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May 26th, 2022

Attn: Phillip A. Zavadil, City Manager  
City of Saint Paul  
PO Box 901 (950 Gorbach Street)  
Saint Paul Island, Alaska 99660  
907-341-3994 (Office) 1-866-570-9745 (Fax) 907-546-4179 (Cell)

**Subject: Powerhouse 15kV G&W SF6 Switch Low Gas**

During David Buss's site visit in April, he noticed G&W SF6 switch that feeds the town was critically low on SF6 Gas. The low gas condition is a life safety concern as well as operationally a concern as if the switch were to operate, it could explode since there is no longer the appropriate volume of gas. G&W no longer supplies parts for this vintage of switch. Two styles of switches to electrically replace the current one were priced by G&W. One includes the same SF6 technology and the Solid Dielectric eliminates any gas. The physical dimensions and the viability of both switches hasn't been evaluated at this time. Realistically either replacement wouldn't make it to Saint Paul in less than a year from time of purchase. Due to this, We have provided a cost to attempt to repair the switch (depending on location of leak and required materials to make the repair) and refill post repair. Given this switch impacts the entire city's electrical system, we've included making of temporary jumpers that would be installed in the Town, Airport and Harbor junction boxes that would allow the switch to be isolated while still feeding customers. City wide outages would be required to make the connections and disconnect them once the repairs are complete, each less than an hour long.

Scope of Work

EPC will perform the following:

1. Addition of temporary medium voltage jumpers to allow switch to be isolated and keep the city energized, with minimal outages.
2. Attempt to determine source of leak (if this is the reason for the low gas condition).
3. Repair of leak assuming a field gasket or RTV can be utilized to make a repair.
4. Follow G&W procedure of applying vacuum to switch assuming any potential leak isn't greater than the vacuum pump can overcome, breaking vacuum with SF6 gas and adding approximately 2psi.
5. Complete leak check to confirm no leaks can be detected.
6. Application of SF6 gas to appropriate fill pressure.
7. Removal of temporary medium voltage jumpers.

Whenever practical, City personnel will be encouraged to observe and assist EPC for the purpose of equipment familiarization and training.

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## Assumptions & Exclusions

EPC assumes the City will provide the following:

1. Assistance complying with any lockout/tagout (LOTO) requirements IAW City procedures
2. A standard 120VAC 20A outlet with extension cord in switch building
3. Lodging
4. Transportation of personnel and equipment to and from the job site or a vehicle for EPC use

The following is excluded from the proposed scope of work:

1. Switching of energized circuits/physical isolation
2. Any work not specified in this proposal

## Schedule

The cost estimate includes up to two (2) days on site. Pricing is predicated for work thru 12/31/22.

## Cost Estimate

EPC proposes to perform this scope of work on a time-and-materials (T&M) basis. We estimate the cost to not-to-exceed (NTE) **\$65,000.00**. This cost includes all travel to and from Saint Paul and two days working days (up to 12 hours per day) on-site(assuming all travel and work occurs M-F). Actual costs will be billed up to the NTE amount. Additional days on-island due to operational restrictions, weather, or flight cancellations will be billed at a day-rate of **\$2,500.00/person**.

## Deliverables

- Filled SF6 switch

Please contact me directly if you have any questions at [klang-gillming@epsinc.com](mailto:klang-gillming@epsinc.com) or (907) 646-5166.

