

**THIRD AMENDMENT TO GOODS AND SERVICES AGREEMENT**  
**(Substation Prefabricated Control House)**

THIS THIRD AMENDMENT ("Third Amendment") to the Agreement for Goods and Services Substation Prefabricated Control house is made as of \_\_\_\_\_, 2022, by and between the **City of Lake Worth Beach, Florida**, a ("CITY") and **KVA, Inc., dba KVA Power Protection & Control** ("CONTRACTOR"), with its principal office located at 1700 Victor Hill Rd. Duncan, SC 29334.

**WHEREAS**, on August 25, 2020, the CITY and CONTRACTOR entered into the Goods and Service Agreement for CONTRACTOR to provide Substation Prefabricated Control House to the CITY ("Agreement"); and

**WHEREAS**, the Agreement is for the CONTRACTOR to design and fabricate up to six (6) units and these additional units may have updated specifications and be in different sizes to maintain the CITY's standards; and

**WHEREAS**, on September 28, 2021, the CITY and the CONTRACTOR signed the First Amendment to fabricate the second unit; and

**WHEREAS**, on June 16, 2022, the CITY and the CONTRACTOR signed the Second Amendment to fabricate the third unit; and

**WHEREAS**, the CONTRACTOR has provided a proposal for the fourth unit which is attached hereto as Exhibit "A" and incorporated herein; and

**WHEREAS**, the CITY finds the proposal to be acceptable; and

**WHEREAS**, the CITY and CONTRACTOR desire to increase the total maximum cost to be paid by the CITY under this Third Amendment to a not to exceed amount of \$863,747.00 (Eight Hundred Sixty-Three Thousand, Seven Hundred Forty-Seven Dollars) and a contingency amount of no more than \$85,000 (Eighty-Five Thousand Dollars); and

**WHEREAS**, the CITY finds amending the Agreement as set forth herein is in the best interest of the CITY and serves a valid public purpose.

**NOW, THEREFORE**, in consideration of the mutual promises contained herein, the sufficiency of which is hereby acknowledged by each party hereto, the CITY and the CONTRACTOR agree to amend the Agreement, as follows:

1. **Recitals.** The above recitals are true and correct and are incorporated herein by reference.

2. **Amount Not To Exceed.** The maximum not to exceed amount for the third unit to be purchased under the Agreement and by this Amendment is \$863,747.00 (Eight Hundred Sixty-Three Thousand, Seven Hundred Forty-Seven Dollars). Since additional items and costs may be necessary to complete the scope of work identified in the CONTRACTOR's proposal, the CITY's Electric Utility Director or designee is authorized a contingency amount of no more than \$85,000 (Eighty-Five Thousand Dollars) to complete the scope identified in the CONTRACTOR's proposal. Use of the contingency amount must be pre-approved in writing by Electric Utility Director or designee before any additional costs are added to the CONTRACTOR's proposal and before the CITY is responsible or liable for payment of any sums from the contingency amount to the CONTRACTOR.

3. **Entire Agreement.** The CITY and the CONTRACTOR agree that the Agreement (as previously amended) and this Third Amendment set forth the entire agreement between the parties, and that there are no promises or understandings other than those stated herein. None of the provisions, terms and conditions contained in this Third Amendment may be added to, modified, superseded or otherwise altered, except by written instrument executed by the parties hereto. All other terms and conditions of the Agreement (except as previously amended and amended herein) remain in full force and effect.

4. **Counterparts.** This Third Amendment may be simultaneously executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument. Either or both parties may sign this Third Amendment via facsimile, email, or electronically and such signature is as valid as the original signature of such party.

**Remainder of this page intentionally left blank – signature page follows**

IN WITNESS WHEREOF, the parties hereto have made and executed this THIRD Amendment to the Good and Service Agreement for Substation Prefabricated Control House on the day and year first above written.

**CITY OF LAKE WORTH BEACH, FLORIDA**

By: \_\_\_\_\_  
Betty Resch, Mayor

ATTEST:

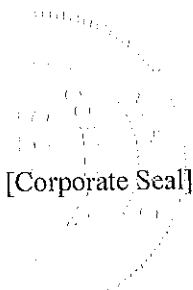
By: \_\_\_\_\_  
Melissa Ann Coyne, City Clerk

APPROVED AS TO FORM AND  
LEGAL SUFFICIENCY:

APPROVED FOR FINANCIAL  
SUFFICIENCY

By: \_\_\_\_\_  
Glen J. Torcivia, City Attorney

By: \_\_\_\_\_  
Bruce T. Miller, Financial Services Director



[Corporate Seal]

KVA, INC.

By: Gregham Barker

Print Name: Gregham Barker

Title: DIRECTOR - BUSINESS DEVELOPMENT

STATE OF South Carolina  
COUNTY OF Sumter

THE FOREGOING instrument was acknowledged before me by means of ☒ physical presence or ☐ online notarization on this 18 day of October 2022, by Gregham Barker, as the Director - Business Development [title] of KVA, Inc, a Corporation authorized to do business in the State of Florida, who is personally known to me or who has produced Driver's License as identification, and who did take an oath that he or she is duly authorized to execute the foregoing instrument and bind the CONTRACTOR to the same.

[Signature]  
Notary Public Signature

Notary Seal:

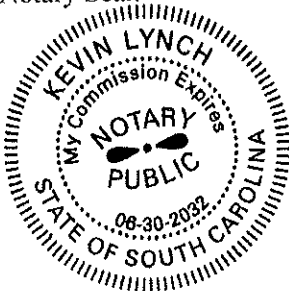


Exhibit "A"  
(Contractor's Proposal 23 pages)

Exhibit “A”  
(Contractor’s Proposal 23 pages)



**Revision 2**  
**PROPOSAL**  
**City of Lake Worth Beach**  
**Electric Utilities**  
**Canal Distribution Substation**

**Prepared for City of Lake Worth Beach Electric Utilities**

**October 4, 2022**

**KVA Quote # 11901R2**



KVA Inc.  
864.801.4430  
info@kva-emc.com  
[www.kva-emc.com](http://www.kva-emc.com)



**Scope of Work:** To provide (1) Control House and (7) Relay Control Panels and equipment fabricated, assembled, wired, tested, and delivered in accordance with the City of Lake Worth Beach Electric Utilities.

