	1080	30.5	775	16.0	406	44.0	1118	215	97	3R, 12	0310-0454
											4	0310-0446
260	46.0	1168	32.0	813	16.0	406	46.0	1168	255	102	3R, 12	0310-0455
											4	0310-0447
300, 400, 600	59.0	1499	27.5	699	18.5	419	41.5	1054	290	132	3R, 12	0310-1315
											4	0310-1316
800, 1000 open	73.5	1867	32.5	826	20.8	529	49.5	1257	410	186	3R, 12	0310-0457
											4	0310-0449
1000, 1200 closed	76.3	1937	36.0	915	22.7	577	54.0	1372	450	204	3R, 12, 4	0310-0482
1200 open	90.0	2290	39.0	991	27.5	699	64.7	1644	730	331	3R, 12, 4	A030L605
1600, 2000*	90.0	2290	38.0	826	50.9	1293	80.0	2032	1100	499	3R, 12, 4	0310-0744
3000*	90.0	2290	38.0	965	51.0	1295	84.5	2146	1250	567	3R	0310-0745
4000*	90.0	2290	49.0	1244	60.0	1524	105	2654	1850	839	3R	0500-4486

Dimensions - transfer switch in UL type 4X stainless steel enclosure

Amp rating	Height		Width		Depth				Weight		Cabinet type	Outline drawing
					Door closed		Door open					
	in	mm	in	mm	in	mm	in	mm	lb	kg		
40, 70, 125 3-pole	46.0	1168	32.0	813	16.0	406	46.0	1168	255	102	4X	0500-4184
40, 70, 125 4-pole	46.0	1168	32.0	813	16.0	406	46.0	1168	255	102	4X	0500-4896
150, 225	46.0	1168	32.0	813	16.0	406	46.0	1168	255	102	4X	0500-4184
260	46.0	1168	32.0	813	16.0	406	46.0	1168	255	102	4X	0500-4184
300, 400, 600	73.5	1867	32.5	826	19.5	495	49.5	1257	410	186	4X	0500-4185
800, 1000 open	73.5	1867	32.5	826	19.5	495	49.5	1257	410	186	4X	0500-4185
1000, 1200 closed	70.0	1778	40.0	1016	19.8	502	59.0	1499	450	204	4X	0310-0482
1200 open	90.0	2290	39.0	991	27.5	699	64.7	1644	730	331	4X	A030L605
1600, 2000	90.0	2290	35.5	826	50.9	1293	80.0	2032	1100	499	4X	0310-0744

* Rear and side access is required for installation. Dimensions shown are for 4-pole. For information on 3-pole switches, call factory.

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Submittal detail

Amperage ratings

- ☐ 40
- ☐ 70
- ☐ 125
- ☐ 150
- ☐ 225
- ☐ 260
- ☐ 300
- ☐ 400
- ☐ 600
- ☐ 800
- ☐ 1000
- ☐ 1200
- ☐ 1600
- ☐ 2000
- ☐ 3000
- ☐ 4000

Voltage ratings

- ☐ R020 120*
- ☐ R038 190
- ☐ R021 208
- ☐ R022 220
- ☐ R023 240
- ☐ R024 380
- ☐ R025 416
- ☐ R035 440
- ☐ R026 480
- ☐ R027 600

* Single phase connection (not available on 1200-4000 amps)

Pole configuration

- ☐ A028 Poles - 3 (solid neutral)
- ☐ A029 Poles - 4 (switched neutral)

Frequency

- ☐ A044 60 Hertz
- ☐ A045 50 Hertz

Transfer mode

- ☐ A077 Open transition/in-phase
- ☐ A078 Open transition/programmed
- ☐ A079 Closed transition (available 1000-4000 amps, for closed transition below 1000 amps, see CHPC spec sheet S-1437)

Application

- ☐ A035 Utility to genset
- ☐ A036 Utility to utility
- ☐ A037 Genset to genset

System options

- ☐ A041 Single Phase, 2-wire or 3-wire (not available 1200-4000 amps)
- ☐ A042 Three Phase, 3-wire or 4-wire

Enclosure

- B001 Type 1: Indoor use, provides some protection against dirt (similar to IEC type IP30)
- ☐ B002 Type 3R:Intended for outdoor use, provides some protection from dirt, rain and snow (similar to IEC type IP34)
- ☐ B003 Type 4: Indoor or outdoor use, provides some protection from wind-blown dust and water spray (similar to IEC type IP65)
- ☐ B004 Open Construction: No enclosure - includes automatic transfer switch and controls (call factory for dimensions)
- ☐ B010 Type 12: Indoor use, some protection from dust (similar to IEC type IP61)
- ☐ B025 Type 4X: Stainless steel, indoor or outdoor use, provides some protection from corrosion (similar to IEC Type IP65)

Standards

- ☐ A046 UL 1008/CSA certification
- ☐ A064 NFPA 20 compliant (not available on 1200-4000 amp switches)
- ☐ A080 Seismic certification

Controls

- ☐ C023 PowerCommand control - Level 1
- ☐ C024 PowerCommand control - Level 2

Control options

- ☐ M017 Security key - front panel
- ☐ M018 Digital display
- ☐ M022 Load monitoring (min current level 3%)
- ☐ M023 Relay signal module. Includes pre-transfer module for elevator control
- ☐ M031 LonWorks network communications module (FTT-10)

Meter

- ☐ D009 Analog bar graph meter

Battery chargers

- ☐ K001 2 amps, 12/24 volts
- ☐ KB59 15 amps, 12 volts
- ☐ KB60 12 amps, 24 volts

Protective relays (closed transition)

- ☐ M045 Paralleling timer and lock-out relays, ANSI/IEEE 62PL and 86
- ☐ M046 Paralleling timer, lock-out and reverse power relays, single phase, ANSI/IEEE 62PL, 86 and 32R
- ☐ M047 Paralleling timer, lock-out and reverse power relays, three phase, ANSI/IEEE 62PL, 86 and 32R

Auxiliary relays - Relays are UL listed and factory installed. All relays provide two normally closed isolated and two normally open contacts rated 10 amps at 600 VAC. Relay terminals accept from one 18 gauge to two 12 gauge wires per terminal.