Kellin Lang-Gillming  
Electrical Engineer



**Electric Power Constructors, Inc.**

**Fee Schedule**

Valid April 1, 2022 through March 31, 2023

<b><u>Classification</u></b>	<b><u>Straight Time</u></b>	<b><u>Overtime</u></b>	<b><u>Double-Time</u></b>
Project Manager VI	\$227.00	\$227.00	N/A
Project Manager V	\$211.00	\$211.00	N/A
Project Manager IV	\$193.00	\$193.00	N/A
Project Manager III	\$185.00	\$185.00	N/A
Project Manager II	\$177.00	\$177.00	N/A
Project Manager I	\$171.00	\$171.00	N/A
Lineman V: General Foreman	\$219.69	\$292.86	\$366.03
Lineman IV: Foreman	\$213.32	\$283.45	\$353.58
Lineman III: Journeyman	\$200.57	\$264.61	\$328.66
Lineman II: Apprentice	\$177.07	\$231.50	\$285.94
Lineman I: 65% Apprentice	\$145.77	\$187.41	\$229.04
Comm General Foreman	\$184.73	\$250.67	\$316.62
Comm Foreman	\$178.33	\$241.23	\$304.14
Comm Journeyman	\$166.17	\$223.29	\$280.42
Comm Apprentice II	\$145.40	\$193.96	\$242.52
Comm Apprentice I	\$117.72	\$154.86	\$191.99
Wireman V: General Foreman	\$119.79	\$159.62	\$199.45
Wireman IV: Foreman	\$118.48	\$157.68	\$196.87
Wireman III: Journeyman	\$111.96	\$147.98	\$183.99
Wireman I-II: Apprentice	\$91.67	\$120.48	\$149.28
Sub Tech VI Call Out	\$254.78	\$353.42	\$452.06
Sub Tech V Call Out	\$236.57	\$326.24	\$415.91
Sub Tech IV Call Out	\$190.25	\$257.09	\$323.94
Sub Tech I- III Call Out	\$180.59	\$242.69	\$304.78
Sub Tech VI	\$224.20	\$311.01	\$397.81
Sub Tech V	\$208.18	\$287.09	\$366.00
Sub Tech IV	\$167.42	\$226.24	\$285.07
Sub Tech I- III	\$158.92	\$213.56	\$268.21
Material Handler	\$95.00	\$125.00	N/A
Clerical	\$65.00	\$65.00	N/A
Office Manager	\$82.00	\$82.00	N/A

1. The above listed rates are per hour.
2. The fee schedule is subject to review on April 1, 2023, and on April 1 of each year thereafter.
3. Expenses incurred, as necessary part of engineering services under this contract will be billed at cost plus 10%. Incidental expenses, such as computer usage, local phone service, and copying are included in the above rates. If Per Diem is utilized (vs. expenses and markup), it will be at the Federal Rates.
4. Services and materials purchased by Electric Power Constructors, Inc. at the request of the owner will be billed at cost plus 26.5%.
5. Services and materials provided by other Engineered Solutions Group, Inc. companies will not be subject to intra-company markup, and are subject to the above fee schedule.
6. Call Out rates are applicable when emergency service is required and less than 72 hours notice is given to Electric Power Constructors, Inc.
7. Interest at the rate of 1.5% per month (less, if restricted by law) may be charged for invoices greater than 60 days past due.

Electric Power Constructors, Inc.

A division of Engineered Solutions Group, Inc.

3305 Arctic Blvd., Suite 201, Anchorage, AK 99503

Phone (907) 522-1953, Fax (907) 522-1182, www.esgrp.net

Customer:	Electric Power Constructors, INC
Date:	5/17/2022
Validity:	30 Days
Quotation Number:	SQ-71933:B
Customer Reference:	Electric Power Constructors, INC

**Item 1: 15kV, 110 kV BIL SF6 Insulated Vault Style Switch, Catalog No. VPVI62-376-12-62F-A**

**Quantity: 1**

**Ways 1 and 2:**

- Three Phase Linear Puffer load break switch
- 630 Amps continuous and loadbreak.
- 40kA asym. momentary, and close-into-fault rating.
- 600A Deadbreak Apparatus Bushings per IEEE 386 interface 11

**Ways 3, 4, 5 and 6:**

- Three Single Phase 630 Amp Type VI fault interrupters per way gang linked to provide three phase operation.
- 12.5kA sym. maximum interrupting rating
- 1000:1 internally mounted current transformers
- 200A Bushing Wells per IEEE 386 interface 3

