Issue Analysis Form

Date: 02/12/2019

Generator Purchase –

Item: Award of Contract

Lead Department(s): General Services, & Finance

Contact Person(s): Betsy Drewry; Mike Purvis

Description and Current Status

A generator is needed for the new Route 10 Fire Station.

Because the purchase was expected to be over \$50,000 a competitive bid process was required. The Procurement Officer issued a "Quick Quote" in eVA (the State Purchasing System) to satisfy purchasing policy requirement.

Two quotes were received and reviewed:

- 1) Integrated Power Supplies \$44,421.81 (*subsequently withdrew quote* after engineer's review of specifications proposed generator did NOT meet requirements/specifications)
- 2) Bay Diesel Corporation \$51,651.00

One responsive quote was received in the amount of \$51,651.00 from Bay Diesel Corporation. Our Route 10 Fire Station budget in the CIP fund can currently accommodate this purchase, so no additional appropriation is required. See attached Response Summary (Attachment A).

Staff is recommending **award of contract to Bay Diesel Corporation in the amount of \$51,651.00.** Contracts exceeding \$50,000 require approval by the Board of Supervisors.

Staff is requesting the board to authorize:

 Authorization for the County Administrator to execute a contract with Bay Diesel Corporation in the amount of \$51,651.00

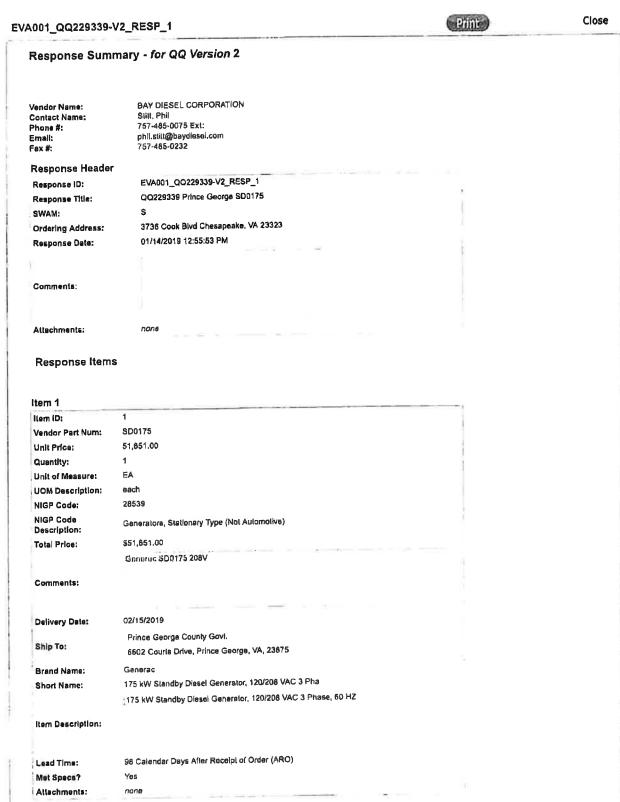
A resolution draft for board consideration is included in the board packet. The resolution approves administrative execution of a contract.

resolution approves administrative exception of a contract.				
Government Path				
Does this require IDA action?	☐ Yes	⊠ No		
Does this require BZA action?	☐ Yes	⊠ No		
Does This require Planning Commission Action?	☐ Yes	⊠ No		
Does this require Board of Supervisors action?	⊠ Yes	□ No		
Does this require a public hearing?	☐ Yes	⊠ No		

If so, before what date?	□ Yes □ No
Fiscal Impact Statement	
Award has no added fiscal impact (Route 10 accommodate purchase).	Fire Station Construction / CIP budget can
County Impact	
Execution of contract will allow for purchase of (Moody Road) Fire Station.	of a generator needed at the Route 10
Notes	



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Тор



Close



Project Name: Price George FD # 7

Date: January 7, 2019

Quote Number: LN01032019

Quote Contact: Lee Newton Phone: 804 230.3495

E-mail:lee.newton@baydiesel.com

Scope of Equipment

One (1) 175 kW Standby Diesel Generator, 120/208 VAC 3 Phase, 60 HZ with the following features and accessories:

- UL 2200 Listed
- EPA Certified
- Permanent Magnet Excitation
- Digital Control Panel
- Weather Protective Enclosure Sound
- 600A UL Mainline Circuit Breaker 100% Rated
- 693 Sub-base tank UL 142 51 hours
- Battery w/rack and charger installed
- Block Heater
- Remote Annunciator w 8 dry contacts
- Remote Emergency Stop
- 2 hour Reactive Factory Load Bank .8 PF
- 600a ATS OT 120/208V 3 pole NEMA 3R Service Rated:
- 2 Year Manufacturer's Warranty

Price:

Adder for 5 year warranty:

Clarifications: no specs or drawings provided.