**1) Canal Distribution Substation**

**A) Pricing for (1) Control Enclosure, (7) Relay panels and equipment.**

RACK 1	\$ 28,072.00
RACK 2	\$ 35,304.00
RACK 3	\$ 35,304.00
RACK 4	\$ 46,454.00
RACK 5	\$ 31,241.00
RACK 6	\$ 23,478.00
RACK 7	\$ 51,809.00

**TOTAL PRICE FOR Control House relay panels and equipment.....\$ 863,747.00**

**B)** Delivery will be 43-45 weeks after the receipt of a Purchase order and approved final engineering drawings and information. Due to current supply chain lead times, the above-mentioned delivery may be delayed. The ATS has a 40-week Leadtime.

\*\*\*\*\*Due to market-wide material supply chain challenges, KVA, Inc. submits this proposal valid for 30 days. If purchase order(s) are received after 30-days from dated proposal, KVA, Inc. reserves the right to issue updated quote(s) prior to acceptance of purchase order(s), which are consistent with market pricing and delivery timeframes at time of receipt. \*\*\*\*\*

**Clarifications: On-Site Services**

- VFP/KVA will attach the control building to the customer furnished foundation.
- VFP/KVA will reinstall all provided items that were removed for shipment.
- KVA will make interconnections and final wiring terminations.
- Crane Offloading is included and is based on free and clear access to the jobsite

**Bill of Material for Panel A1:**

Component	STYLE #	Manufacturer	Qty
Relay panel Grey & White		KVA	1
Schweitzer; Type 487B-1 Relay, 1 125/250Vdc Power Supply, 1 Primary DC Monitor, 100 Card Slot has 8 Outputs including 3 Form-C Outputs, Add 200 B Slot with 8 Outputs including 6 High Speed Outputs, Add 300 B Slot with 8 Outputs including 6 High Speed	0487B1X6X52XC1XE8PPXXX	SEL	1



Outputs, Enhanced Front Panel with 24 Target LEDs, 12 Operator Control Pushbuttons, and Tri-Color LEDs, 3 AC Voltage Inputs, 21 AC Current Inputs, 2 10/100 BASE-T Ethernet Ports and 3 EIA-232 Serial Port , seven rack units high. (487B-1)			
SecuControl ST Switch, 10 Pole, 2 Potential, 8 Current Shorting (TD1, TD2, TD3, TD4, TD5, TD6)	STSA10023AA	SecuControl	6
SecuControl ST Switch, 10 Pole, All Potential. (TD7, TD8, TD9)	STSA10002AX	SecuControl	3
SecuControl 19" Panel slot covers, ANSI Grey, 3U, 3-10 Pole cuts	FTX3UA101010G	SecuControl	3
Cover plates for FTX3UA101010G	FTBC10AG	SecuControl	6
Spare Disconnect Pins 10% (1 full set of extra points comes with each switch)		SecuControl	0
125VDC, SEL-9510 Control Switch Module, Green-Open, Red-close, with guards, configurable labels	951031B2	SEL	2
19" Rack Mounting Panel - 2U, Two SEL-9510 Cutout	915900113	SEL	1
Eaton FAZ Series, DIN rail type, 10 ampere, 125VDC minimum rating	FAZC10/1SP	EATON	2
Eaton FAZ Series, DIN rail type, 5 ampere, 125VDC	FAZC5/1SP	EATON	1
States; Terminal Block 24-point Type NT sliding Link point. (A, B, C, E, F, G)	M-25024	States	6
States; Terminal Block NT Type, 6 point. (D, H)	M-25006	States	2
Din mounting rail Type NS 35/7.5 Steel perforated	801733	PHOENIX	2
Phoenix; Type UBE/D, Terminal Strip Marker Carrier with cover (Z)	1004076	PHOENIX	2
Phoenix; E/NS 35 N End Clamp	800886	PHOENIX	4
Phoenix; D-UDK 4 End Cover	2775113	PHOENIX	4





Phoenix; UDK4 Terminal Block (1-180)	2775016	PHOENIX	180
Phoenix: ZB6 White Number Strip Label, mount on both sides of block, printed vertically with sequential numbers (1-300)	1051029	PHOENIX	4
Phoenix: ZB6 Orange Number Strip Label, mount on both sides of block, printed horizontally, decade labeling (10,20,30....) 1051210 is obsolete - Phoenix suggests a custom label # 0824992	824992	PHOENIX	4
Phoenix: End Cap 35 x 7.5, NS 35/7.5 Cap, installed on both ends of din rail	1206560	PHOENIX	4
Abbatron/H.H. Smith; binding post, Black hex head, 10-32, gold plated.	257-103	H.H. Smith	2
Abbatron/H.H. Smith; binding post, green hex head, 10-32, gold plated.	257-104	H.H. Smith	1
Ground Bar	Ground Bar	KVA	1

**Bill of Material for Panel A2:**

Component	STYLE #	Manufacturer	Qty
Relay panel Grey & White		KVA	1
Schweitzer: Type 487E, Current Differential Relay with breaker failure, 5 three-phase restraint current inputs, 3 independent neutral inputs, 2 three-phase voltage inputs, 125Vdc, 5-amp current inputs, conventional terminal blocks, 15 standard form "a" outputs, 5 standard form "c" outputs, 8 fast hybrid form "a" outputs, 3 hybrid high-current interrupting outputs, 13 independent inputs and 2 common contact inputs, seven rack units high, (487E)	0487E3X411XXC1X4H684XXX	SEL	1