**Standard Features:**

- Front Access to switch operators & operators
- Welded ¼" mild steel tank and frame
- Parking stands for all bushings
- 18" minimum bushing height
- ½"-13 NC grounding provisions
- Padlockable operating mechanism – padlocks are not included
- 3" diameter circular viewing windows to verify OPEN/ CLOSED position
- Green/ OPEN – Red/ CLOSED labeling

**Additional Features:**

- Ways 1 and 2 are equipped with quantity two auxiliary Form C contacts wired to the control cabinet for use by the control with 25 feet of hardwired cable.
- Ways 3, 4, 5 and 6 are equipped with quantity one auxiliary Form C contact per phase wired to the control cabinet for use by the control with 25 feet of hardwired cable.
- Density switch wired to control cabinet for use by the control with 25 feet of hardwired cable.
- Motor operators installed on ways 3, 4, 5 and 6.
- NEMA 4 control cabinet, including:

- Four (4) SEL-751 MOT, 751002B1B0X0XA11C20, relays to provide:
  - Three phase overcurrent protection for ways 3, 4, 5 and 6
  - Local/remote motor operator control for ways 3, 4, 5 and 6
- Power supply (**Customer to supply 120 VAC input to power supply**)
- Battery backup
- 120 VAC convenience outlet
- Document holder
- Padlocking handle

**Applicable Industry Standards:**

Load Break Switch Ratings: IEEE C37.74

Fault Interrupter Ratings: IEEE C37.60

Bushings: IEEE 386

**Price Each: \$97,397**

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**Item 2: 15kV, 110 kV BIL Solid Dielectric Insulated Vault Style Catalog No. VLS62-376-12-62FA-A****Quantity: 1****Ways 1 and 2:**

- Three Phase epoxy encapsulated load break switch
- 630 Amps continuous and loadbreak.
- 20 kA asym. momentary, and close-into-fault rating.
- 600A Deadbreak Apparatus Bushings per IEEE 386 interface

**Ways 3, 4, 5 and 6:**

- Three Phase epoxy encapsulated fault interrupter switch
- 630 Amps continuous and loadbreak.
- 12.5kA sym. maximum interrupting rating
- 1000:1 internally mounted current transformers
- 200A Bushing Wells per IEEE 386 interface 3

**Standard Features:**

- Front Access to switch operators and bushings
- Welded stainless steel mechanism cover painted light gray (ANSI 70)
- Mild steel frame
- Parking stands for all bushings
- 18" minimum bushing height
- ½"-13 NC grounding provisions
- Padlockable operating mechanism – padlocks are not included
- 3" diameter circular viewing windows to verify OPEN/ CLOSED indicator position.
- Green/ OPEN – Red/ CLOSED labeling

**Additional Features:**

- Ways 1 and 2 are equipped with quantity two auxiliary Form C contacts wired to the control cabinet for use by the control with 25 feet of hardwired cable.
- Ways 3, 4, 5 and 6 are equipped with quantity one auxiliary Form C contact per phase wired to the control cabinet for use by the control with 25 feet of hardwired cable.
- Motor operators installed on ways 3, 4, 5 and 6.
- NEMA 4 control cabinet, including:
  - Four (4) SEL-751 MOT, 751002B1B0X0XA11C20, relays to provide:
    - Three phase overcurrent protection for ways 3, 4, 5 and 6
    - Local/remote motor operator control for ways 3, 4, 5 and 6
  - Power supply (**Customer to supply 120 VAC input to power supply**)
  - Battery backup
  - 120 VAC convenience outlet
  - Document holder
  - Padlocking handle

**Applicable Industry Standards:**

Load Break Switch Ratings: IEEE C37.74  
Fault Interrupter Ratings: IEEE C37.60  
Bushings: IEEE 386

**Price Each: \$107,173**

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**Price Adder 1: 304 Stainless Steel High and Low Voltage Enclosure for Item 1**

**Price: \$58,660**

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**Price Adder 2: 304 Stainless Steel High and Low Voltage Enclosure for Item 2**