- ☐ L101 24 VDC coil - installed, not wired (for customer use).
- ☐ L102 24 VDC coil - emergency position - relay energized when switch is in Source 2 (emergency) position.
- ☐ L103 24 VDC coil - normal position - relay energized when switch is in Source 1 (normal) position
- ☐ L201 12 VDC coil - installed, not wired
- ☐ L202 12 VDC coil - emergency position - relay energized when switch is in Source 2 (emergency) position
- ☐ L203 12 VDC coil - normal position - relay energized when switch is in Source 1 (normal) position

Miscellaneous options

- ☐ M003 Terminal block - 30 points (not wired)
- ☐ N020 Terminal block – re-transfer inhibit
- ☐ M007 Load shed - from emergency - drives switch to neutral position when remote signal contact closes
- ☐ N009 Power connect - bus stabs (150-1200 amp open construction only)
- ☐ N013 Extension harness (open construction only)

Lug kits (select one)

- ☐ N032 Lug adapters, compression, ½ stab
- ☐ N045 Cable lugs, mechanical, 600 MCM, 4 per pole
- ☐ N066 Cable lugs, mechanical, 750 MCM, 4 per pole

Warranty

- ☐ G010 Years 0-2: Parts, labor and travel
  Years 3-5: Parts only
  Years 6-10: Main contacts only
- ☐ G013 Years 0-5: Parts, labor and travel
  Years 6-10: Main contacts only

Shipping

- ☐ A051 Packing - export box

Accessories

AC-167 Accessories specifications sheet

Cummins Power Generation

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CERTIFICATION AND SIGNATURE PAGE

By signing below, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid or proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

_____
(Company)

_____
(Authorized Signature)

_____
(Representative Name, Title)

_____
(Phone Number) (Fax Number)

_____
(Date)

RFQ No. _____

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

MANDATE: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code* §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: _____

Authorized Signature: _____ Date: _____

State of _____

County of _____, to-wit:

Taken, subscribed, and sworn to before me this ___ day of _____, 20___.

My Commission expires _____, 20___.

AFFIX SEAL HERE

NOTARY PUBLIC _____

Rev. 07/12

State of West Virginia

000042

VENDOR PREFERENCE CERTIFICATE

Certification and application* is hereby made for Preference in accordance with ***West Virginia Code***, §5A-3-37. (Does not apply to construction contracts). ***West Virginia Code***, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the ***West Virginia Code***. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Resident Vendor Preference, if applicable.

1. **Application is made for 2.5% resident vendor preference for the reason checked:**

____ Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or,**

____ Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or,**

____ Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; **or,**

2. **Application is made for 2.5% resident vendor preference for the reason checked:**

____ Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or,**

3. **Application is made for 2.5% resident vendor preference for the reason checked:**

____ Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or,**

4. **Application is made for 5% resident vendor preference for the reason checked:**

____ Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; **or,**

5. **Application is made for 3.5% resident vendor preference who is a veteran for the reason checked:**

____ Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; **or,**

6. **Application is made for 3.5% resident vendor preference who is a veteran for the reason checked:**

____ Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.

7. **Application is made for preference as a non-resident small, women- and minority-owned business, in accordance with *West Virginia Code* §5A-3-59 and *West Virginia Code of State Rules*.**

____ Bidder has been or expects to be approved prior to contract award by the Purchasing Division as a certified small, women- and minority-owned business.

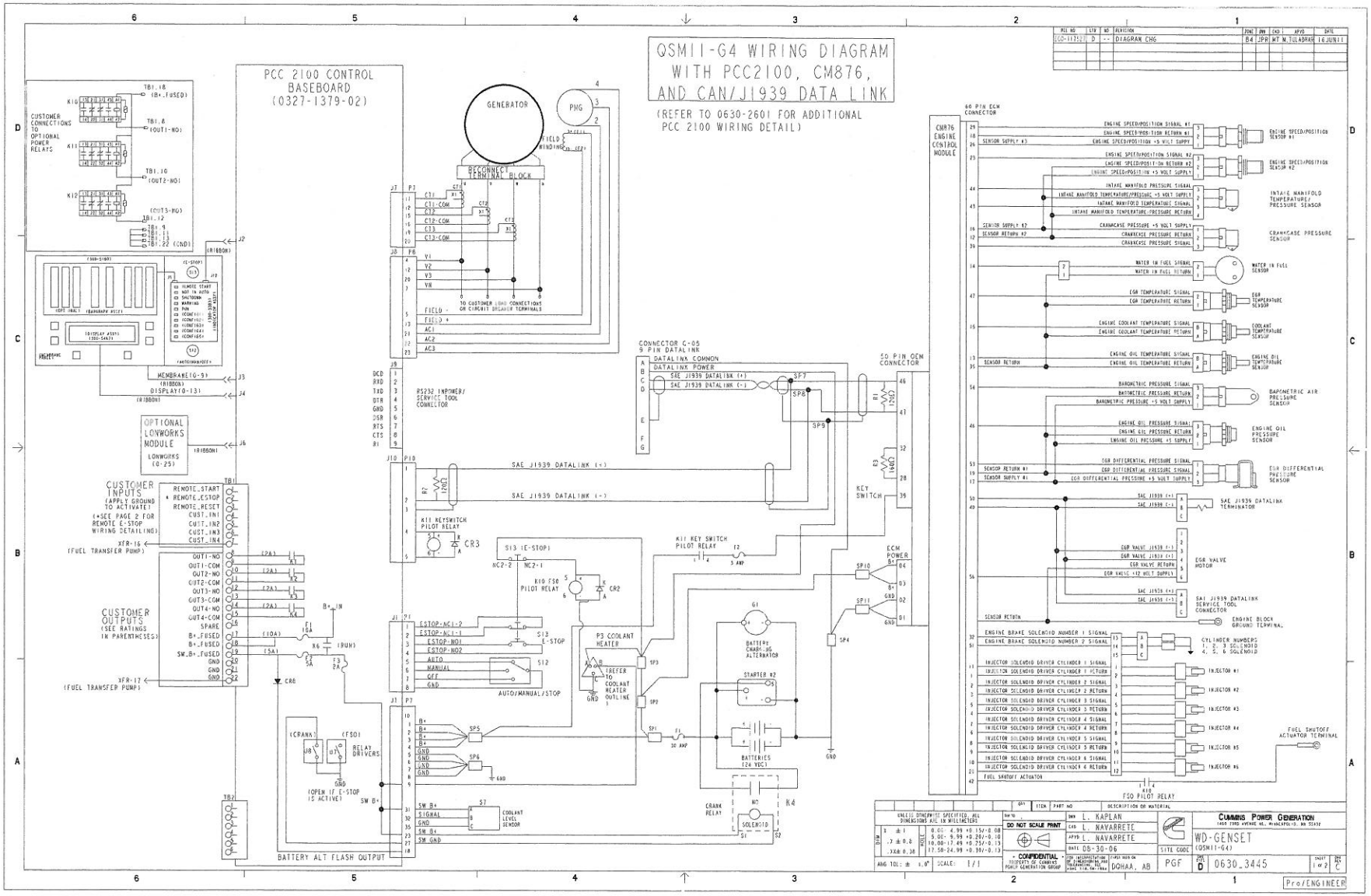
Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