Schweitzer; Type 451, Overcurrent Relay, 125Vdc, Five Amp current inputs, Screw Terminal Blocks, P-B: 4 high-speed high-current outputs, 24 opto-isolated inputs, P-C: 13 high-speed high-current outputs, 8 opto-isolated inputs, 2 common contact inputs, Two 10/100BASE-T, 5RU, rack mount. (451)	04515615XC1X4H7B474XX	SEL	1
SecuControl ST Switch, 10 Pole, All potential. (TD8, TD9)	STSA10002AX	SecuControl	2
SecuControl ST Switch, 10 Pole, 2 Potential 8 Current Shorting Links, (TD1, TD2, TD3, TD4, TD5, TD6)	STSA10023AA	SecuControl	6
SecuControl ST Switch, 10 Pole, 4 potential, 6 Current shorting (TD7)	STS10004BM	SecuControl	1
SecuControl 19" Panel slot covers, ANSI Grey, 3U, 3-10 Pole cuts	FTX3UA101010AG	SecuControl	3
Cover plates for FTX3UA101010G	FTBC10AG	SecuControl	6
Spare Disconnect Pins 10% (1 full set of extra points comes with each switch)		SecuControl	0
19" Rack Mounting Panel - 2U, One SEL-9510 Cutout	915900114	SEL	1
125VDC, SEL-9510 Control Switch Module, Green-Open, Red-close, with guards, configurable labels	951031B2	SEL	1
Eaton FAZ Series, DIN rail type, 10 ampere, 125VDC minimum rating	FAZC10/1SP	EATON	2
Eaton FAZ Series, DIN rail type, 5 ampere, 125VDC	FAZC5/1SP	EATON	2
States; Terminal Block 24-point Type NT sliding Link point. (A, B, C, E, F, G)	M-25024	States	6
States; Terminal Block NT Type, 6 point. (D, H)	M-25006	States	2
Din mounting rail Type NS 35/7.5 Steel perforated	801733	PHOENIX	2
Phoenix; Type UBE/D, Terminal Strip Marker Carrier with cover (Z)	1004076	PHOENIX	2



Phoenix; E/NS 35 N End Clamp	800886	PHOENIX	4
Phoenix; D-UDK 4 End Cover	2775113	PHOENIX	4
Phoenix; UDK4 Terminal Block (1-180)	2775016	PHOENIX	180
Phoenix: ZB6 White Number Strip Label, mount on both sides of block, printed vertically with sequential numbers (1-300)	1051029	PHOENIX	4
Phoenix: ZB6 Orange Number Strip Label, mount on both sides of block, printed horizontally, decade labeling (10,20,30....) 1051210 is obsolete - Phoenix suggests a custom label # 0824992	824992	PHOENIX	4
Phoenix: End Cap 35 x 7.5, NS 35/7.5 Cap, installed on both ends of din rail	1206560	PHOENIX	4
Abbatron/H.H. Smith; binding post, Blue hex head	257-105	H.H. Smith	2
Abbatron/H.H. Smith; binding post, Black hex head, 10-32, gold plated.	257-103	H.H. Smith	2
Abbatron/H.H. Smith; binding post, green hex head, 10-32, gold plated.	257-104	H.H. Smith	1
Ground Bar	Ground Bar	KVA	1

**Bill of Material for Panel A3:**

Component	STYLE #	Manufacturer	Qty
Relay panel Grey & White		KVA	1
Schweitzer: Type 487E, Current Differential Relay with breaker failure, 5 three-phase restraint current inputs, 3 independent neutral inputs, 2 three-phase voltage inputs, 125Vdc, 5-amp current inputs, conventional terminal blocks, 15 standard form "a" outputs, 5 standard form "c" outputs, 8 fast hybrid form "a" outputs, 3 hybrid high-current interrupting outputs, 13	0487E3X411XXC1X4H684XXX	SEL	1



independent inputs and 2 common contact inputs, seven rack units high, (487E)			
Schweitzer; Type 451, Overcurrent Relay, 125Vdc, Five Amp current inputs, Screw Terminal Blocks, P-B: 4 high-speed high-current outputs, 24 opto-isolated inputs, P-C: 13 high-speed high-current outputs, 8 opto-isolated inputs, 2 common contact inputs, Two 10/100BASE-T, 5RU, rack mount. (451)	04515615XC1X4H7B474XX	SEL	1
SecuControl ST Switch, 10 Pole, All potential. (TD8, TD9)	STSA10002AX	SecuControl	2
SecuControl ST Switch, 10 Pole, 2 Potential 8 Current Shorting Links, (TD1, TD2, TD3, TD4, TD5, TD6)	STSA10023AA	SecuControl	6
SecuControl ST Switch, 10 Pole, 4 potential, 6 Current shorting (TD7)	STS10004BM	SecuControl	1
SecuControl 19" Panel slot covers, ANSI Grey, 3U, 3-10 Pole cuts	FTX3UA101010AG	SecuControl	3
Cover plates for FTX3UA101010G	FTBC10AG	SecuControl	6
Spare Disconnect Pins 10% (1 full set of extra points comes with each switch)		SecuControl	0
19" Rack Mounting Panel - 2U, One SEL-9510 Cutout	915900114	SEL	1
125VDC, SEL-9510 Control Switch Module, Green-Open, Red-close, with guards, configurable labels	951031B2	SEL	1
Eaton FAZ Series, DIN rail type, 10 ampere, 125VDC minimum rating	FAZC10/1SP	EATON	2
Eaton FAZ Series, DIN rail type, 5 ampere, 125VDC	FAZC5/1SP	EATON	2
States; Terminal Block 24-point Type NT sliding Link point. (A, B, C, E, F, G)	M-25024	States	6
States; Terminal Block NT Type, 6 point. (D, H)	M-25006	States	2



Din mounting rail Type NS 35/7.5 Steel perforated	801733	PHOENIX	2
Phoenix; Type UBE/D, Terminal Strip Marker Carrier with cover (Z)	1004076	PHOENIX	2
Phoenix; E/NS 35 N End Clamp	800886	PHOENIX	4
Phoenix; D-UDK 4 End Cover	2775113	PHOENIX	4
Phoenix; UDK4 Terminal Block (1-180)	2775016	PHOENIX	180
Phoenix: ZB6 White Number Strip Label, mount on both sides of block, printed vertically with sequential numbers (1-300)	1051029	PHOENIX	4
Phoenix: ZB6 Orange Number Strip Label, mount on both sides of block, printed horizontally, decade labeling (10,20,30....) 1051210 is obsolete - Phoenix suggests a custom label # 0824992	824992	PHOENIX	4
Phoenix: End Cap 35 x 7.5, NS 35/7.5 Cap, installed on both ends of din rail	1206560	PHOENIX	4
Abbatron/H.H. Smith; binding post, Blue hex head	257-105	H.H. Smith	2
Abbatron/H.H. Smith; binding post, Black hex head, 10-32, gold plated.	257-103	H.H. Smith	2
Abbatron/H.H. Smith; binding post, green hex head, 10-32, gold plated.	257-104	H.H. Smith	1
Ground Bar	Ground Bar	KVA	1