Quote is valid for 30 days. FOB Factory. Delivery to the jobsite from factory is included. Offloading and setting to be done by others. Factory Authorized Start-up is included and performed during regular business hours. The following items are excluded from this quote: Sales Tax, Installation, Permits, Engineering, Fuel, Utility Fees, IR Scanning, and Third Party Testing. PAYMENT TERMS: NET 30 DAYS with an open account. Deposits may be required. BAY DIESEL WILL NOT ACCEPT "PAY WHEN PAID" TERMS. Bay Diesel is quoting this project as a material supplier only; therefore, Bay Diesel is exempt from any provisions pertaining to subcontractors' performance bonds and or retainage. Bay Diesel Corporation's Terms and Conditions apply (see attached or view at www baydiesel.com). Sales tax will be added if applicable.

Cust	tomer	PO	#

Signature:

Date:







SD175 | **6.7L** | 175 kW INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

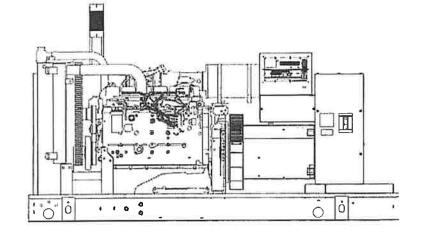


STANDBY POWER RATING

175 kW, 219 kVA, 60 Hz

PRIME POWER RATING*

158 kW, 197 kVA, 60 Hz







*Built in the USA using domestic and foreign parts

*EPA Certified Prime ratings are not available in the U.S. or its Territories.

**Certain options or customization may not hold certification valid.

Image used for illustration purposes only

CODES AND STANDARDS

Generac products are designed to the following standards:



UL2200, UL508, UL142, UL498



NFPA70, 99, 110, 37



NEC700, 701, 702, 708



ISO9001, 8528, 3046, 7637. Pluses #2b, 4



NEMA ICS10, MG1, 250, ICS6, AB1



ANSI C62.41

POWERING AHEAD

For over 50 years, Generac has led the industry with innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac's gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial application under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC INDUSTRIAL POWER

STANDARD FEATURES

ENGINE SYSTEM

General

- · Oil Drain Extension
- · Air Cleaner
- · Fan Guard
- · Stainless Steel flexible exhaust connection
- · Critical Exhaust Silencer (enclosed only)
- · Factory Filled Oil
- · Radiator Duct Adapter (open set only)

Fuel System

- · Fuel lockoff solenoid
- · Primary fuel filter

Cooling System

- · Closed Coolant Recovery System
- UV/Ozone resistant hoses
- · Factory-Installed Radiator
- Radiator Drain Extension
- · 50/50 Ethylene glycol antifreeze
- 120 VAC Coolant Heater

Engine Electrical System

- · Battery charging alternator
- Battery cables
- Battery tray
- Solenoid activated starter motor
- Rubber-booted engine electrical connections

ALTERNATOR SYSTEM

- UL2200 GENprotect™
- · 12 leads (3-phase, non 600 V)
- · Class H insulation material
- · Vented rotor
- 2/3 pitch
- Skewed stator
- · Auxiliary voltage regulator power winding
- · Amortisseur winding
- · Brushless Excitation
- · Sealed Bearings
- Automated manufacturing (winding, insertion, lacing, vamishing)
- Rotor dynamically spin balanced
- · Full load capacity alternator
- · Protective thermal switch