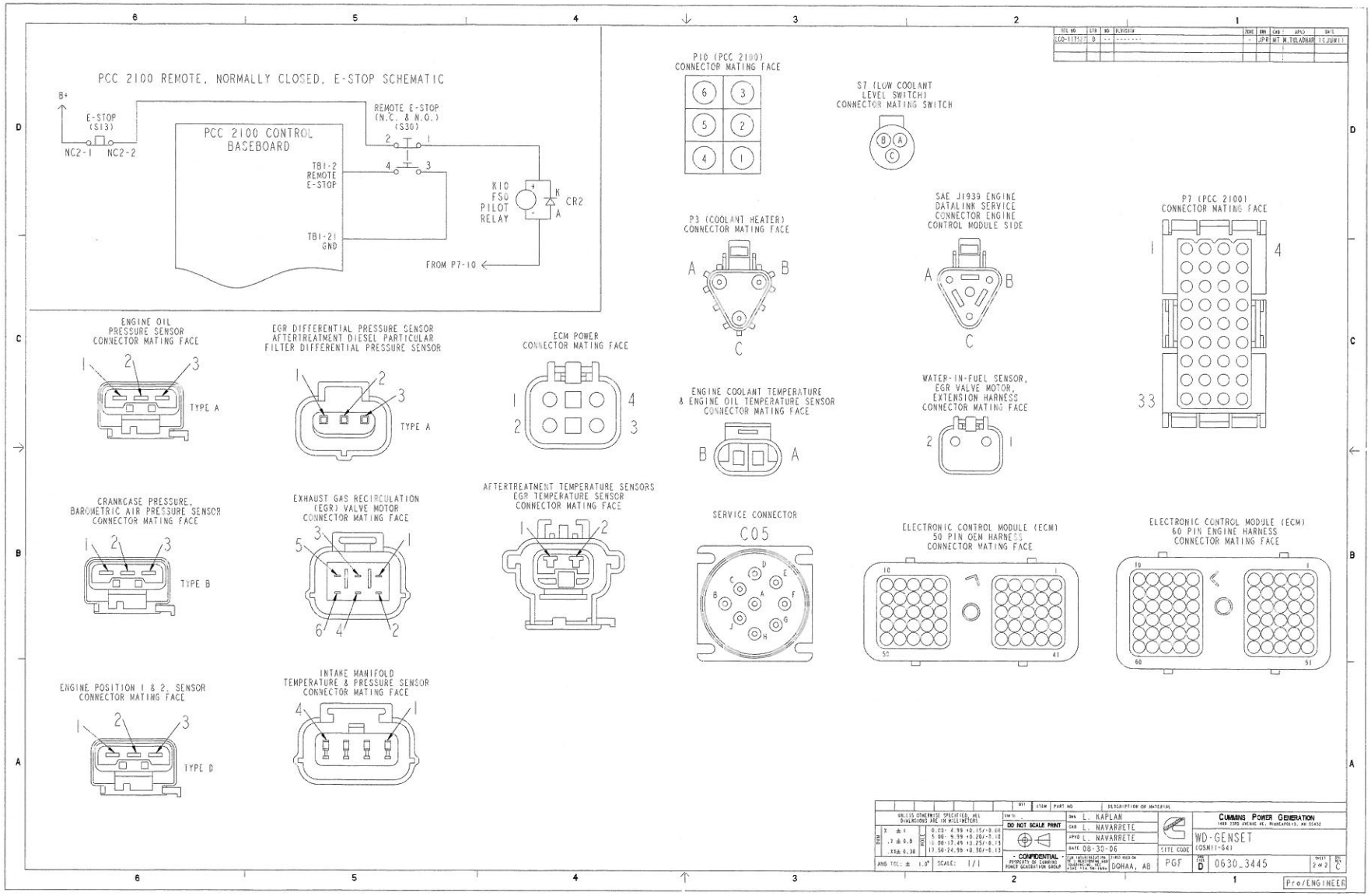
Under penalty of law for false swearing (West Virginia Code, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: _____ **Signed:** _____