**Bill of Material for Panel A4:**

Component	STYLE #	Manufacturer	Qty
Relay panel Grey & White		KVA	1
Schweitzer; Type 487B-1 Relay, 1 125/250Vdc Power Supply, 1 Primary DC Monitor, 100 Card Slot has 8 Outputs including 3 Form-C Outputs, Add 200 B Slot with 8 Outputs including 6 High Speed Outputs, Add 300 B Slot with 8 Outputs including 6 High Speed Outputs, 55 Inputs, Enhanced Front Panel with 24 Target LEDs, 12 Operator	0487B1X6X52XC1XE8PPXXX	SEL	2



Control Pushbuttons, and Tri-Color LEDs, 3 AC Voltage Inputs, 21 AC Current Inputs, 2 10/100 BASE-T Ethernet Ports and 3 EIA-232 Serial Port , seven rack units high. (487B-1)			
Schweitzer: Type 551 Relay, 1 125/250Vdc Power Supply, 1 EIA 232 Serial Port, 3 5A Phase Current Analog Inputs, 1 Neutral Analog Input, 4 Outputs, 1 Form C mechanical contact, 2 Digital Inputs, SEL Protocol, Modbus Protocol, two rack units high (551)	0551006X5P1X	SEL	2
SecuControl ST Switch, 10 pole, 4 potential, 6 Current shorting (TD10, TD12)	STS100004BM	SecuControl	2
SecuControl ST Switch, 10 Pole, 2 potential, 8 Current shorting (TD1, TD2, TD3, TD4, TD5, TD6, TD7, TD13, TD14, TD15, TD16, TD17, TD18, TD19)	STSA10023AA	SecuControl	14
SecuControl ST Switch, 10 Pole, All potential. (TD8, TD9, TD11, TD20, TD21)	STSA10002AX	SecuControl	5
Spare Disconnect Pins 10% (1 full set of extra points comes with each switch)		SecuControl	0
SecuControl 19" Panel slot covers, ANSI Grey, 3U, 3-10 Pole cuts	FTX3UA101010AG	SecuControl	7
Cover plates for FTX3UA101010G	FTBC10AG	SecuControl	14
Eaton FAZ Series, DIN rail type, 10 ampere, 125VDC minimum rating	FAZC10/1SP	EATON	2
Eaton FAZ Series, DIN rail type, 5 ampere, 125VDC	FAZC5/1SP	EATON	4
States; Terminal Block 24-point Type NT sliding Link point. (A, B, C, E, F, G)	M-25024	States	6
States; Terminal Block NT Type, 6 point. (D, H)	M-25006	States	2
Din mounting rail Type NS 35/7.5 Steel perforated	801733	PHOENIX	2
Phoenix; Type UBE/D, Terminal Strip Marker Carrier with cover (Z)	1004076	PHOENIX	2



Phoenix; E/NS 35 N End Clamp	800886	PHOENIX	4
Phoenix; D-UDK 4 End Cover	2775113	PHOENIX	4
Phoenix; UDK4 Terminal Block (1-180)	2775016	PHOENIX	180
Phoenix: ZB6 White Number Strip Label mount on both sides of block, printed horizontally with sequential numbers. (1-180)	1051016	PHOENIX	4
Phoenix: ZB6 Orange Number Strip Label, mount on both sides of block, printed horizontally, decade labeling (10,20,30....) 1051210 is obsolete - Phoenix suggests a custom label # 0824992	824992	PHOENIX	4
Abbatron/H.H. Smith; binding post, Black hex head, 10-32, gold plated.	257-103	H.H. Smith	2
Abbatron/H.H. Smith; binding post, green hex head, 10-32, gold plated.	257-104	H.H. Smith	1
Ground Bar	Ground Bar	KVA	1

**Bill of Material for Panel A5:**

Component	STYLE #	Manufacturer	Qty
Relay panel Grey & White		KVA	1
Schweitzer: Type 487V, Capacitor Protection and Control Relay, 6 AC Voltage, 6 AC Current inputs, 125Vdc, five-amp current inputs, 8 opt isolated Independent Level-Sensitive Inputs, 13 High-Current Interrupting Form A, 2 Standard Form C Outputs, five rack units high (487)	0487V0X6151XC0X4H5B474X	SEL	2
SecuControl ST Switch, 10 Pole, All Potential. (TD2, TD3, TD5, TD6, TD8, TD9, TD11, TD12)	STSA10002AX	SecuControl	8
SecuControl ST Switch, 10 Pole, 2 Potential, 8 Current Shorting (TD1, TD4, TD7, TD10)	STSA10023AA	SecuControl	4



Spare Disconnect Pins 10% (1 full set of extra points comes with each switch)		SecuControl	0
Eaton FAZ Series, DIN rail type, 10 ampere, 125VDC minimum rating	FAZC10/1SP	EATON	2
Eaton FAZ Series, DIN rail type, 5 ampere, 125VDC	FAZC5/1SP	EATON	2
States; Terminal Block 24-point Type NT sliding Link point. (A, B, C, E, F, G)	M-25024	States	6
States; Terminal Block NT Type, 6 point. (D, H)	M-25006	States	2
Din mounting rail Type NS 35/7.5 Steel perforated	801733	PHOENIX	2
Phoenix; Type UBE/D, Terminal Strip Marker Carrier with cover (Z)	1004076	PHOENIX	2
Phoenix; E/NS 35 N End Clamp	800886	PHOENIX	4
Phoenix; D-UDK 4 End Cover	2775113	PHOENIX	4
Phoenix; UDK4 Terminal Block (1-180)	2775016	PHOENIX	180
Phoenix: ZB6 White Number Strip Label mount on both sides of block, printed horizontally with sequential numbers. (1-180)	1051016	PHOENIX	4
Phoenix: ZB6 Orange Number Strip Label, mount on both sides of block, printed horizontally, decade labeling (10,20,30....) 1051210 is obsolete - Phoenix suggests a custom label # 0824992	824992	PHOENIX	4
Din mounting rail Type NS 35/7.5 Steel perforated	801733	PHOENIX	2
Phoenix; Type UBE/D, Terminal Strip Marker Carrier with cover (Z)	1004076	PHOENIX	2
Abbatron/H.H. Smith; binding post, Black hex head, 10-32, gold plated.	257-103	H.H. Smith	2
Abbatron/H.H. Smith; binding post, green hex head, 10-32, gold plated.	257-104	H.H. Smith	1
Ground Bar	Ground Bar	KVA	1





