

**PERALTA COMMUNITY COLLEGE DISTRICT
Board of Trustees Agenda Report
For the Trustee Meeting Date of February 26, 2013**

ITEM TITLE:

Consider Approval to Enter into a Contract with Applied Power Systems (APS) to perform an Electrical Infrastructure Upgrade at Merritt College for two (2) projects.

SPECIFIC BOARD ACTION REQUESTED:

Approval is requested to enter into a Contract with Applied Power Systems (APS) to perform Electrical Infrastructure Upgrade at Merritt College for the following two (2) projects, in the amount not-to-exceed \$85,456.

- 1) Required items within Substation 'C'
- 2) Required items in the main 13 kilovolt (kV) switchgear

ITEM SUMMARY:

Both Substation C's and the main 13 kV switchgear's material conditions were assessed and tested on March 8, 2013 by APS after a) a crackling noise was heard within the substation on March 1, 2013 indicative of failed insulation; and, b) PG&E advised the District then of a compromised situation on the equipment at their Point of Entry (POE) which would require shutting down the entire campus. The testing of both problems by APS indicated a) significant insulation degradation within each of these substation's equipment lines, particularly in their high voltage switches; and item b) the determination was that large amounts of rust and moisture were evident in this POE switchgear potentially leading to arcing.

All the work can only be done through electrical shutdowns accomplished over the Spring Break, last week of March, 2013. **APS scope of work for Substation C includes the following:**

- Install a liquid temperature gauge on transformer C
- Install the pressure gauges of (4) transformers located in Substation C
- Install Shrader valves on four (4) transformers located in Substation C
- Install a bonding jumper on transformers C and D
- Install eight (8) medium voltage cable connections between the 12 kV switches and the oil-filled transformers
- Install eight (8) shrink kits for medium voltage cable terminations
- Install arc shields with fiber reinforced panels within each 12 kV switch enclosure.
- Install eleven (11) heat strips within each of the four (4) 12kV switch enclosures and each of the (4) distribution switchboards
- Install line stats and heat strips within four (4) 12kV switch enclosures, and four (4) immediate downstream distribution switchboards
- Install eleven (11) Line stats (thermostats) for temperature regulation
- Pull needed 120 Volt power to feed each line stat and heat strip. Utilize the existing panel (C1) for the 120V source. Workmanship to include galvanized conduit, wire, fittings, connectors, and penetrations needed in order to accomplish the scope

- Install 12kV fuse - single fuse per phase on switch "A" & "B." Switches "C" & "D" require two fuses per phase, for a total of eighteen (18) 14.4 kV rated fuses, applied voltage at 12.47kV.
- Address and reconcile code violations noted in Panels "C" and "C1" that pose an immediate safety hazard and/or business interruption possibility; and items noted during March 15, 2013 site observations, and provided to the District on March 16, 2013
- Test circuit breakers of thirty (30) molded case circuit breakers within the distribution switchboards
- Provide complete transformer testing on four (4) oil transformers at Substation C. Testing to include insulation resistance, winding resistance, turns test ratio and polarity test, and contact resistance. APS will also measure the dielectric absorption rate and polarization index.
- Provide temporary generator for testing

APS scope of work for the Point of Entry 12 kV Switchgear includes the following:

- Test the main switchgear and protective elements
- Install two (2) heat strips, line thermostat, and 5kV potential transformer (12kV:120/240V) in order to derive power from the bus bar
- Update associated hardware, wire, and fuse block protection

Pursuant to the Public Contract Code (PCC) Section 20654, unanimous Board approval is necessary because the project cost exceeds the contract threshold of \$15,000. The Chancellor recommends approval.

SOURCE OF FUNDS (AND FISCAL/BUDGETARY IMPACT):

Measure A, as approved by the voters in Peralta's constituency and authorized under Resolution 05/06-45, Laney College, "Classroom and facilities repairs and grounds improvements," Merritt College, "Classroom and facilities repairs and grounds improvements," College of Alameda, "Remodeling and equipping classroom and campus facilities," and Berkeley City College, "Plumbing, electrical, mechanical system upgrades and improvements."

BACKGROUND/ANALYSIS:

This Upgrade is necessary to keep this 45 year substation operating until a new replacement substation can be planned, designed and funded. APS's recent projects for the District include:

- An initial audit of Merritt's Substation C & POE Substation
- Sub-contractor to Dan Electric for all High Voltage work of Merritt's Allied Health Building

APS has performed these responsibilities well and continues to be responsive to the District's needs. APS was a prime contractor to the District for the Audit of Merritt's Substations C and the POE project. This work was functionally completed on March 8, 2013 except the Final Report and invoice (not-to-exceed amount of \$9,999; actual work was estimated to be \$6,000).

DELIVERABLES AND SCOPE OF WORK:

APS shall install the above equipments and perform its testing. Deliverables will include equipment operating manuals, testing results, and reports.

ANTICIPATED COMPLETION DATE:

Before June 30, 2013, but expected to be completed over Spring Break on Friday March 29, 2013.

ALTERNATIVES/OPTIONS:

Not Applicable due to the shutdown requirements and age/condition of the equipment.

EVALUATION AND RECOMMENDED ACTION:

Not Applicable

OTHER DEPARTMENTS IMPACTED BY THIS ACTION (E.G. INFORMATION TECHNOLOGY):

YES _____ NO X

COMMENTS:

No comments

WHO WILL BE PRESENTING THIS ITEM AT THE BOARD MEETING?

Vice Chancellor Ikhara

(*****Board contract approval is subject to negotiation and execution by the Chancellor.)

DOCUMENT PREPARED BY:

Prepared by: Dr. Sadiq B. Ikharo Date: March 13, 2013
Vice Chancellor of General Services

DOCUMENT PRESENTED AND APPROVED BY:

Presented and approved by: Dr. Sadiq B. Ikharo Date: March 13, 2013
Vice Chancellor of General Services

FINANCE DEPARTMENT REVIEW

Finance review required Finance review *not* required

If Finance review is required, determination is: Approved Not Approved

If not approved, please give reason: _____

Signature: Ronald Gerhard Date: 3-22-13
Ron Gerhard, Vice Chancellor for Finance and Administration

GENERAL COUNSEL (Legality and Format/adherence to Education Codes):

Legal review required Legal review *not* required

If Legal review is required, determination is: Approved Not Approved

Signature: Thuy Thi Nguyen Date: 3-22-13
Thuy Thi Nguyen, General Counsel

CHANCELLOR'S OFFICE APPROVAL

Approved, and Place on Agenda Not Approved, but Place on Agenda

Signature: José M. Ortiz Date: 3-19-13
Dr. José M. Ortiz, Chancellor