Date: _____ **Title:** _____



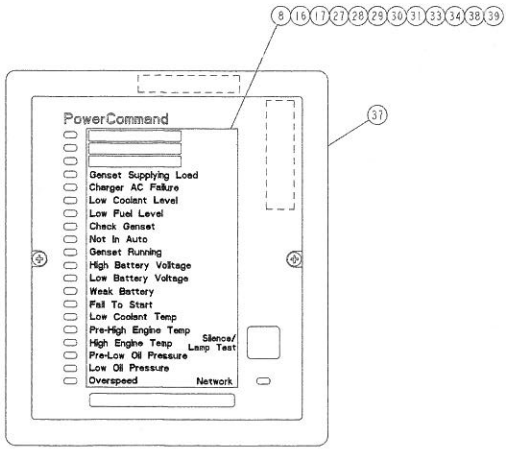
Drawing Name: 0630-3445 Revision: D
Part Name: 0630-3445 Revision: D
Sheet 1 of 3

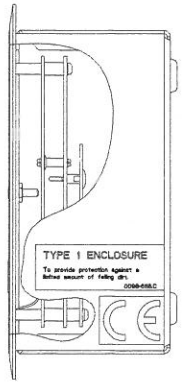


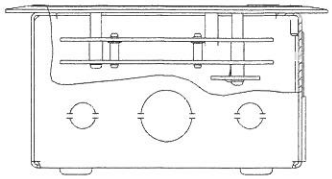
Drawing Name: 0630-3445 Revision: D
Part Name: 0630-3445 Revision: D
Sheet 2 of 3

Pro/ENGINEER

REL NO.	LTR	NO	REVISION	DRN	CHK	APVD	DATE
ECO-112417	K	1	-01, -02, ADDED 0058-6902 & 0138-6902-01 QTY 1 EA.	MCM	MRD	JMC	23SEP10







NOTES:

1. PLACE ANNUNCIATOR (ITEM 37) AND INSERTS IN BAG (ITEM 35).
2. PLACE BAGGED ANNUNCIATOR, MANNUAL (ITEM 20) AND REFERENCE CARD (ITEM 24) IN CARTON (ITEM 36)
3. PLACE THE BARCODE LABEL ON THE CARTON (TIEM 36) AFTER IT HAS BEEN SECURED SHUT.

TABULATION			
PART NO.	RELEASE NO.	APPLICATION STATUS	ANNUNCIATOR
0300-5929-01	ECO-112417	ACCESSORIES	A029Y776
0300-5929-02	ECO-112417	ACCESSORIES	A029Y779

-THIS IS A CONTROLLED PRODUCT-
PER DRAW PROCEDURE EPL-1002

TO MAINTAIN COMPLIANCE WITH REQUIREMENTS OF THE CODES STANDARDS, OR AGENCIES LISTED BELOW:

☐ CSA ☐ UL ☐ NFPA ☐ ANSI
☐ OTHER _____

AND/OR WITHIN INTERNAL CHAR DESIGN CONTROL FACILITIES ☐

CHANGES, REVISIONS, OR MODIFICATIONS OF MATERIAL, PROCESS, OR DESIGN SHALL NOT BE IMPLEMENTED UNLESS APPROVED BY THE FOLLOWING DESIGN CONTROL FACILITIES:

DESIGN CONTROL FACILITY: TROUT CPE
DESIGN CONTROL FACILITY: _____

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS

X ± 1	HOLE	0.00 - 4.99 +0.15/-0.08
.X ± 0.8		5.00 - 9.99 +0.20/-0.10
.XX± 0.38		10.00-17.49 +0.25/-0.13
		17.50-24.99 +0.30/-0.13

ANG TOL: ± 1.0° SCALE: 1/1

THIRD ANGLE PROJECTION

DO NOT SCALE PRINT

* CONFIDENTIAL * PROPERTY OF CUMMINS POWER GENERATION GROUP

DRN P MEDINA
CHD JM LOISEL
APVD JM LOISEL
DATE 03-19-04

MATERIAL ANNUNCIATOR

CUMMINS POWER GENERATION

ANNUNCIATOR
(RS485)

SITE CODE PGF

DWG NO 0300_5929

SHEET 1 of 1

REV K

Drawing Name: 0300-5929 Revision: K
Part Name: 0300-5929-01 Revision: K
Sheet 1 of 2

Part A000E307 K

Description	Legacy Name	External Regulations	Application Status	Release Phase Code	Security Classification	Alternates
ANNUNCIATOR	0300-5929-01	UL	Production Only	Production	Proprietary	

Part Specifications :A000E307 K

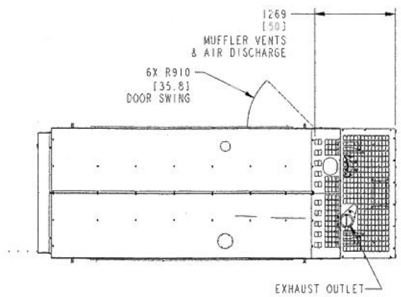
Name	Description	Legacy Name
A030B356	SPECIFICATION,MATERIAL	CES10903
A012M455	DRAWING,ENGINEERING	0300-5929