**Price: \$48,050**

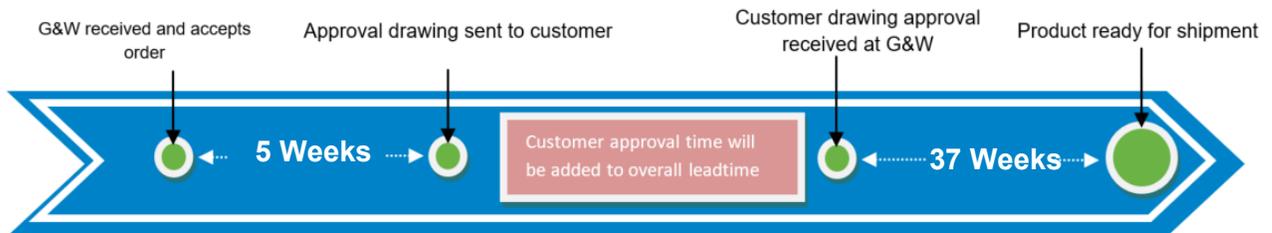
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**Exceptions/Clarifications:**

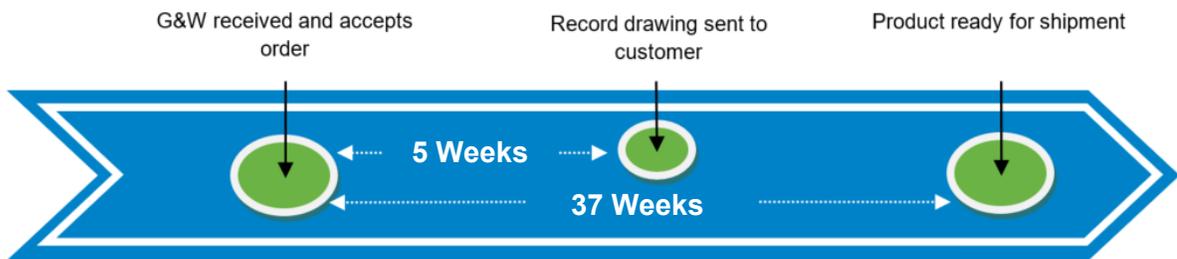
- Elbows and Rubber Goods to be provided by others

## Commercial Terms and Conditions

### **Approval Order: Order requiring customer approval of top level drawing prior to release to production**



### **Record Order: Order released straight to production (customer waived approval)**



#### **Submittal drawings (if required):**

If required, submittal drawings will be issued for approval 5 weeks after receipt of order.

Wiring diagrams will be issued for approval 5 weeks after receipt of order.

#### **Lead time for shipment:**

37 weeks for after receipt of order and release to production. Submittal and shipment lead time is subject to change at the time of order receipt due to dynamic component lead time and factory loading conditions.

**Shipping Terms:** FOB-Destination; Wasilla, AK

**Freight:** Prepaid and Add on a standard closed top trailer.

**Manufacturing Location:** G&W reserves the right to manufacture the product(s) on this quotation in either the Bolingbrook, IL (USA) or Brampton, ON (Canada) facility based on best available capacity.

**Payment:** Net 30 days; Payment terms are subject to G&W Finance Department approval.

**Purchase Order Submission:** Purchase order should be addressed to:

G&W Electric Co.  
305 W. Crossroads Parkway  
Bolingbrook, IL 60440-4938

**Terms & Conditions:**

Warranty and all other terms and conditions are as per SM-F-1 Rev 6 below.

**TERMS OF PAYMENT**

Domestic accounts - Net 30.

International accounts - Standard terms are an irrevocable letter of credit, confirmed by a Prime U.S. bank, for the full amount of the contract, valid for at least 60 days beyond the latest quoted shipping date. Other terms may be granted upon receipt of satisfactory credit references and approval by our Finance Department. Letter of credit must be received prior to release of the order to manufacturing.