GENERATOR SET

- Internal Genset Vibration Isolation
- · Separation of circuits high/low voltage
- · Separation of circuits multiple breakers
- · Silencer Heat Shield
- · Wrapped Exhaust Piping
- Silencer housed in discharge hood (enclosed only)
- · Standard Factory Testing
- 2 Year Limited Warranty (Standby rated Units)
- · 1 Year Limited Warranty (Prime rated Units)
- · Silencer mounted in the discharge hood (enclosed only)

ENCLOSURE (IF SELECTED)

- Rust-proof fasteners with nylon washers to protect finish
- · High performance sound-absorbing material
- · Gasketed doors
- Stamped air-intake louvers
- · Air discharge hoods for radiator-upward pointing
- Stainless steel lift off door hinges
- · Stainless steel lockable handles
- Rhino Coat[™]- Textured polyester powder coat

TANKS (IF SELECTED)

- UL 142
- Double wall
- Vents
- · Sloped top
- Sloped bottom
- · Factory pressure tested (2 psi)
- · Rupture basin alarm
- Fuel level
- · Check valve in supply and return lines
- Rhino Coat[™]- Textured polyester powder coat
- Stainless hardware

CONTROL SYSTEM



Control Panel

- Digital H Control Panel Dual 4x20 Display
- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- · Special Applications Programmable PLC
- RS-232/485
- · All-Phase Sensing DVR
- Full System Status
- Utility Monitoring
- · Low Fuel Pressure Indication
- · 2-Wire Start Compatible
- Power Output (kW)

- Power Factor
- · kW Hours, Total & Last Run
- Real/Reactive/Apparent Power
- · All Phase AC Voltage
- · All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level
- · Engine Speed
- Battery Voltage
- Frequency
- Date/Time Fault History (Event Log)
- · Isochronous Governor Control
- · Waterproof/sealed Connectors
- Audible Alarms and ShutdownsNot in Auto (Flashing Light)
- · Auto/Off/Manual Switch
- . E-Stop (Red Mushroom-Type)
- NFPA110 Level I and II (Programmable)
- Customizable Alarms, Warnings, and Events
- Modbus protocol
- · Predictive Maintenance algorithm
- · Sealed Boards
- Password parameter adjustment protection

- Single point ground
- 15 channel data logging
- 0.2 msec high speed data logging
- Alarm information automatically comes up on the display

Alarms

- Oil Pressure (Pre-programmable Low Pressure Shutdown)
- Coolant Temperature (Pre-programmed High Temp Shutdown)
- Coolant Level (Pre-programmed Low Level Shutdown)
- Low Fuel Pressure Alarm
- Engine Speed (Pre-programmed Over speed Shutdown)
- Battery Voltage Warning
- · Alarms & warnings time and date stamped
- Alarms & warnings for transient and steady state conditions
- Snap shots of key operation parameters during alarms & warnings
- Alarms and warnings spelled out (no alarm codes)

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

CONFIGURABLE OPTIONS

ENGINE SYSTEM

General

- O Oil Heater
- O Industrial Exhaust Silencer

Fuel System

- O Flexible fuel lines
- O Primary fuel filter

Engine Electrical System

- O 10A UL battery charger
- O 2.5A UL battery charger
- O Battery Warmer

ALTERNATOR SYSTEM

- O Alternator Upsizing
- O Anti-Condensation Heater
- O Tropical coating
- O Permanent Magnet Excitation

ENGINEERED OPTIONS

ENGINE SYSTEM

- O Coolant heater balt valves
- O Block Heaters
- O Fluid containment pans

ALTERNATOR SYSTEM

O 3rd Breaker Systems

CONTROL SYSTEM

- O Spare inputs (x4) / outputs (x4) H Panei Only
- O Battery Disconnect Switch

CIRCUIT BREAKER OPTIONS

- O Main Line Circuit Breaker
- O 2nd Main Line Circuit Breaker
- O Shunt Trip and Auxiliary Contact
- O Electronic Trip Breaker

GENERATOR SET

- Gen-Link Communications Software (English Only)
- O IBC Seismic Certification
- O 8 Position Load Center
- O 2 Year Extended Warranty
- O 5 Year Warranty
- O 5 Year Extended Warranty

ENCLOSURE

- O Weather Protected
- O Level 1 Sound Attenuation
- O Level 2 Sound Attenuation
- O Steel Enclosure
- O Aluminum Enclosure
- O 150 MPH Wind Kit
- O 12 VDC Enclosure Lighting Kit
- O 120 VAC Enclosure Lighting Kit
- O AC/DC Enclosure Lighting Kit
- O Door Alarm Switch