Engineering BOM: A000E307 K Level 1

Name	Description	Legacy Name	Find Number	Reference Designator	Quantity
A004B861	LABEL,INFORMATION	0098-8321-01	8		1.0
A019N377	LABEL,INFORMATION	0098-8855-04	16		1.0
A019N376	LABEL,INFORMATION	0098-8855-03	17		1.0
A004X791	MANUAL,OPERATION	0900-0301	20		1.0
A005M809	CARD,REFERENCE	0900-0304	24		1.0
A019N375	LABEL,INFORMATION	0098-8855-02	27		1.0
A019N378	LABEL,INFORMATION	0098-8856-01	28		1.0
A019N379	LABEL,INFORMATION	0098-8856-02	29		1.0
A019N380	LABEL,INFORMATION	0098-8856-03	30		1.0
A019N381	LABEL,INFORMATION	0098-8856-04	31		1.0
A004B860	LABEL,INFORMATION	0098-8321-03	33		1.0
A004B857	LABEL,INFORMATION	0098-8321-04	34		1.0
A000F604	BAG,POLYETHYLENE	0413-0248	35		1.0
A001B130	CARTON	0418-0071	36		1.0
A029Y776	ANNUNCIATOR	A029Y776	37		1.0
A004C347	LABEL,PEEL OFF	0098-6902	38		1.0
A004C348	LABEL,PEEL OFF	0098-6902-01	39		1.0

TANK/LIFT BASE FEATURE CODE	TANK CAPACITY	TANK WEIGHT DRY KG (LBS)	DIM_D	DIM_E	DIM_F	DIM_G	DIM_H	DIM_I	DIM_J	DIM_K
TABULATION										
C201	300	1060 (2338)	2643 (104)	183 (7.2)	305 (12)	1171 (46.1)	526 (20.7)	1126 (44.3)	1122 (44.2)	614.7 (24.2)
C202/C242	400/270	1105 (2438)	2694 (106)	234 (9.2)	356 (14)	1222 (48.1)	577 (22.7)	1177 (46.3)	1173 (46.2)	665 (26.2)
C203	500	1171 (2584)	2743 (108)	284 (11.2)	406 (16)	1273 (50.1)	627 (24.7)	1228 (48.3)	1224 (48.2)	716.3 (28.2)
C204	600	1253 (2765)	2819 (111)	361 (14.2)	483 (19)	1349 (53.1)	704 (27.7)	1304 (51.3)	1300 (51.2)	792.5 (31.2)
C205	660	1295 (2857)	2858 (112.5)	399 (15.7)	521 (20.5)	1387 (54.6)	742 (29.2)	1343 (52.8)	1339 (52.7)	830.6 (32.7)
C206	720	1275 (2814)	2895 (114)	437 (17.2)	559 (22)	1425 (56.1)	780 (30.7)	1381 (54.3)	1377 (54.2)	868.7 (34.2)
C207	850	1445 (3189)	2997 (118)	538 (21.2)	660 (26)	1527 (60.1)	881 (34.7)	1481 (58.3)	1478 (58.2)	970.3 (38.2)
F214	NA	NA	2540 (100)	81 (3.2)	203 (8)	1069 (42.1)	424 (16.7)	1024 (40.3)	1021 (40.2)	513.1 (20.2)

OPTIONAL FEATURE F202,F205



MODEL	KW	CG_DIM "A"	CG_DIM "B"	CG_DIM "C"	STEEL ENCLOSURE WEIGHT KG (LBS)	ALUMINUM ENCLOSURE WEIGHT KG (LBS)
TABULATION						
DFAB	230	2111 [83.1]	1041 [41]	869 [34.2]	5755 (12688)	5265 (11598)
DFAC	250	2103 [82.8]			5823 (12838)	5333 (11748)
DQAD	250			866 [34.1]		
DQAE	275	2093 [82.4]		869 [34.2]	5914 (13038)	5424 (11948)
DQAF	300	2085 [82.1]		871 [34.3]	6027 (13288)	5537 (12198)
DFBF	275	2049 [80.7]		881 [34.7]	6387 (14078)	5897 (12988)
DFCB	300	2035 [80.1]		884 [34.8]	6522 (14378)	6032 (13288)
DFCC	350	2014 [79.3]		886 [34.9]	6635 (14628)	6145 (13538)
DFCE	400	1999 [78.7]		889 [35.0]	6735 (14848)	6245 (13758)
DFEG	350	1994 [78.5]		734 [28.9]	7743 (17072)	7253 (15982)
DFEH	400	1976 [77.8]			7873 (17358)	7383 (16268)
DFEJ	450	1956 [77.0]		737 [29.0]	8026 (17696)	7536 (16606)
DFEK	500	1933 [76.1]			8162 (17996)	7672 (16906)
DQDAA	250	1927 [75.9]		723 [28.5]	5957 (13088)	5467 (11998)
DQDAB	275					
DQDAC	300	1945 [76.6]		724 [28.5]	6057 (13388)	5567 (12298)
DQHAA	275	2093 [82.4]		869 [34.2]	6271 (13826)	5781 (12736)
DQHAB	300	2085 [82.1]		871 [34.3]	6384 (14076)	5894 (12986)

***WEIGHT & CG'S ARE SHOWN WITH HIGHEST GALLON FUEL TANK, ENCLOSURE, AND STANDARD WET GENSET. ADDITION OF OTHER FEATURES MAY CHANGE THE WEIGHT.

REL NO	LTR	NO	REVISION	DWN	CHK	APVD	DATE
ECO-129195	C	1	REMOVED FIRST PARAGRAPH OF NOTE 5	WGM	BJD	K.KISHORE	04OCT12
		2	REMOVED NOTES 5.2, 5.3 AND 5.4	WGM	BJD	K.KISHORE	04OCT12
		3	SEE SHEET 4	WGM	BJD	K.KISHORE	04OCT12
		4	SEE SHEET 4	WGM	BJD	K.KISHORE	04OCT12

NOTES:

1. DIMENSIONS SHOWN IN [ ] ARE INCHES.
2. FOUNDATION REFERENCE POINT (—⊳⊲—). SEE FOUNDATION DRAWING FOR DETAILS.
3. FOR FEATURE CODE L116 (FLORIDA TANKS) ADD 105.6 [4.16"] TO DIMS D-J
4. SEE SHEET 2 FOR TANK VENT LOCATIONS.
5. EXCESSIVE TWISTING OF THE FUEL TANK, WHEN FASTENING IT TO A FOUNDATION, MAY RESULT IN STRUCTURAL FAILURE OF THE TANK. TO INSURE THE INSTALLATION DOES NOT EXCESSIVELY TWIST THE FUEL TANK, THE FOLLOWING PROCEDURE MUST BE OBSERVED:

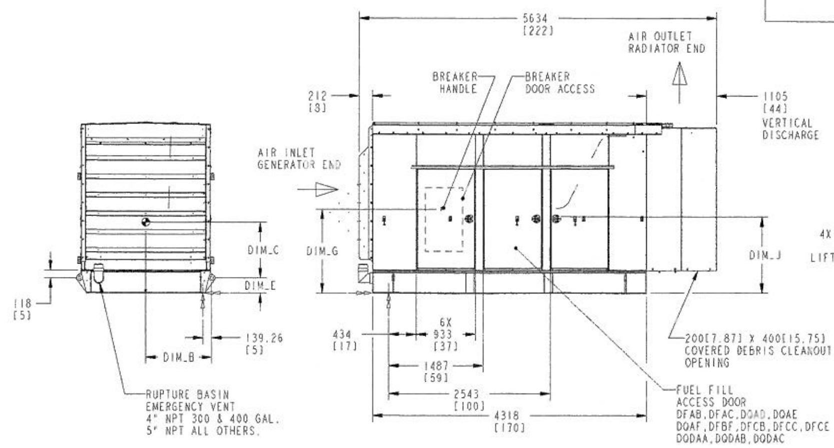
   5.1 REFER TO ONAN APPLICATION MANUAL T030 FOR GENERAL GENSET/TANK MOUNTING GUIDELINES.

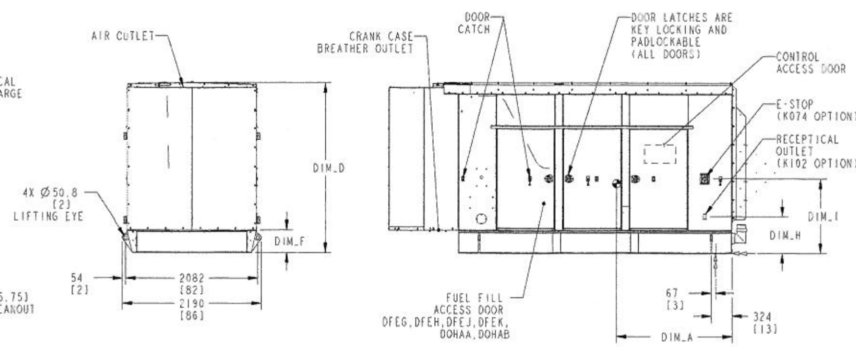
   5.2 (NOTE REMOVED)

   5.3 (NOTE REMOVED)

   5.4 (NOTE REMOVED)

   5.5 TIGHTEN TANK HOLD DOWN MOUNTING FASTENERS.





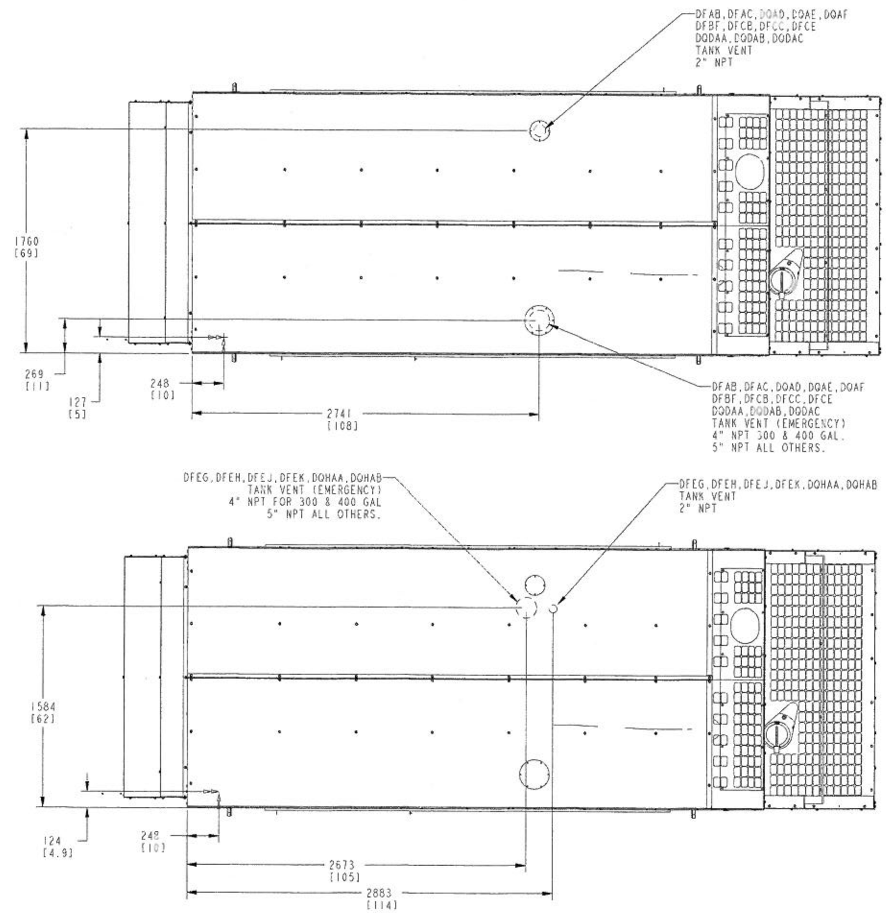
UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS; DIM: X ±1, .X ±0.8, .XX± 0.38; HOLE: 0.00-4.99 +0.13/-0.08, 5.00-9.99 +0.20/-0.10, 10.00-17.49 +0.25/-0.13, 17.50-24.99 +0.30/-0.13	DWG NO 0500-3750	DWN L WRIGHT	CUMMINS POWER GENERATION
ANG TOL: ± 1.0° SCALE: 1/32	DO NOT SCALE PRINT	CKD Z MOGES	ENCLOSURE OUTLINE (LEVEL 2)
	- CONFIDENTIAL - PROPERTY OF CUMMINS POWER GENERATION GROUP	APVD Z MOGES	SITE CODE PGF
	FIRST USED ON DFA-DFE	DATE 09JUL10	DWG SIZE D A034J589 SHEET 1 OF 4 DWG REV C

