



## Agenda Report Details (With Text)

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**Title:** ELECTRICAL POWER DISTRIBUTION SYSTEM IMPROVEMENTS, PROJECT NO. J-98

**Sponsors:** Kathy Millea

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**Attachments:** 1. Agenda Report, 2. J-98 Professional Design Services Agreement - Final, 3. PPP 02-05-2020 Project J-98, 4. File Summary

Date	Ver.	Action By	Action	Result
2/26/2020	1	BOARD OF DIRECTORS		
2/5/2020	1	OPERATIONS COMMITTEE	Recommended for Approval	

**FROM:** James D. Herberg, General Manager  
Originator: Kathy Millea, Director of Engineering

**SUBJECT:**

**ELECTRICAL POWER DISTRIBUTION SYSTEM IMPROVEMENTS, PROJECT NO. J-98**

**GENERAL MANAGER'S RECOMMENDATION**

RECOMMENDATION:

- A. Approve a Professional Design Services Agreement with Brown and Caldwell to provide engineering services for the Electrical Power Distribution System Improvements, Project No. J-98, for an amount not to exceed \$2,240,000; and
- B. Approve a contingency of \$224,000 (10%).

**BACKGROUND**

The electrical distribution systems at Plant Nos. 1 and 2 are critical to ensure power supply to all plant facilities at all times. The electrical distribution system includes distribution centers, power buildings, and electrical rooms throughout the plants. These facilities use switchgears and automatic transfer switches to distribute utility, Central Generation, and standby generator power.

**RELEVANT STANDARDS**

- Comply with Government Code Section 4526: Select the "best qualified firm" and "negotiate fair and equitable fee"

- 24/7/365 treatment plant reliability

## **PROBLEM**

The distribution systems at Plant Nos. 1 and 2 have a number of deficiencies and in some cases pose increased arc flash potential. These deficiencies include aged and obsolete equipment that are in need of replacement.

Plant No. 1 does not have an automated load shedding scheme in place. In the event of a system disturbance, such as a Southern California Edison (SCE) outage, electrical maintenance staff at Plant No. 1 are required to reconfigure the electrical system throughout the plants. If non-critical loads are not shed in time, Central Generation is unable to maintain the load and shuts down. After a shutdown, staff must manually initiate restarting of equipment in a particular sequence to avoid overloading of standby generators. This is a time consuming and inefficient means of operating the electrical distribution system, particularly during emergency events such as an SCE outage where time is critical in preventing a spill.

Plant No. 2 is in the process of adding an automated load-shedding system to much of the plant under a separate project. Electrical Power Distribution System Improvements, Project No. J-98, will extend the load shedding system to the remainder of Plant No. 2.

## **PROPOSED SOLUTION**

Award a Professional Design Services Agreement for Electrical Power Distribution System Improvements, Project No. J-98. This will provide the design for the replacement of aged and obsolete electrical equipment, addition of automated protective relays at Plant Nos. 1 and 2, implementation of a load-shedding scheme at Plant No. 1, and extension of the load-shedding system currently being installed under the Outfall Low Flow Pump Station, Project No. J-117B.

## **TIMING CONCERNS**

If the project is delayed, the electrical distribution system may suffer from reduced safety, reduced reliability, increased maintenance costs, and unexpected process facility outages with increased potential for spills.

## **RAMIFICATIONS OF NOT TAKING ACTION**

Numerous small and large projects would need to be initiated to install, replace, and upgrade the various breakers, conductors, grounding systems, and load shedding system. The Plant No. 1 electrical distribution system would remain subject to a more time-consuming restoration of power due to a loss of the utility power source (SCE).

## **PRIOR COMMITTEE/BOARD ACTIONS**

N/A

## **ADDITIONAL INFORMATION**

### Consultant Selection

The Orange County Sanitation District (Sanitation District) requested and advertised for proposals for Electrical Power Distribution System Improvements, Project No. J-98, on August 29, 2019. The following evaluation criterion were described in the Request for Proposals and used to determine the most qualified Consultant.

Criterion	Weighting
Project Understanding and Approach	35%
Related Project Experience	25%
Project Team and Staff Qualifications	40%

Five proposals were received on October 15, 2019 and evaluated in accordance with the evaluation process set forth in the Sanitation District’s Purchasing Ordinance by a pre-selected Evaluation Team consisting of the following Sanitation District staff: two Senior Engineers (Project Manager and Project Engineer), one Engineering Manager, one Engineering Supervisor, and one Maintenance Superintendent. The Evaluation Team also included one non-voting representative from the Contracts Administration Division.