GENERATOR SET

O Special Testing

ENCLOSURE

O Motorized Dampers

O Door switched for intrusion alert
O Enclosure ambient heaters

TANKS (Size on last page)

- O Electrical Fuel Level
- O Mechanical Fuel Level
- O 8" Fill Extension
- O 13" Fill Extension

CONTROL SYSTEM

- O 21-Light Remote Annunciator
- O Remote Relay Panel (8 or 16)
- O Oil Temperature Sender with Indication Alarm
- O Remote E-Stop (Break Glass-Type, Surface Mount)
- O Remote E-Stop (Red Mushroom-Type, Surface Mount)
- O Remote E-Stop (Red Mushroom-Type, Flush Mount)
- O Remote Communication Modem
- O Remote Communication Ethernet
- O 10A Run Relay
- O Ground Fault Indication and Protection Functions

TANKS

- O Overfill Protection Valve
- O UL2085 Tank
- O ULC S-601 Tank
- O Stainless Steel Tank
- Special Fuel Tanks (MIDEQ and FL DEP/DERM, etc.)
- O Vent Extensions

RATING DEFINITIONS

Standby - Applicable for a varying emergency load for the duration of a utility power outage with no overload capability.

Prime - Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. A 10% overload capacity is available for 1 out of every 12 hours. The Prime Power option is only available on International applications. Power ratings in accordance with ISO 8528-1, Second Edition

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

APPLICATION AND ENGINEERING DATA

General		Cooling System	
Make	Generac	Cooling System Type	Closed Recovery
EPA Emissions Compliance	Stationary Emergency	Water Pump	Belt Driven Centrifugal
EPA Emissions Reference	See Emissions Data Sheel	Fan Type	Pusher
Cylinder #	6	Fan Speed (rpm)	2538
Туре	In-Line	Fan Diameter mm (in)	•
Displacement - L (cu In)	6.7 (406.86)	Coolant Heater Wattage	1500
Bore - mm (in)	104 (4.09)	Coolant Heater Standard Voltage	120 V /240 V
Stroke - mrn (in)	128 (5.2)		
Compression Ratio	16.5:1		
Intake Air Method	Turbocharged/Aftercooled	Fuel System	
Cylinder Head Type	4 Valve	Fuel Type	Ultra Low Sulfur Diesel Fue
Piston Type	Alloy Aluminum	Fuel Specifications	ASTM
Crankshaft Type	Forged Steel	Fuel Filtering (microns)	5
		Fuel Injection	Electronic
Engine Governing		Fuel Pump Type	Engine Driven Gear
Governor	Electronic Isochronous	Injector Type	Electronic
Frequency Regulation (Steady State)	+/- 0.25%	Fuel Supply Line mm (in)	12.7 (0.5) NPT
		Fuel Return Line mm (in)	12.7 (0.5) NPT
Lubrication System			
Oil Pump Type	Gear		
Oil Filter Type	Full Flow Cartridge	Engine Electrical System	
Crankcase Capacity - L (qts)	19.6 (20.7)	System Voltage	12 VDC
		Battery Charging Alternator	Std
		Battery Size	See Battery Index 0161970SBY
		Battery Voltage	12 VDC
		Ground Polarity	Negative

ALTERNA	TOR S	PECIF	CAT	2MOI
ALICHNA	iun e	IFEGIE	UMI	IUIVO

Standard Model	520	
Poles	4	
Field Type	Revolving	
Insulation Class - Rotor	Н	
Insulation Class - Stator	Н	
Total Harmonic Distortion	<5%	
Telephone Interference Factor (TIF)	<50	

Standard Excitation	Permanent Magnet
Bearings	Single Seated Cartridge
Coupling	Direct, Flexible Disc
Load Capacity - Standby	100%
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
Number of Sensed Phases	3
Regulation Accuracy (Steady State)	+0.25%