Pro/ENGINEER

Drawing Name: A034J590 Revision: C
Part Name: A034J589 Revision: C
Sheet 1 of 5

Pro/ENGINEER

ECO NO	LTR	NO	REVISION	DWN	CHK	APVD	DATE
ECO-129195	C	-	----	NGDB	BJD	K RISHOPE	04OCT12



UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS

DIM		HOLE	
X ±1			0.00- 4.99 +0.15/-0.08
.X ±0.8			5.00- 9.99 +0.20/-0.10
.XX± 0.38			10.00-17.49 +0.25/-0.13
			17.50-24.99 +0.30/-0.13

ANG TOL: ± 1.0° SCALE: 1/16

SIM TO 0500-3150

DO NOT SCALE PRINT

- CONFIDENTIAL -
PROPERTY OF CUMMINS POWER GENERATION GROUP

DWN L WRIGHT
CAD Z NOGES
APVD Z NOGES
DATE 09JUL10

FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ASME Y14.5M-1994

FIRST USED ON DFA-DFE

SITE CODE PGF

CUMMINS POWER GENERATION

ENCLOSURE OUTLINE
(LEVEL 2)

DWG SIZE D A034J589 SHEET 2 of 4 DWG REV C

Drawing Name: A034J590 Revision: C
Part Name: A034J589 Revision: C
Sheet 2 of 5

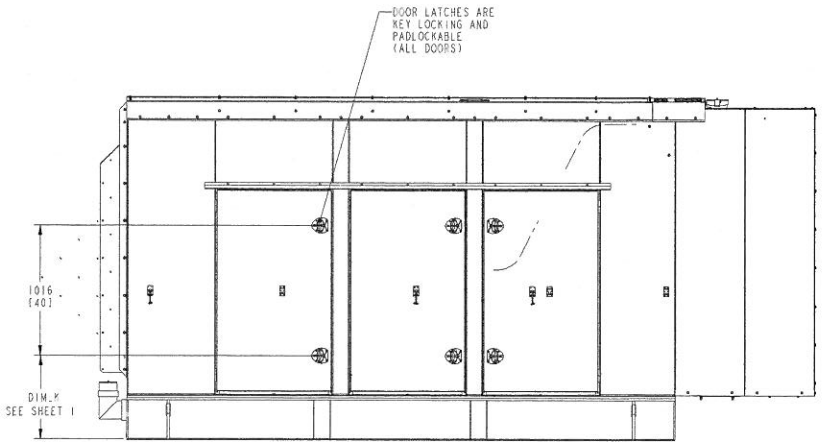
Pro/ENGINEER

REL NO	LTR	NO	REVISION	DWN	CHD	APVD	DATE
ECO-129105	C	-	----	WGH	BJD	K KISHORE	04DEC12

OPTIONAL FEATURE
150 MPH RATING
F206

NOTES:

1. ALL DIMENSIONS NOT SHOWN ARE INDENTICAL TO THOSE SHOWN ON SHEET 1.
2. THE ENCLOSURE IS ENGINEERED TO MAINTAIN IT'S INTEGRITY WITH A 150 MPH WIND LOAD CONDITION.



UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS			DES'N 0500-3750	DWN L WRIGHT		CUMMINS POWER GENERATION
DIM: X ± 1 / .X ± 0.8 / .XX± 0.38	TOLS: 0.00-4.99 ±0.15/-0.08; 5.00-9.99 ±0.20/-0.10; 10.00-17.49 ±0.25/-0.13; 17.50-24.99 ±0.30/-0.13		DO NOT SCALE PRINT	CKD Z MOGES		ENCLOSURE OUTLINE (LEVEL 2)
				APVD Z MOGES	SITE CODE	
ANG TOL: ± 1.0°	SCALE: 1/32		CONFIDENTIAL PROPERTY OF CUMMINS POWER GENERATION GROUP	DATE 09JUL10	PGF	SIZE D / A034J589 / SHEET 3 of 4 / REV C
				DFA-DFE		

Drawing Name: A034J590 Revision: C
Part Name: A034J589 Revision: C
Sheet 3 of 5

Power Generation

PROTOTYPE TEST SUPPORT (PTS)
60 HZ TEST SUMMARY

GENERATOR SET MODELS		REPRESENTATIVE PROTOTYPE	
275DQHAA	300DQHAB	Model:	300DQHAB
		Alternator:	HC4D
		Engine:	QSM11-G4

The following summarizes prototype testing conducted on the designated representative prototype of the specified models. This testing is conducted to verify the complete generator set electrical and mechanical design integrity. Prototype testing is conducted only on generator sets not sold as new equipment.

Maximum Surge Power: 350

The generator set was evaluated to determine the stated maximum surge power.

Maximum Motor Starting: 1372

The generator set was tested to simulate motor starting by applying the specified kVA load at low lagging power factor (0.4 or lower). With this load applied, the generator set recovered to a minimum of 90% rated voltage

Torsional Analysis and Testing:

The generator set was tested to verify that the design is not subjected to harmful torsional stresses. A spectrum analysis of the transducer output was conducted over the speed range of 1800 to 1800 RPM.

