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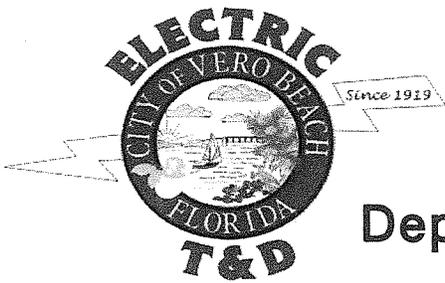


City Council Agenda Item
Meeting of May 3, 2016

TO: The Honorable Mayor and Members of the City Council
FROM: James R. O'Connor, City Manager
DATE: April 26, 2016

SUBJECT: Emergency Replacement of 13kv Bus at Power Plant
REQUESTED BY: City Manager/Electric System Operations Director

Per Sec. 2-350(2) of the Municipal Code, an emergency purchase which exceeds the current formal bid threshold, must be reported to the City Council at its next meeting.



Departmental Correspondence

E-Mail: TFletcher@covb.org

TO: James R. O'Connor
DEPT: City Manager

FROM: Ted Fletcher, Director, Electric System Operations TF
DEPT: Electrical T&D

DATE: April 21, 2016

SUBJECT: Emergency Replacement of 13kv Bus at Power Plant

On Monday, March 27th 2016 there were a catastrophic failure of the bus tie feeder breaker 130107 and arc flash event within the switchgear of the Power Plant Substation. The bus was cleared and the main breaker was reenergized to get station service back on.

Scope of Work:

The existing Power Plant substation metal clad switchgear is no longer safe to be reenergized and necessary repairs are needed to provide contingency capabilities. Repairs will involve installation of a bus tap box and underground conductors to add four (4) circuits. Power Services will provide engineering, design, testing and materials at a cost of \$164,300.00 (see attachments).

Funding

- Funding will come from Substation Misc. Capital Projects 403.5400.531.616039 which will be funded by a subsequent amendment.



1616 E. Millbrook Road, Suite 210
Raleigh, NC 27609
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www.powerservices.com

April 6, 2016

Mr. Ted Fletcher
City of Vero Beach
3455 Airport West Drive
Vero Beach, FL 32960

Subject: City of Vero Beach
Power Plant Substation Recloser Solution
Estimated Material and Engineering Costs

Dear Ted:

We appreciate the opportunity to work with the City's team to develop and implement a plan to install reclosers in the substation that can pick up the load formerly served by the switchgear in the Power Plant Substation that has recently failed.

Based on information gathered from our site visit, pictures taken, drawings provided, and telephone conversations, we have developed a layout that would utilize the existing transformer and provide up to four (4) circuits out of the substation. Actually, this solution could be expanded in the future to provide more circuits, but we stopped at four for now because we understand that is all that is needed for the foreseeable future.

This design involves installation of a custom made bus tap box that would utilize underground bushings like you would see in 600 ampere padmounted switchgear. We propose installing two (2) runs of 1000 MCM AL 15 kV URD cable from the bus duct to the first of five (5) new concrete poles. It is assumed the UG cable and concrete poles will be supplied out of City stock. We would install three (3) CTs on that first pole to replace the CTs formerly used from the main breaker of the switchgear inside that connected to the differential relaying protecting the transformer.

We would then run aluminum tubular bus across all five (5) poles. The reclosers would be fed from this bus, which in turn would feed into the manhole in the substation and connect to four (4) existing circuits. A layout drawing, one line diagram, and cost estimate to complete this project are attached to this letter.

Thank you for the opportunity to serve Vero Beach. Please let us know if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "H. Michael Taylor".

H. Michael Taylor, PE
Director, Substation and Relay Engineering

Attachments

cc: Mr. R. L. Willoughby

PowerServices, Inc.

Construction Cost Estimate

Owner: City of Vero Beach	Date:	4/20/2016
Facility: Substation No. 1 - Power Plant	Est. By:	DKT/HMT
Addition of Reclosers	Project No.:	
Description: Cost Estimate for Funding Consideration		

Line Item	Item or Construction Unit	Quantity	Unit of Measure	Labor Cost	Material Cost	Extended Material	Extended Labor	Extended L&M
1.	Bus Duct Tap Unit	1	Lot	\$0.00	\$7,500.00	\$7,500.00	\$0.00	\$7,500.00
2.	Feeder Recloser (12 kV, XXXX A)	4	Each	\$0.00	\$10,000.00	\$40,000.00	\$0.00	\$40,000.00
3.	Bus, Connectors, and Supports	1	Lot	\$0.00	\$15,000.00	\$15,000.00	\$0.00	\$15,000.00
4.	Control Cable & Wiring	1	Lot	\$0.00	\$2,500.00	\$2,500.00	\$0.00	\$2,500.00
5.	CTs for differential scheme	3	Each	\$0.00	\$2,500.00	\$7,500.00	\$0.00	\$7,500.00
6.	Station Service Transformer	1	Each	\$0.00	\$1,000.00	\$1,000.00	\$0.00	\$1,000.00
7.	Grounding	1	Lot	\$0.00	\$5,000.00	\$5,000.00	\$0.00	\$5,000.00
8.								
9.								
10.								
11.								
12.								
13.								
Subtotal - Construction w/o contingencies						\$78,500.00	\$0.00	\$78,500.00
Contingencies						\$38,800.00	\$0.00	\$38,800.00
Construction Subtotal						\$117,300.00	\$0.00	\$117,300.00
Engineering						\$47,000.00		\$47,000.00
Project Total								\$164,300.00