**Bill of Material for Panel A6:**

Component	STYLE #	Manufacturer	Qty
Relay panel Grey & White		KVA	1
Schweitzer; Type 351S Relay, 1 125/250Vdc Power Supply, 1 EIA-485 Serial Port, 2 EIA-232 Serial Ports, 2 RJ45 Ethernet Ports, conventional terminal blocks, Standard Interface including USB plus Indoor Safe Lock Trip/Close Pushbuttons and Configurable Labels, IEC 61850	0351S7XHD4E5422	SEL	2
SecuControl ST Switch, 10 Pole, All Potential. (TD1, TD3, TD4, TD6)	STSA10002AX	SecuControl	4
SecuControl ST Switch, 10 Pole, 4 Potential, 6 Current Shorting (TD2, TD5)	STSA10004BM	SecuControl	2
SecuControl 19" Panel slot covers, ANSI Grey, 3U, 3-10 Pole cuts	FTX3UA101010AG	SecuControl	2
Cover plates for FTX3UA101010G	FTBC10AG	SecuControl	6
Spare Disconnect Pins 10% (1 full set of extra points comes with each switch)		SecuControl	0
Eaton FAZ Series, DIN rail type, 10 ampere, 125VDC minimum rating	FAZC10/1SP	EATON	2
Eaton FAZ Series, DIN rail type, 5 ampere, 125VDC	FAZC5/1SP	EATON	2
States; Terminal Block 24-point Type NT sliding Link point. (A, B, C, E, F, G)	M-25024	States	6
States; Terminal Block NT Type, 6 point. (D, H)	M-25006	States	2
Din mounting rail Type NS 35/7.5 Steel perforated	801733	PHOENIX	2
Phoenix; Type UBE/D, Terminal Strip Marker Carrier with cover (Z)	1004076	PHOENIX	2
Phoenix; E/NS 35 N End Clamp	800886	PHOENIX	4
Phoenix; D-UDK 4 End Cover	2775113	PHOENIX	4
Phoenix; UDK4 Terminal Block (1-180)	2775016	PHOENIX	180



Phoenix: ZB6 White Number Strip Label mount on both sides of block, printed horizontally with sequential numbers. (1-180)	1051016	PHOENIX	4
Phoenix: ZB6 Orange Number Strip Label, mount on both sides of block, printed horizontally, decade labeling (10,20,30....) 1051210 is obsolete - Phoenix suggests a custom label # 0824992	824992	PHOENIX	4
Din mounting rail Type NS 35/7.5 Steel perforated	801733	PHOENIX	2
Ground Bar	Ground Bar	KVA	1
Abbatron/H.H. Smith; binding post, green hex head, 10-32, gold plated.	257-104	H.H. Smith	1
Abbatron/H.H. Smith; binding post, Black hex head, 10-32, gold plated.	257-103	H.H. Smith	2

**Bill of Material for Panel A7:**

Component	STYLE #	Manufacturer	Qty
Relay panel Grey & White		KVA	1
Schweitzer: Type 2488, Satellite-Synchronized Network, 2 125/250Vdc Power Supplies, IRIG-B and Network Time Protocol (NTP), 4 10/100BASE-T Ethernet Ports, 8 BNC Time Outputs, TNC Antenna Input, 1 Form-C mechanical conventional alarm contact, 1 Form A solid-state timer, one rack unit high (2488)	24880RAX1181AX23X	SEL	1
Smart DVS Digital Video Server, single 105-300VDC power supply, (2) 10/100/1000T ethernet ports, 1TB flash memory, (8) 100FX 1300nm multimode fiber ports, (4) RS232 via DB9 module, Fail safe relay	DVS2500-HIS-XXX-2C10-HD002-8LC1- <b>8F01-SXXX-SXXX-4S01-SXXX</b> -HR00	Smart DVS	1
Schweitzer; Type 3530, SCADA Data Concentrator/RTU, 48/125Vdc Power Supply, 1 EIA-485 Serial Port, 33 EIA-232 Serial Ports, 2 10/100 Base-T RJ-45 Ethernet Ports, 24DI/8DO 3U high	3530#78HB	SEL	1



Schweitzer: Type 2440, 125Vdc/Vac Wetting Power Supply, 1 EIA-485 Serial Port, 16DI/32 (16 Standard/16 High-Current) DO, 2 10/100 Base-T Ethernet Ports, 3U high	24402H11A6111630	SEL	1
Transition Networks, Ethernet Rack Mounted Switch, (24) 100/1000Mbps RJ-45 ports, (4) 100/1000 Mbps SFP slots, (4) 1G/10G Mbps SFP+ slots, (1) Console RJ-45 port	SISPM1040-3248-L	CDW	1
Optimum, Fiber Patch Panel, 2RU, 4 adapter plates, LC Duplex 12 SM, no pigtails, 2 splice trays, 1 strain relief clamp	PRO-2B-1-B53-N2-1	RLH	2
Eaton FAZ Series, DIN rail type, 10 ampere, 125VDC minimum rating	FAZC10/1SP	EATON	5
Eaton FAZ Series, DIN rail type, 5 ampere, 125VDC	FAZC5/1SP	EATON	0
States; Terminal Block 24-point Type NT sliding Link point. (A, B, C, E, F, G)	M-25024	States	6
States; Terminal Block NT Type, 6 point. (D, H)	M-25006	States	2
Din mounting rail Type NS 35/7.5 Steel perforated	801733	PHOENIX	2
Phoenix; Type UBE/D, Terminal Strip Marker Carrier with cover (Z)	1004076	PHOENIX	2
Phoenix; E/NS 35 N End Clamp	800886	PHOENIX	4
Phoenix; D-UDK 4 End Cover	2775113	PHOENIX	4
Phoenix; UDK4 Terminal Block (1-180)	2775016	PHOENIX	180
Phoenix: ZB6 White Number Strip Label mount on both sides of block, printed horizontally with sequential numbers. (1-180)	1051016	PHOENIX	36
Phoenix: ZB6 Orange Number Strip Label, mount on both sides of block, printed horizontally, decade labeling (10,20,30....) 1051210 is obsolete - Phoenix suggests a custom label # 0824992	824992	PHOENIX	4