The Evaluation Team scored the proposals based on the established criterion as shown in the table below:

Proposer	Approach and Understanding (Max 35)	Related Project Experience (Max 25)	Team and Staff Qualifications (Max 40)	Total Score (Max 100)
Brown and Caldwell	28	22	36	86
SPEC Services	26	20	32	78
Gekko Engineering Inc.	20	12	24	56
Next Stage Engineering	16	12	20	48
IDS Group, Inc.	10	8	18	36

Based on the evaluation team review, the two highest scoring firms were invited for interviews. The interviews were conducted on November 12, 2019. Following the interviews, the evaluation committee established that the highest scoring proposal was the finalist with the highest score based on both the written proposal and the interview.

Based on the scoring shown below, Brown and Caldwell was selected as the most qualified consultant.

Proposer	Approach and Understanding (Max 35)	Related Project Experience (Max 25)	Team and Staff Qualifications (Max 40)	Total Score (Max 100)
Brown and Caldwell	27	21	33	81
SPEC Services	29	20	30	79

The selected firm’s written proposal and interviews revealed a technically proficient and collaborative team, clear definition of project roles, and their level of commitment to the project. Based on the proposed team, experience, and technical understanding, it is anticipated that Brown and Caldwell will efficiently and effectively produce a biddable design package for this project.

Review of Fee Proposal and Negotiations:

Proposals were accompanied by sealed fee proposals. In accordance with the Purchasing Ordinance, the fee proposal of only the highest-ranked firm was opened after approval by the Director of Engineering of the Evaluation Committee’s recommendation.

Staff conducted negotiations with Brown and Caldwell to clarify the requirements of the Scope of Work, the assumptions used for the estimated level of effort, and the proposed approach to meet the goals and objectives for the project. The review process identified approximately 30 electrical drawings and 22 instrumentation and control drawings that were able to be removed from the project. Additionally, the hours per sheet were reduced on several of the drawings based on available information and ability to consolidate items into a reduced number of sheets.

	<b>Original Fee Proposal</b>	<b>Negotiated Fee</b>
Total Hours	15,288	13,022
Total Fee	\$2,561,144	\$2,240,000

The Consultant’s fringe and overhead costs, which factor into the billing rate, have been substantiated. The fringe and overhead costs were reduced, along with the total fee, based on a review of their audited overhead rates. The contract profit is 5.86%, which is based on an established formula based on the Sanitation District’s standard design agreements.

Based on the above, staff has determined that the final negotiated fee is fair and reasonable for the level of effort required for this project and recommends award of the Professional Design Services Agreement to Brown and Caldwell.

Additional Engineering Resources Required:

This project will also require the professional services of Schweitzer Engineering Laboratories Engineering Services (Schweitzer) to provide final design, programming, testing, commissioning, and training for a load-shedding system and electrical power system protective relays. Schweitzer’s professional services are required as the sole-source provider of the power monitoring relay and load shedding systems. On March 28, 2018, the Board authorized staff to sole source Schweitzer for the load-shedding system and electrical power system protective relays and authorized staff to negotiate sole source, professional services with Schweitzer (SEL).

The Sanitation District is currently negotiating with Schweitzer regarding the scope of work assumptions and estimated level of effort for this project. It is anticipated that the Sanitation District will submit for a Professional Services Agreement award at the March 2020 Operations Committee meeting.

**CEQA**

The project is exempt from CEQA under the Class 1, 2, and 3 categorical exemptions set forth in California Code of Regulations Sections 15301, 15302, and 15303. These three sections exempt from CEQA projects involving repair, replacement, and or minor alteration of existing facilities that have no expansion of use or capacity, replacement of existing utilities, and installation of small new equipment. A Notice of Exemption will be filed with the OC Clerk-Recorder after the Sanitation District's Board of Directors approval of the Professional Design Services Agreement.

## **FINANCIAL CONSIDERATIONS**

This request complies with authority levels of the Sanitation District's Purchasing Ordinance. This item has been budgeted, (Budget Update FY19-20, Appendix A, Page A-8). The project budget is sufficient for the recommended action.

## **ATTACHMENT**

*The following attachment(s) may be viewed on-line at the OCSD website ([www.ocsd.com](http://www.ocsd.com)) with the complete agenda package:*

- Professional Design Services Agreement
- PowerPoint Presentation - Operations Committee Meeting of February 5, 2020

TW:dm:gc