



Memorandum

TO: HONORABLE MAYOR AND
CITY COUNCIL

FROM: John Stufflebean

SUBJECT: SEE BELOW

DATE: 1-24-07

Approved

Ray Winer

Date

1/26/07

SUBJECT: APPROVAL OF AN AGREEMENT WITH AEPC GROUP, LLC FOR CONSULTANT SERVICES FOR THE “SWITCHGEAR M5, INTERIM RING BUS, AND CABLES REPLACEMENT” PROJECT

RECOMMENDATION

Approval of an agreement with AEPC Group, LLC for consultant services for the development of design bid documents and construction management of the project entitled, “San Jose/Santa Clara Water Pollution Control Plant (Plant), Fiscal Year 2006-2007 Capital Improvement Program, Switchgear M5, Interim Ring Bus, and Cable Replacement,” for a term commencing upon approval of the agreement and extending through March 31, 2009 and an amount not to exceed \$411,488.

OUTCOME

Council approval and award of an agreement will allow this project to begin the required preliminary design work leading to the request for bids for the design-build of the Switchgear M5, Interim Ring Bus, and Cable Replacement project.

BACKGROUND

In October 2004, YEI Engineers completed a comprehensive study of the Plant’s medium-voltage electrical distribution system. Among the high priority recommendations of this study was the expansion of the number of main switchgear at the facility from four to five in order to achieve better reliability and flexibility of the electrical distribution system and provide equipment for the transition to a ring-bus electrical distribution system.

Switchgear at the Plant are the industrial electrical-distribution centers that allow the facility to distribute power throughout the treatment process from both internally generated and purchased electricity. The Plant’s current inventory of four main switchgear has no less than thirty years of service and has been minimally upgraded. Moreover, the current configuration of the four main switchgear is complex and not operator-friendly. The operations and maintenance of these

components is difficult in that the isolation and or restoration of these switchgear after a power failure require lengthy and cumbersome procedures to return power. The current configuration, often referred to as a radial configuration, provides power such that sub components can only receive power from a single main switchgear. The ring-bus configuration, in contrast, allows power to be provided to sub components from multiple sources due to its loop configuration, which greatly increases reliability and allows greater flexibility for maintenance.

An additional disadvantage of the current configuration is that the cabling to and from the switchgear are often routed through the same manholes and duct banks, creating a risk of common mode failure, i.e. fire, earthquake. Failure to restore power to the critical treatment systems in a timely manner could result in undesirable situations including the Plant's inability to treat wastewater prior to discharge to the Bay as well as the potential to flood portions of the facility with sewage. Damage to electrical equipment due to flooding could cause a long term loss of plant critical equipment due to restoration time for a functional electrical distribution system and equipment.

The addition of a fifth main switchgear (M5) provides the Plant with several benefits. Among these are greater energy efficiency with the limitation of distance between secondary switchgear, more reliability with a new main switchgear, and the ability to migrate to a ring-bus system of operations.

Converting the existing electrical distribution system into a ring-bus system will make the existing system more efficient, more reliable, and easier to operate. Due to budget constraints, an interim ring bus system will be implemented under this project until funds are sufficient to relocate switchgear M2 in order to establish a full ring-bus system.

This project will also implement YEI Engineers recommendations for replacement of all of the antiquated cables within the main switchgear system that are beyond their useful years of service. This provides the benefit of more reliable cables that are also independent of other switchgear cabling.

ANALYSIS

In August 2006, a Request for Proposals (RFP) process was initiated to retain a qualified engineering consultant to provide design-build bid documents and engineering support during construction for the Switchgear M5, Interim Ring Bus, and Medium Voltage Cables Replacement Project. The RFP was listed on the Public Works Bid Hotline, the Environmental Services RFPs/Bids website, and advertised in the San José Post Record. As a result of this outreach, five companies submitted responsive proposals.

Because the estimated cost to construct the Switchgear M5, Interim Ring Bus, and Medium Voltage Cables Replacement Project exceeds \$5 million, prior to issuing the RFP, staff made a preliminary assessment of the traditional design-bid-build approach versus a design-build approach. A design-build approach offers several benefits over a design-bid-build approach, i.e.

lower project cost, faster project completion, and better coordination between the design-build contractor and the owner. Further, since the detail design is done by the design-build contractor, it reduces the potential for change orders resulting from conflicts between consultant design and contractor design. The work product that will be developed under this Agreement can be used to pursue either a bid/design-build approach or an RFP/design-build approach for Project construction.

As a part of this process, staff assembled two rating panels and conducted the consultant interview and selection process based on the Approved Qualifications Based Consultant Selection (QBCS) Policy. One panel was assembled to screen RFP submissions and the second to conduct oral interviews with representatives from responding firms. Both panels consisted of representatives from the City's Environmental Services Department and from the Plant's Technical Advisory Committee.