Din mounting rail Type NS 35/7.5 Steel perforated	801733	PHOENIX	1
Phoenix; Type UBE/D, Terminal Strip Marker Carrier with cover (Z)	1004076	PHOENIX	1
Phoenix; E/NS 35 N End Clamp	800886	PHOENIX	2
Phoenix; D-UDK 4 End Cover	2775113	PHOENIX	2
Phoenix; UDK4 Terminal Block (1-180)	2775016	PHOENIX	90
Phoenix: ZB6 White Number Strip Label mount on both sides of block, printed horizontally with sequential numbers. (1-180)	1051016	PHOENIX	18
Phoenix: ZB6 Orange Number Strip Label, mount on both sides of block, printed horizontally, decade labeling (10,20,30....) 1051210 is obsolete - Phoenix suggests a custom label # 0824992	824992	PHOENIX	4
J-Hook, stainless steel with hex nuts and #10-32 threads	HU11028	Carson's	1
Abbatron/H.H. Smith; binding post, Black hex head, 10-32, gold plated.	257-103	H.H. Smith	2
Abbatron/H.H. Smith; binding post, green hex head, 10-32, gold plated.	257-104	H.H. Smith	1
Ground Bar	Ground Bar	KVA	1

**Bill of Material for Concrete Control House:**

VFP has proposed our standard concrete relay vault to fulfill your request. Our proposal is based solely on the following supplied information.

VFP has proposed our standard concrete relay vault to fulfill your request. Our proposal is based solely on the following supplied information.

1. Specification –Substation Prefabricated Relay Vault Canal Distribution Substation– Sheets 1 of 19
2. Appendix B – Canal Distribution Substation Relay Vault Drawing – Page 58
3. Appendix C – Page 59

VFP is listing the following exceptions and clarifications:

1. Relay Vault Canal Distribution Substation Specification - Scope 1.2: Clarification – The width of the proposed concrete relay vault will be 15'6" at the base and 16' when you include the 3" roof overhang.



2. Relay Vault Canal Distribution Substation Specification - Scope 1.3: Clarification – The relay vault lead time will be per lead time section stated above.
3. Relay Vault Canal Distribution Substation Specification - Scope. 1.4.1. d, e & f – Clarification - VFP assumes wiring diagrams is pertaining to VFP provided and installed equipment only. All other wiring diagrams is to be by others.
4. Relay Vault Canal Distribution Substation Specification - Scope. 1.4.1.g – Clarification - VFP's proposal includes the supply of a generic slab foundation and tie-down information based upon an assumed set of soil conditions.
5. Relay Vault Canal Distribution Substation Specification - Scope 1.6: Clarification – VFP assumes this paragraph is referring to Appendix A. VFP has included the items as specified within this proposal only.
6. Relay Vault Canal Distribution Substation Specification - Scope. 1.7.6 Clarification - VFP's understanding of CIP is meaning door card readers. VFP will provide wall provisions only for future CIP card readers to be provided and installed by others.
7. Relay Vault Canal Distribution Substation Specification - Scope 3.2.1 g – Clarification - The relay vault walls will be bullet resistant. The doors, hoods, HVAC units etc.... will not be bullet resistant.
8. Relay Vault Canal Distribution Substation Specification - Scope 3.2.4.a – Clarification - The floor will be 8" thick in lieu of 6". This is due to the overall width of the relay vault.
9. Relay Vault Canal Distribution Substation Specification - Scope 3.2.4.c – Clarification – The doors will be bolt-on in lieu of cast-in.
10. Relay Vault Canal Distribution Substation Specification - Scope 3.2.5.f – Clarification - VFP has included our standard exterior sealed exposed aggregate with painted trim.
11. Relay Vault Canal Distribution Substation Specification - Scope 3.2.6.iii – Exception -VFP takes exception to the missile impact rating and will need further information in order to determine compliance.
12. Relay Vault Canal Distribution Substation Specification - Scope 3.2.6.vii – Exception -The proposed double door will be 72" wide x 84" high.
13. Relay Vault Canal Distribution Substation Specification - Scope. 3.2.8. a. i – Clarification - The DC panels will have a 10kAIC rating.
14. Relay Vault Canal Distribution Substation Specification - Scope. 3.2.8. a. ii – Clarification – The interior copper bar will be 2" x ¼".
15. Relay Vault Canal Distribution Substation Specification - Scope. 3.2.8. a.xii – Clarification - The breakers that are proposed do NOT have a visual indication of trip status.
16. Relay Vault Canal Distribution Substation Specification. Scope - 3.2.8. xv: Clarification - VFP will need additional information in order to provide pricing on service disconnects din mount breakers instead of fuses. VFP at this time has included one (1) AC safety disconnect switch as described per the power distribution section below with LPN-RK-SPI (blown indicator fuses) two (2) DC safety switches and one (1) MTS as described per the power distribution section below. If requested, will gladly make changes any changes made will result in a price adjustment.
17. Relay Vault Canal Distribution Substation Specification - Scope 3.2.11 – Clarification - VFP has estimated the sizes for the HVAC units. If provided equipment heat loads, VFP will be more than happy to properly size the HVAC units. This may result in a price adjustment.