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency



OPERATING DATA

POWER RATINGS

		Standby	
Single-Phase 120/240 VAC @1.0pf	175 kW	Amps:	729
Three-Phase 120/208 VAC @0.8pf	175 kW	Amps:	607
Three-Phase 120/240 VAC @0.8pf	175 kW	Amps:	526
Three-Phase 277/480 VAC @0.8pf	175 kW	Amps:	263
Three-Phase 346/600 VAC @0.8pf	175 kW	Amps:	210

STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip

				480	VAC					208/24	IO VAC		
Alternator	kW	10%	15%	20%	25%	30%	35%	10%	15%	20%	25%	30%	35%
Standard	200	187	280	373	467	560	653	140	210	280	350	420	490
Upsize 1	250	263	395	527	658	790	922	197	296	395	494	593	692
Upsize 2	300	303	454	605	757	908	1059	227	341	454	568	681	794

FUEL CONSUMPTION RATES*

Diesel - gal/hr (l/hr)

Fuel Pump Lift - ft (m)	Percent Load	Standby
3 (1)	25%	3.9 (14.8)
.,	50%	7.3 (27.6)
Total Fuel Pump How (Combustion + Return)	75%	10.5 (39.7)
29.0 gal/hr	100%	13.5 (51.1)

^{*} Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

		Standby
Coolant Flow per Minute	gat/min (l/min)	44.6 (168.8)
Coolant System Capacity	gal (L)	7.5 (28.4)
Heat Rejection to Coolant	BTU/lır	497,718
Inlet Air	cfm (m³/hr)	7946 (13502)
Max. Operating Radiator Air Temp	Fo (Co)	122 (50)
Max. Ambient Temperature (before derate)	F° (C°)	104 (40)
Maximum Radiator Backpressure	in H ₂ O	0.5

COMBUSTION AIR REQUIREMENTS

		Standby	
Flow at Rated Power	cfm (m²/min)	470 (13.31)	

ENGINE	EXHAUST				
		Standby			Standby
Rated Engine Speed	rpm	1800	Exhaust Flow (Rated Output)	cím (m³/min)	1326 (37.55)
Horsepower at Rated kW**	hp	279	Max. Backpressure (Post Silencer)	inHg (Kpa)	1.5 (5.1)
Piston Speed	ft/min (m/min)	1559 (475)	Exhaust Temp (Rated Output)	°F (°C)	1040 (560)
BMEP	psi	257	Exhaust Outlet Size (Open Set)	mm (in)	101.6 (4)

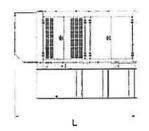
^{**} Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAOMD permitting purposes

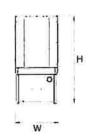
INDUSTRIAL DIESEL GENERATOR SET

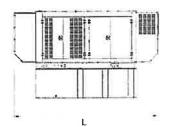
EPA Certified Stationary Emergency

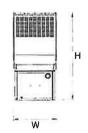
DIMENSIONS AND WEIGHTS*

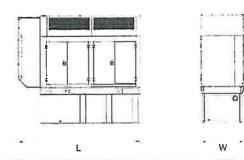


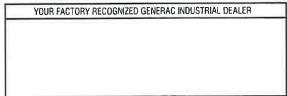














OPEN SE	T		
RUN TIME HOURS	USABLE CAPACITY GAL (L)	L x W x H in (mm)	WT lbs (kg) - Tank & Open Set
NO TANK		117 (2972) x 50 (1270) x 57 (1448)	3980 (1805)
10	134 (507)	117 (2972) x 50 (1270) x 71 (1803)	4764 (2161)
24	322 (1219)	117 (2972) x 50 (1270) x 82 (2083)	5052 (2292)
38	510 (1930.6)	117 (2972) x 50 (1270) x 94 (2388)	5345 (2424)
51	693 (2623.3)	136 (3454) x 53 (1346) x 98 (2489)	5575 (2530)
70	946 (3581)	208 (5283) x 53 (1346) x 98 (2489)	7005 (3117)
98	1325 (5015.7)	278 (7061) x 53 (1346) x 96 (2438)	8020 (3638)

