



Legislation Details (With Text)

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File created: 9/30/2021 **In control:** Sonoma County Water Agency
On agenda: 11/16/2021 **Final action:** 11/16/2021
Title: Engineering and Design Services for Warm Springs Dam Hydropower Retrofit
Sponsors: Sonoma County Water Agency
Indexes:
Attachments: 1. Summary Report

Date	Ver.	Action By	Action	Result
11/16/2021	1	Board of Supervisors	Approved as recommended	Pass

To: Board of Directors, Sonoma County Water Agency
Department or Agency Name(s): Sonoma County Water Agency
Staff Name and Phone Number: Dale Roberts 547-1979
Vote Requirement: Majority
Supervisory District(s): Countywide

Title:
Engineering and Design Services for Warm Springs Dam Hydropower Retrofit

Recommended Action:

Authorize Sonoma County Water Agency's General Manager to execute the Second Amended Agreement for Engineering and Design Services for Warm Springs Dam Hydropower Retrofit Project with IEC Corporation, in a form approved by County Counsel, to provide engineering and design services. The amended agreement increases the amount by \$93,840, expands the scope of work to include separating out electrical switchgear equipment procurement and revising and updating the design, and extends the agreement term by two years for a new not-to-exceed agreement total of \$1,003,177 and end date of December 31, 2023.

Executive Summary:

The Sonoma County Water Agency (Sonoma Water) owns, operates, and maintains the Warm Springs Dam Hydropower Facility. The Warm Springs Dam Hydropower Facility has been in operation since 1989 and produces approximately 9,000 MWh - 16,000 MWh per year. A Condition Assessment in 2017 recommended modernizing and implementing retrofits of some of the outdated electrical, mechanical, instrumentation, and control systems to extend the useful life of the system and improve system efficiency and resiliency. In 2018, IEC Corporation (Consultant) began the design phase for the Warm Springs Dam Hydropower Retrofit Project (Project) to implement those recommended upgrades. Design modifications are necessary to address new code compliance and power utility interconnection requirements.

Discussion:

HISTORY OF ITEM/BACKGROUND

The Warm Springs Dam is located in Geyserville, CA, at the confluence of Warm Springs Dam and Dry Creek. Warm Springs Dam was completed by the United States Army Corps of Engineers (USACE) in 1984, creating Lake Sonoma which stores water used for both domestic purposes and recreation. The USACE owns and operates the dam and is responsible for controlling the releases when the water levels exceed flood level elevations. Sonoma Water manages the reservoir releases when the water levels are below the flood level elevations.

In 1985, Sonoma Water began construction of the Warm Springs Hydropower Facility (Hydropower Facility) within the dam. The Hydropower Facility was completed in 1989. Releases of water from the dam flow through the Hydropower Facility. This generates renewable, reliable electricity as water discharges into Dry Creek.

Since the Hydropower Facility was constructed, it has produced approximately 9,000 MWh-16,000 MWh per year and has performed well with minimal repairs over the years. The Hydropower Facility is now over thirty years old and, although it has not had major performance issues, Sonoma Water performed a Condition Assessment of the Hydropower Facility with the aim of improving efficiency, resiliency, and the useful service life of the Hydropower Facility.

Sonoma Water and Consultant entered into an agreement for engineering and design services for dam retrofit in July 2018 in the amount of \$644,484.

At the 60% design stage, Consultant recommended that additional facility protection instrumentation be included to address code compliance requirements, new interconnection requirements required by Pacific Gas & Electric (PG&E), and increase overall Hydropower Facility functionality. The agreement was amended to increase the amount by \$264,853, expand the scope of work, and extend the agreement term by two years for a new not-to-exceed agreement total of \$909,337 and end date of December 31, 2021.

The Project was advertised for bids on February 16, 2021, and bids were opened on May 25, 2021. The two bids received were approximately \$500,000 more than the engineer's estimate. At Sonoma Water's recommendation, the Board of Directors rejected the bids on August 16, 2021.