Cooling System: 52 ℃ Ambient
0.5 in. H2O restriction

The cooling system was tested to determine ambient temperature and static restriction capabilities. The test was performed at full rated load in elevated ambient temperature under stated static restriction conditions.

Durability:

The generator set was subjected to a minimum 500 hour endurance test operating at variable load up to the standby rating based upon MIL-STD-705 to verify structural soundness and durability of the design.

Electrical and Mechanical Strength:

The generator set was tested to several single phase and three phase faults to verify that the generator can safely withstand the forces associated with short circuit conditions. The generator set was capable of producing full rated output at the conclusion of the testing.

Steady State Performance:

The generator set was tested to verify steady state operating performance was within the specified maximum limits.

Voltage Regulation:	±0.28%
Random Voltage Variation:	±0.32%
Frequency Regulation:	Isochronous
Random Frequency Variation:	±0.31%

Transient Performance:

The generator set was tested with the standard alternator to verify single step loading capability as required by NFPA 110. Voltage and frequency response on load addition or rejection were evaluated. The following results were recorded:

Full Load Acceptance:		
Voltage Dip:	46.5	%
Recovery Time:	4.2	Second
Frequency Dip:	12.0	%
Recovery Time:	5.2	Second
Full Load Rejection:		
Voltage Rise:	27.4	%
Recovery Time:	4.0	Second
Frequency Rise:	7.3	%
Recovery Time:	3.1	Second

Harmonic Analysis:

(per MIL-STD-705B, Method 601.4)

	Line to Line		Line to Neutral	
Harmonic	No Load	Full Load	No Load	Full Load
3	0.09	0.035	0.16	0.054
5	0.62	1.95	0.66	2
7	0.58	0.73	0.6	0.72
9	0.028	0.029	0.058	0.098
11	0.7	0.375	0.7	0.36
13	0.31	0.37	0.33	0.36
15	0.05	0.016	0.08	0.076

Power Generation

2013 EPA Tier 3 Exhaust Emission Compliance Statement 300DQHAB Stationary Emergency 60 Hz Diesel Generator Set

Compliance Information:

The engine used in this generator set complies with Tier 3 emissions limit of U.S. EPA New Source Performance Standards for stationary emergency engines under the provisions of 40 CFR 60 Subpart IIII when tested per ISO8178 D2.

Engine Manufacturer:	Cummins Inc
EPA Certificate Number:	DCEXL0661AAH-013
Effective Date:	05/01/2012
Date Issued:	05/01/2012
EPA Engine Family (Cummins Emissions Family):	DCEXL0661AAH (H353)

Engine Information:

Model:	QSM / QSM11 / QSM11-G4	Bore:	4.92 in. (125 mm)
Engine Nameplate HP:	470	Stroke:	5.79 in. (147 mm)
Type:	4 Cycle, In-line, 6 Cylinder Diesel	Displacement:	661 cu. in. (10.8 liters)
Aspiration:	Turbocharged and CAC	Compression Ratio:	16.1:1
Emission Control Device:		Exhaust Stack Diameter:	6 in.

Diesel Fuel Emission Limits

D2 Cycle Exhaust Emissions

	Grams per BHP-hr			Grams per kWm-hr		
	NOx + NMHC	CO	PM	NOx + NMHC	CO	PM
Test Results - Diesel Fuel (300-4000 ppm Sulfur)	2.5	0.4	0.06	3.3	0.6	0.08
EPA Emissions Limit	3.0	2.6	0.15	4.0	3.5	0.20
Test Results - CARB Diesel Fuel (<15 ppm Sulfur)	2.3	0.4	0.05	3.0	0.6	0.07
CARB Emissions Limit	3.0	2.6	0.15	4.0	3.5	0.20

The CARB emission values are based on CARB approved calculations for converting EPA (500 ppm) fuel to CARB (15 ppm) fuel.
Test Methods: EPA/CARB Nonroad emissions recorded per 40CFR89 (ref. ISO8178-1) and weighted at load points prescribed in Subpart E, Appendix A for Constant Speed Engines (ref. ISO8178-4, D2)

Diesel Fuel Specifications: Cetane Number: 40-48. Reference: ASTM D975 No. 2-D.
Reference Conditions: Air Inlet Temperature: 25°C (77°F), Fuel Inlet Temperature: 40°C (104°F). Barometric Pressure: 100 kPa (29.53 in Hg), Humidity: 10.7 g/kg (75 grains H2O/lb) of dry air; required for NOx correction, Restrictions: Intake Restriction set to a maximum allowable limit for clean filter; Exhaust Back Pressure set to a maximum allowable limit.

Tests conducted using alternate test methods, instrumentation, fuel or reference conditions can yield different results.
Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may result in elevated emission levels.

CERTIFICATION AND SIGNATURE PAGE

By signing below, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid or proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

QUALITY ELECTRIC SUPPLY INC.
(Company)

(Authorized Signature)

KARL BAUKNIGHT, PRES
(Representative Name, Title)

(340) 773-4630 x 306 (340) 778-7653
(Phone Number) (Fax Number)

9-22-13
(Date)

RFQ No. _____

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

MANDATE: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code* §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: QUALITY ELECTRIK SUPPLY INC

Authorized Signature: [signature] Date: 9-23-13

State of USVI

County of ST CROIX, to-wit:

Taken, subscribed, and sworn to before me this 24 day of SEPTEMBER, 2013

My Commission expires 8/07/2017, 2017

AFFIX SEAL HERE

NOTARY PUBLIC _____

SUBSCRIBED AND SWORN TO BEFORE
ME THIS 24 DAY OF SEPT
ON ST. CROIX, U.S.V.I

NOTARY PUBLIC
BERNARD W. LIBURD
Commission Exp. 08/07/17
NP-66-13