Late payment charge of 1½ % per month on all past due invoices and unpaid balances. Shipments and deliveries hereunder shall at all times be subject to the judgment of Seller that the financial condition of Buyer at all times justifies continuance of shipments and deliveries hereunder. If Buyer shall fail to make any payments in accordance with the terms and provisions hereof, Seller, in addition to its rights and remedies, but not in limitation thereof, may at its option, defer shipments or deliveries hereunder, or under any other contract with the Buyer, except upon receipt of satisfactory security or of cash before shipment.

**PRICE POLICY**

It is G&W's policy to publish for sole use of our domestic representatives *Confidential* price lists of our Standard Products. Quoted prices are firm for 30 days (60 days international). Orders placed after 30 days (60 days international) are subject to price in effect at time of acceptance. Prices on acknowledged orders are firm for the agreed upon delivery time. Customer requests to extend originally agreed to delivery date will be subject to price escalation.

**TAXES**

Any taxes which the Seller may be required to pay or collect, under any existing or future law, upon or with respect to the sale, purchase, delivery, storage, processing, use or consumption of any of the material covered hereby, including taxes upon or measured by the receipts from the sale thereof, shall be for the account of the Buyer, who shall promptly pay the amount thereof to the Seller upon demand.

**FREIGHT TERMS**

Terms as stated in the attached quotation.

**MINIMUM ORDER CHARGE**

Domestic destination - \$250 Net  
International destination - \$500 Net

**EXPORT PACKING**

Export order for all material or devices (except compound alone) - add 5% to net price of order. Export orders for compound alone -- add 50¢ per gallon.

**TITLE AND INSURANCE**

Seller assumes no responsibility for insuring shipments unless specifically requested by Buyer and then only at Buyer's expense and valuation. Regardless of freight payments, all risk of loss shall pass to Buyer upon delivery by Seller to carrier at F.O.B. point.

**WARRANTY**

EXCEPT AS OTHERWISE EXPRESSLY STATED HEREIN, SELLER MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER MATTER WITH RESPECT TO THE GOODS SOLD HEREUNDER. Seller warrants all goods sold hereunder to be free from defects in material and workmanship under normal use and service for a period of eighteen (18) months from the date of shipment by Seller, or twelve (12) months from date of commissioning by End-User, whichever comes first. Seller's obligation under this warranty is limited to repair or replacing, at its option, any goods, which upon inspection by Seller shall disclose to Seller's satisfaction to have been defective in material or workmanship. Buyer must return the goods to Seller's factory, shipping charges prepaid, with complete information as to alleged defects and the installation, operation and service of the goods.

**LIMITS OF LIABILITY**

Seller shall not be liable for, and Buyer shall indemnify the Seller from liability arising from injury or damage to property or persons caused in any manner by the operation, possession or use of the goods sold hereunder. The liability of Seller arising out of the supplying of any goods, or their use, whether on warranties or claim of negligence or otherwise, shall not in any case exceed the cost of correcting defects in the goods as herein provided. Seller shall not in any event be liable for any labor expended by Buyer on any defective goods or for any special direct, indirect or consequential damages arising out of or in connection with the use or performance of the goods. Seller assumes no responsibility with respect to the capacity of Seller's goods to function as components in other products. Buyer assumes full responsibility for specifications and design of any product in which Seller's goods may become components and shall indemnify Seller against any liability attributed to any inadequacy in such specifications or design. Seller shall not be liable for misoperation or misapplication of goods sold or supplied due to unusual or abnormal electrical system disturbances.

**Important Notice:**

User shall determine the suitability of the products for intended use, and assume all risk and liability in connection therewith. SM-F-1, Rev. 6 Non-EtQ document

**DELAY**

Shipping dates are approximate and are based upon prompt receipt of all necessary information. The Seller shall not be liable for delays in delivery or failure to manufacture or deliver due to acts of God, war, riot, embargoes, acts of civil or military authorities, priorities, allocations, fires, floods, epidemics, accidents, quarantine restrictions, mill conditions, strikes, differences with workmen, delays in transportation, shortage of cars, fuel, labor, manufacturing facilities, components or materials, acts of the Buyer, or any other cause beyond the reasonable control of the Seller. In the event of any such delay, the date of delivery shall be extended for a period equal to the time lost by reason of the delay.