After the evaluation of the proposals, three firms were selected for the interview. These firms were evaluated and ranked based on their qualifications and experience in similar design build projects, technical knowledge in medium voltage electrical distribution system, as well as their experience with installation of underground duct banks in existing facilities. Consideration was also given to overall project management and quality of project deliverables. The scores from the interviews were compiled using a scoring system based upon a maximum of 800 points. Total scores and rankings of each firm are summarized below:

	Scores	Rank
AEPC, San Ramon, CA	711	1
YEI Engineers, Oakland, CA	643	2
Alfa Tech Cambridge Group, San Jose, CA	501	3

Based on the presentation, and their responses to the interview questions, AEPC was ranked first. AEPC has carefully analyzed the project tasks to determine the necessary resources required to complete and deliver the project. Staff and representatives of AEPC have agreed upon a price of \$354,488 for the core services to be provided under this agreement; an additional sum of \$57,000 is requested to cover related and necessary services which may be identified during the course of the contract.

This fee represents the level of effort required to complete 30% design submittals and support services during construction. The estimated construction cost for the project is \$7.0 M and this preliminary-design and construction management fee is less than 6% of the construction costs. Staff believes this fee, as a percentage of construction cost, is reasonable and comparable to industry guidelines as established by the American Society of Civil Engineers (ASCE) and other recently completed construction projects at the Plant. The project delivery cost for this project, which includes staff time, is on target to meet the CIP performance measure for project delivery costs of less than 15% for projects greater than \$500,000.

POLICY ALTERNATIVES

Alternative # 1: Reject all proposals and drop the project.

Pros: Ability to fund alternative capital projects.

Cons: Continued use of existing degraded electrical distribution system poses a risk to reliable operation of the plant.

Reason for not recommending: If this project is not implemented, the Plant's electrical distribution system is susceptible to failure which could lead to the Plant's inability to distribute power and treat wastewater, thereby causing severe damage to electrical distribution system and equipment from flooding and potentially discharging untreated wastewater into the bay.

Alternative # 2: Prepare the design-build bid documents and provide construction management utilizing staff resources.

Pros: Staff development opportunity through preparation of the bid documents.

Cons: Shortage of staff resources and required expertise in designing medium and high voltage electrical distribution systems may delay the project or result in additional costs and contractor conflicts during construction.

Reason for not recommending: The expertise needed to prepare the bid documents does not exist within the City at this time.

PUBLIC OUTREACH/INTEREST

- Criteria 1:** Requires Council action on the use of public funds equal to \$1 million or greater; **(Required: Website Posting)**
- Criteria 2:** Adoption of a new or revised policy that may have implications for public health, safety, quality of life, or financial/economic vitality of the City. **(Required: E-mail and Website Posting)**
- Criteria 3:** Consideration of proposed changes to service delivery, programs, staffing that may have impacts to community services and have been identified by staff, Council or a Community group that requires special outreach. **(Required: E-mail, Website Posting, Community Meetings, Notice in appropriate newspapers)**

This action does not meet any of the criteria listed above. The RFP for consultant services was published by the City Clerk's Office in the San José Post Record, and by the City's Project Manager on the ESD Internet website, and City of San Jose's Bid Line.

This award memo will be posted on the City's website for the February 13, 2007 Council Agenda.

COORDINATION

This project and memorandum have been coordinated with Risk Management, Equality Assurance, the City Manager’s Budget Office, and the City Attorney’s Office. As part of the “contracting-in” evaluation, this project was approved for outsourcing by the City’s Contracting-In Committee due to the lack of technical skills required to implement this project within the City. This item is scheduled to be heard at the February 8, 2007 Treatment Plant Advisory Committee (TPAC) meeting.

FISCAL/POLICY ALIGNMENT

This project is consistent with the Council approved Budget Strategy, Economic Recovery section, in that it will help to stimulate construction spending in our local economy.

COST SUMMARY/IMPLICATIONS

1. **COST OF RECOMMENDATION:** \$411,488

2. **COST ELEMENTS OF AGREEMENT:**

Project Management	\$21,600
Preliminary Design	\$166,540
Construction Support	\$157,460
Expenses	\$8,888
Additional Service	\$57,000

TOTAL AGREEMENT AMOUNT: \$411,488

3. **SOURCE OF FUNDING:** 512 – San Jose/Santa Clara Treatment Plant Capital Fund.

4. **FISCAL IMPACT:** No additional funding is necessary to approve this agreement.

BUDGET REFERENCE

Fund #	Appn #	Appn. Name	RC #	Total Appn.	Amt. for Contract	2006-2007 Adopted Capital Budget Page	Last Budget Action (Date, Ord. No.)
512	4124	M5, Ring Bus, and Cables Replacement	144971	\$1,200,000	\$411,488	V-151	N/A

HONORABLE MAYOR AND CITY COUNCIL

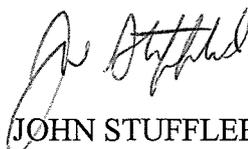
2-13-07

Subject: Approval of an Agreement with APEC Group, LLC for Consultant Services for the M5, Interim Ring Bus, and Cables Replacement Project

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CEQA

Not a project.



JOHN STUFFLEBEAN

Director, Environmental Services Department

For questions, please contact Ting Ong, Senior Engineer, at 945-5132.