18. Relay Vault Canal Distribution Substation Specification Scope 3.2.12 – Clarification - VFP will wire the below specified alarms to an alarm junction box, where they will be tagged and coiled, connection to the RTU is to be by others and not included.
19. Relay Vault Canal Distribution Substation Specification Scope 3.2.13 – Clarification -VFP is offering a fire system as described in the Alarm Device Contacts section below. If requested, VFP will gladly make changes any changes made will result in a price adjustment.
20. Relay Vault Canal Distribution Substation Specification Scope 7.0 – Exception - VFP is offering our standard factory testing. All other testing is assumed to be the responsibility of others and not included.
21. VFP has not included any site work other than set up. Foundations assumed to be by others.
22. VFP has not included stairs, guardrails or platforms in this proposal.
23. VFP takes exception to all local codes, the relay vault will be built to the IBC and state codes only unless the local codes are provided with the bid request. VFP will require full detail of the particular local codes before determining compliance.
24. VFP will not be responsible for any permitting other than the factory building permitting and the over-the-road transportation permitting. All other permits will be the responsibility of the customer.

The proposed relay vault is described below:

#### **Construction - Concrete**

- Size nominal 15'6" wide (16'0" wide with roof overhang) exterior x nominal 33' long exterior x nominal 10' high interior, one room concrete control house

Standard construction in accordance with VFP product specifications. The structural loads of the proposed concrete relay vault are as follows:

- 125 pounds per square foot distributed floor loading while lifting
- 200 pounds per square foot distributed floor loading while on foundation
- 100 pounds per square foot distributed roof load
- 200 mph wind load (Meets 194 ultimate wind speed per ASCE 7-10)
- Seismic zone 4
- Exposed aggregate exterior
- The proposed relay vault walls are capable of stopping 30.06 rifle fire per UL752 requirements. Unless otherwise specified, the relay vault doors are not bullet resistant.
- The proposed relay vault walls will provide a two-hour fire rating
- The floor will consist of 8" thick concrete base
- The interior walls and ceiling will be sheathed with ¾" Plywood backed "Class A" white FRP board
- The walls will be insulated to R-11 with hardboard insulation



- The ceiling will be insulated to R-19 with hardboard insulation
- The floor will be insulated using R-8 foam blockouts
- Floor painted with non-slip gray epoxy paint
- One (1) 42" wide x 84" high insulated "Florida Approved", 90-minute fire rated, steel exterior door, with "emergency exit" panic bar, exterior key lock lever set and fiberglass weather hood
- One (1) 72" wide x 84" high insulated "Florida Approved", 90-minute fire rated, steel exterior double door, "emergency exit" panic bar, exterior key lock lever set and fiberglass weather awning
- Three (3) hydraulic door closers

#### **Power Distribution**

- One (1) 200 Amp, 42,000 AIC, 120/240 VAC, single phase, 60 Hz, 42 space main breaker, bolt-in utility power distribution panel, in NEMA 1 surface mount enclosure (GE-ReliaGear - RQ) (ACLC 1)
- AC power panel will each be equipped with the following assortment of branch breakers:
  - **Sixteen (16)** 20 Amp, single pole breakers
  - Twenty-two (22) 30 Amp, single pole breakers
  - Two (2) 60 Amp, double pole breakers

- Two (2) 225 Amp main lug, **10,000 AIC**, 125/250 VDC, 2-wire, 60 space main breaker, bolt-in utility power distribution panels, in NEMA 1 surface mount enclosures (GE-ReliaGear - RE) (DCLC 1 & 2)

DC power panels will each be equipped with the following assortment of branch breakers:

- Twenty-four (24) 30 Amp, double pole breakers
  - Two (2) 40 Amp, double pole breakers
  - Two (2) 60 Amp, double pole breakers
- One (1) 200 Amp, 240 VAC, fused, 2-pole, safety disconnect switch in NEMA 1 enclosure with LPN-RK-200SPI fuses
- Two (2) 200 Amp, 250 VDC, fused, 2-pole, safety disconnect switches in NEMA 1 enclosures
- One (1) 200 Amp, 250 VDC, non-fused, 2-pole, manual transfer switch in NEMA 1 enclosure
- One (1) 400 Amp, 120/240VAC, single phase, 2-pole, 60Hz automatic transfer switch in NEMA 3R enclosure model: ATC-900 p# ATC9C2X20400WRU
- One (1) 200 Amp Generator Receptacle Appleton ADJA20034-200RS or equal
- One (1) 200 Amp meter base



- One (1) 200 Amp 240 VAC, non-fused, 2-pole, manual transfer switch in NEMA 1 enclosure – Generator transfer switch
- Fourteen (14) 20 Amp specification grade duplex receptacles
- Two (2) 20 Amp specification grade exterior duplex ground fault receptacles

#### **Lighting**

- Ten (10) four-foot, **LED** surface mounted light fixtures with motion sensor control
- Two (2) emergency/exit lights
- Four (4) **LED**, 125 VDC, A21 globe style emergency surface mounted interior light fixtures with timed motion sensor control that only shuts off upon no motion but does not activate on motion and a manual switch control
- Three (3) **LED** exterior door light fixtures with vandal-resistant lens, photocell control & manual switch override

#### **HVAC**

- Two (2) 3.0 Ton, 240 VAC, single phase, 11 EER wall mount air conditioning units, with low ambient and compressor anti cycle controls, **phenolic coated coils**, integral 5 kW resistance heat strips and washable dust filters (**Removed for shipment per DOT regulations and placed in the relay vault during transit, to be installed on-site by VFP's onsite service personnel**)
- One (1) lead/lag controller allowing approximately equal operating time on each air conditioning unit
- One (1) Humidstat
- Two (2) 650 cfm (at 0" of H2O static pressure) battery area exhaust fan systems, including "Florida Approved" intake and exhaust louvers, timer and hydrogen detector controls, fiberglass hoods, permanent filters and exhaust insect screen

#### **Additional Equipment**

- Two (2) battery racks - Two Tier Rack EQ-2UL-PT\_1-03000-1
- Two (2) spill containment systems - Spill Containment -SC125-25P20
- Two (2) battery chargers - Alpha ACSWM-125-035-1
- Two (2) Batteries - SBS STT6V200





### **Alarm Device Contacts**

The following alarm device contacts will be wired and brought to a location specified by the customer. The alarm wires will be coiled and tagged for identification per VFP standards. Unless otherwise stated in this proposal, termination at the customer's equipment is assumed to be provided by others.