The difference in bids is mostly attributable to limited electrical switchgear equipment options that can fit into the relatively tight space within the Warm Springs Dam control structure, while still maintaining current National Electric Code requirements and California Division of Occupational Safety and Health (Cal/OSHA) requirements that were not in effect when the original hydroelectric facility was constructed in 1988 - 1989. The newer requirements necessitate customization of the electrical switchgear equipment to allow for a safe and functional Hydropower Facility with adequate spacing for safety. Redesigning the Hydropower Facility to accommodate flexibility in customization from each potential manufacturer of electrical switchgear equipment should result in a more cost-effective construction project with less risk of costly change orders.

Sonoma Water will conduct a solicitation to purchase the electrical switchgear equipment that will address site constraints. Once the specific electrical switchgear equipment package that meets Project needs has been determined, Consultant will modify the design to incorporate it. The Project will then be re-advertised for bid.

SELECTION PROCESS

On August 14, 2017, Sonoma Water issued a Request for Statements of Qualifications to 44 firms, and posted it on the Sonoma Water and County of Sonoma Purchasing Department websites.

The three firms below submitted Statements of Qualifications:

1. SAGE Engineers, Roseville, CA
2. IEC Corporation, Sacramento, CA
3. NLine, El dorado Hills, CA

Consultant was selected because of its breadth and depth of professional knowledge; its experience with PG&E, Francis Turbines, producing construction documents, interconnection design, relay protection and metering services, and SCADA systems; and its references from other municipalities.

SERVICES TO BE PERFORMED

Under the proposed amended agreement, Consultant will assist Sonoma Water with the solicitation of the pre-purchased electrical switchgear equipment, and modify the Project design based on the electrical switchgear equipment selected. In addition, the end date will be extended to allow completion of the additional work.

The additional cost is \$93,840, for a new not-to-exceed agreement total of \$1,003,177. The new end date is December 31, 2023.

Strategic Plan:

This item directly supports the County's Five-year Strategic Plan and is aligned with the following pillar, goal, and objective.

Pillar: Resilient Infrastructure

Goal: Goal 2: Invest in capital systems to ensure continuity of operations and disaster response.

Objective: Objective 2: Invest in electric power resiliency projects at County facilities, including Veteran's Buildings, used for evacuation sites, warming/cooling centers, or as alternate work facilities for delivery of critical services.

Retrofitting the Warm Springs Dam Hydropower Facility allows local Sonoma Water owned baseload renewable power resources to supply the local electric power network and minimizes power imports.

Prior Board Actions:

08/17/2021: Approved Sonoma Water's rejection of all bids received on May 25, 2021, for the Warm Springs Dam Hydropower Retrofit Project.

09/10/2019: Approved amended agreement between Sonoma Water and IEC Corporation for engineering

and design services. The additional cost was \$264,853, for a new not-to-exceed agreement total of \$909,337. The new end date was December 31, 2021.

FISCAL SUMMARY

Expenditures	FY 21-22 Adopted	FY22-23 Projected	FY 23-24 Projected
Budgeted Expenses	\$93,840		
Additional Appropriation Requested			
Total Expenditures	\$93,840		
Funding Sources			
General Fund/WA GF			
State/Federal			
Fees/Other	\$93,840		
Use of Fund Balance			
Contingencies			
Total Sources	\$93,840		

Narrative Explanation of Fiscal Impacts:

Budgeted amount of \$93,840 is available from FY 2021/2022 appropriations for the Common Facilities fund. No additional appropriation is required.

Staffing Impacts:			
Position Title (Payroll Classification)	Monthly Salary Range (A-I Step)	Additions (Number)	Deletions (Number)

Narrative Explanation of Staffing Impacts (If Required):

N/A

Attachments:

None.

Related Items "On File" with the Clerk of the Board:

None.