**PATENTS**

Seller will defend at its own expense any action brought against Buyer, to the extent that it is based on a claim that the goods furnished by Seller infringe a U.S. patent, and Seller will pay those costs and damages finally awarded against Buyer in any such action which are attributable to any such claim, but such defense and payments are conditioned on the following: (a) that Seller shall be notified promptly in writing by Buyer of any notice of such claim; and (b) that Seller shall have sole control of the defense of any action on such claim and all negotiations for its settlement or compromise; and (c) should the goods become or in Seller's opinion be likely to become the subject of a claim of infringement of a U.S. patent, that Buyer shall permit Seller at its option and expense either to procure for Buyer the right to continue using the goods or to replace or modify the same so that it becomes non infringing. The foregoing states the entire liability of Seller with respect to infringement of patents by the goods or any part thereof. Buyer shall hold Seller harmless against any expense, judgment or loss on account of any actual or alleged infringement of any patents, copyrights or trademarks which result from Seller's compliance with Buyer's designs, specifications or instructions.

**PATTERNS AND TOOLS**

Any patterns and tools heretofore or hereafter acquired specially to produce goods for Buyer shall become the property of the Seller. If Buyer does not order goods produced with such property for a period of two years, Seller may dispose of such property.

**ORDER CANCELLATION**

Non-Engineered Products

A. Standard catalogued items not yet through complete order entry, no charge.

B. Standard catalogued items through order entry but not yet in production - \$250.00 domestic; \$500 international.

Engineered Products

A. Orders through order entry but not yet in engineering process - \$250.00 domestic; \$500 international.

B. Orders in engineering process - 25% of order value plus any vendor charges levied against G&W for advanced ordered materials.

C. Approval drawings furnished and materials advanced ordered - 35% of order value plus cost of materials ordered.

D. Order released for production - up to 100% of order value.

**STORAGE**

Equipment on which manufacture or delivery is delayed, due to any cause within the Buyer's control, may be placed in storage by Seller, for Buyer's account and risk, and regular charges therefore and expenses in connection therewith shall be paid by Buyer, but if, in Seller's opinion, it is unable to obtain, or continue with such storage, Buyer will, on request, provide or arrange for suitable storage facilities and assume all costs and risks in connection therewith.

**RETURN OF MATERIAL**

No material shall be returned without first having secured approval and terms for return, along with necessary returned goods forms, from G&W Electric Co. Final acceptance of authorized returns will be made when the material is received at the factory.

**COMPLIANCE WITH LAWS**

Seller certifies that the goods sold hereunder were produced in compliance with all applicable requirements of sections 6, 7 and 12 of the Fair Labor Standards Act of 1938 amended and of regulations and orders of the United States Department of Labor issued under section 14 thereof.

**GENERAL**

A valid agreement binding upon Seller will only come into being as of the time a formal written acknowledgement of a purchase order is sent to Buyer by Seller. Such agreement is not assignable by Buyer without written approval of Seller. Such agreement will be governed by the laws of the State of Illinois. Waiver by Seller of a breach of any of the Terms and Conditions of this or any other agreement with Buyer shall not be construed as a waiver of any other breach.

**ENTIRE AGREEMENT**

These Terms and Conditions constitute the entire agreement between Seller and Buyer, and such agreement may not be modified or amended except by a writing executed after the date hereof by an authorized officer of Seller. Seller shall not be bound by any terms of Buyer's purchase order forms or other documents which attempt to impose conditions at variance with Seller's Terms and Conditions of Sale set forth herein unless the same shall be specifically agreed to in writing by an authorized officer of Seller. Seller's failure to object to the provisions contained in any of Buyer's forms shall not be deemed a waiver of the provisions of these Terms and Conditions which shall constitute the entire agreement between the parties.

**INSTALLATION, SERVICING OR ERECTION**

Installation, erection or servicing of the equipment or supervision thereof by Seller, if specified or requested by Buyer, is available. Contact Factory for terms and conditions.