There are no provisions for audible, visual or remote alarm monitoring offered, except where it is integral to the device offered or stated otherwise in this proposal

- Two (2) line voltage smoke detectors with auxiliary contacts
- One (1) Alarm control system model; Cyber cat 50 (no dact) with up to three (3) interior photo sensors, two (2) pull stations, two (2) outside strobes and one (1) inside horn strobe. Cyber cat 50 wired to a j-box location for connection/final termination by others
- Three (3) intrusion door alarm switches with form "C" contacts
- One (1) high temperature alarm
- One (1) low temperature alarm
- One (1) power failure alarm
- Two (2) hydrogen detectors for alarm and fan control

### **Grounding**

- One ground system consisting of a 4/0 AWG stranded bare copper conductor, run through the cable tray with grounding drops to the equipment and a single drop at the internal ground bar
- One (1) internal 2" x ¼" copper ground bar near floor level
- Two (2) external copper ground pads on opposite corners

### **On-Site Services**

KVA/VFP to perform on-site support services per the terms and conditions. This will consist of the following:

- VFP will attach the control house to the customer furnished foundation
- VFP will reinstall all VFP provided items that were removed for shipment
- Battery testing and commissioning is not included and is assumed to be by others unless otherwise stated)



### **Accessories**

- One (1) VFP standard exterior aluminum cable entry hood (shipped loose and placed in the relay vault during transit, to be installed on-site by VFP's onsite service personnel)
- Up to ten feet (10') of 36" wide x 6" deep aluminum cable tray
- Up to twenty-five feet (25') of 24" wide x 6" deep aluminum cable tray
- Up to twenty-five feet (25') of 4" x 4" wire basket
- Two (2) portable 10-pound CO<sub>2</sub> fire extinguishers
- One (1) antenna mount bracket
- One (1) drawing table
- One (1) Porta Stream II, gravity fed, 15 min flow, wall mounted eyewash station with saline concentrate model: Uline H-1142
- One (1) wall mounted drawing rack with six (6) clamps
- One (1) 42" high x 36" wide x 18" deep metal storage cabinet, two doors, lockable
- One (1) service manual
- One (1) year bumper to bumper limited warranty and a ten (10) year structural warranty
- If requested, VFP will provide four (4) sets of relay vault drawings with each relay vault unit order. Typical foundation drawings based upon normal soil conditions are available to support calculations for recommended relay vault tie down locations. No other foundation drawings are offered in the proposed relay vault price. Additional foundation drawings can be provided and will be negotiated separately.
- All wiring will be installed in surface mounted conduit or wireways if specified and will be in full compliance with ANSI/NFPA-70 - The National Electrical Code, latest revision.
- Control houses are to be built according to the latest IBC edition and state requirements of which the relay vault is residing, local and county codes are not applicable unless otherwise stated.

### **Clarifications:**

- KVA quote is based on the above Bill of Material; any changes to the above bill of material could result in a price change or change order upon the award of purchase order.
- Panel A1, A2, A3, A4, A5, A6 & A7 – Marathon Terminal blocks have been changed to States per the customer request.
- Terminal block quantities are estimated in all panels.



- The cost for a Goldhofer is not included in this quote.

KVA Relay Panel testing to include:

- Point-to-point continuity test in accordance with wiring diagrams.
- Current Injection
- Power Up of the SELs
- KVA Shop Quality Audit Checklist
- Visual Appearance Check
- Dimensional checks to fabrication drawings
- Part Number Accuracy
- Quantity Verification
- Panel Layout Verification
- Nameplate and Labeling Accuracy
- Wire Marker Verification to Drawings
- Termination Torque, Crimp and Tensile Integrity

**Relay Panel Engineering Drawings:** Only Relay panel Mechanical drawings are included in this proposal.

**Payment:**

- a. Payment terms are 100% net 30 days from invoice date.
- b. Payment Schedule for Projects over \$100,000 shall be as follows:

Project Phase:	Contracts over \$100,000
1. Receipt of Purchase Order	25%
2. Receipt of "For Construction" Drawings	25%
3. Delivery	50%

**A) Taxes:** Prices shown do not include sales or other taxes imposed on the sale of the goods.

**B) Freight:** F.O.B. freight costs to City of Lake Worth, FL are included in the prices shown.

**C) Cancellation:** With the placement of an Order, Buyer acknowledges that Seller would incur financial damages in the case of a cancellation of an Order and that Seller has the right to charge the Buyer for such damages as specified by the time schedule below.

- a. Schedule of Fees for Cancellation of Order:

Milestone	Cancellation Charge (% of P.O. value)
After Purchase Order is placed	10%
Receipt of "For Construction" Drawings and procurement start	30%
2 weeks after release for procurement	60%
4 weeks after release for procurement	100%



- b. Higher cancellation fees may be imposed on special or modified equipment up to the entire value of the Order.
- c. Payment of the cancellation fee is to be made within fifteen (15) days of cancellation.

**D) Validity:** This proposal is valid for acceptance within 30 days.

**E) Warranty:** KVA shall repair or replace any defective item within 18 months of Acceptance Date or 18 months after shipment (whichever is sooner) and will extend the full manufacturers' warranty on all purchased components.

**Limits of Liability:** In no event, whether because of a breach of contract, indemnity, warranty, or tort (including negligence), strict liability, or otherwise, shall the Seller be liable to the Buyer for: (i) Loss of profit or revenue, loss of use, cost of capital, downtime costs, cost of substitute products, facilities, services, or replacement power.

(ii) Property damage external to the product and loss arising out of such damage.

(iii) Special, indirect, punitive, or consequential damage; or for

(iv) Any of the foregoing suffered by a customer of the Buyer.

KVA MAKES NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE AND KVA SHALL HAVE NO LIABILITY ARISING OUT OF THE ORDER IN EXCESS OF THE AMOUNT OF THE ORDER.

MADE IN THE UNITED STATES

KVA Inc. is a WBE Certified Corporation.

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