STANDARD ENCLOSURE

RUN TIME	USABLE	(u lil u Li in town)	WT lbs (kg) - Enclosure Only	
HOURS	CAPACITY GAL (L)	LxWxHin (mm)	Steel	Aluminum
NO TANK	(90)	143 (3632) x 50 (1270) x 68 (1727)		
10	134 (507)	143 (3632) x 50 (1270) x 81 (2057)		
24	322 (1219)	143 (3632) x 50 (1270) x 93 (2362)		
38	510 (1930.6)	143 (3632) x 50 (1270) x 105 (2667)	850 (386)	280 (127)
51	693 (2623.3)	143 (3632) x 53 (1346) x 109 (2769)		
70	946 (3581)	208 (5283) x 53 (1346) x 109 (2769)	=0	
98	1325 (5015,7)	278 (7061) x 53 (1346) x 107 (2718)		

LEVEL 1 ACOUSTIC ENCLOSURE

RUN TIME	USABLE		WT lbs (kg) - Enclosure Only	
HOURS	GAPACITY GAL (L)	LxWxHin (mm)	Steel	Aluminum
NO TANK	-	168 (4267) x 50 (1270) x 68 (1727)		
10	134 (507)	168 (4267) x 50 (1270) x 81 (2057)		
24	322 (1219)	168 (4267) x 50 (1270) x 93 (2362)		
38	510 (1930.6)	168 (4267) x 50 (1270) x 105 (2667)	1050 (476) 347	347 (157)
51	693 (2623.3)	168 (4267) x 53 (1346) x 109 (2769)	=-	
70	946 (3581)	234 (5944) x 53 (1346) x 109 (2769)		
98	1325 (5015,7)	304 (7722) x 53 (1346) x 107 (2718)	-,	

LEVEL 2 ACOUSTIC ENCLOSURE

RUN TIME	USABLE	1 Ma. 11 to 1000	WT lbs (kg) - Enclosure Only	
HOURS	GAPACITY GAL (L)	L x W x H in (mm)	Steel	Aluminum
NO TANK	840	143 (3632) x 50 (1270) x 92 (2337)	_	413 (187)
10	134 (507)	143 (3632) x 50 (1270) x 105 (2667)	=:: :	
24	322 (1219)	143 (3632) x 50 (1270) x 117 (2972)		
38	510 (1930.6)	143 (3632) x 50 (1270) x 129 (3278)	1250 (567)	
51	693 (2623.3)	143 (3632) x 53 (1346) x 133 (3378)		
70	946 (3581)	208 (5283) x 53 (1346) x 133 (3378)		
98	1325 (5015.7)	278 (7061) x 53 (1346) x 131 (3327)		

^{*}All measurements are approximate and for estimation purposes only. Sound dBA can be found on the sound data sheet. Enclosure Only weight is added to Tank & Open Set weight to determine total weight.

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.

Board of Supervisors County of Prince George, Virginia

Resolution

At a regular meeting of the Board of Supervisors of the County of Prince George held in the Boardroom, Third Floor, County Administration Building, 6602 Courts Drive, Prince George, Virginia this 12 th day of February, 2019:
Present: Vote:
Donald R. Hunter, Chairman
Floyd M. Brown, Jr., Vice-Chairman
Alan R. Carmichael, Jr.
Marlene J. Waymack
T. J. Webb
A-8
On motion of, seconded by, which carried unanimously, the following Resolution was adopted:
RESOLUTION; AWARD OF CONTRACT (\$51,651 GENERATOR ROUTE 10 FIRE STATION – BAY DIESEL & GENERATOR)
WHEREAS, On January 11, 2019 a competitive solicitation was issued through the State purchasing system, eVA, to obtain pricing for a generator for the Route 10 Fire Station. The deadline for quote submission was January 15, 2019 and two quotes were received, one of which was responsive. The lowest and only responsive quote was received from Bay Diesel and Generator in the amount of \$51,651 ; and
WHEREAS, Staff is requesting authorization for the County Administrator to enter into a contract with Bay Diesel and Generator in the amount of \$51,651 for the purchase of a suitable generator for the Route 10 Fire Station.
NOW, THEREFORE, BE IT RESOLVED That the Board of the Supervisors of the County of Prince George this 12 th day of February, 2019, hereby awards the contract for the Route 10 Fire Station generator to Bay Diesel and Generator in the amount of \$51,651 and authorizes the County Administrator to execute a contract with Bay Diesel and Generator.
A Copy Teste:
Percy C. Ashcraft
County Administrator