

EWEB Board Consent Calendar Request

For Contract Awards, Renewals, and Increases

The Board is being asked to approve additional funds for the Design-Build contract with **GE Renewables US, LLC** (formally Alstom Renewable US, LLC) for **Carmen Turbine Generator Rehabilitation**.

Board Meeting Date:	February 6, 2024	
Project Name/Contract #:	Carmen Turbine-Generator Rehabilitation / 013-2017	
Manager:	Lisa Krentz	Ext. 7450
Executive Officer:	Karen Kelley	Ext. 7153

Contract Amount:

Original Contract Amount:	\$19,776,000 (January 9, 2018)
Additional \$ Previously Approved:	\$0
Spend over last approval:	\$4,800,000
Amount this Request:	\$6,000,000
% Increase over last approval:	30.3%
Resulting Cumulative Total:	\$25,776,000

Contracting Method:

Method of Solicitation:	Formal Request for Proposals / Design-Build
If applicable, basis for exemption:	EWEB Rule 5-0600
Term of Agreement:	Completion by October 31, 2024 (please see schedule discussion below)
Option to Renew?	No
Approval for purchases "as needed":	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Proposals/Bids Received (Range):	4 - (\$9,998,154 to \$ 12,368,800 for 1 st Unit only)
Selection Basis:	Highest Ranked Proposer

Narrative:

EWEB's initial \$19.8 million contract with GE was based on the replacement and refurbishment of specific components of the turbine-generator (TG) system that were most likely to need improvement for continued reliable operation through the next FERC license period. This limited initial baseline scope was intentionally developed to optimize the utilization of existing system components that are capable of performing well for another 40 years. As-found conditions during disassembly of the first TG unit revealed that there were some additional components requiring improvement and those issues have been addressed via change order. A similar expanded scope of work is anticipated to be necessary for the second TG unit resulting in a need to increase the contract value by approximately \$6 million, bringing the total contract value of \$25.8 million.

Operational Requirement and Alignment with Strategic Plan

The two turbine-generator (TG) units at the Carmen Powerhouse are under contract for rehabilitation to increase efficiency, reliability, and extend their service life for at least another 40 years. The Carmen TG units are a valuable peaking power generation source for EWEB, operating intermittently on a daily basis to supply electricity when power demand/prices are highest. The first unit overhaul is nearing completion with an expected return to service early this year. Construction on the second unit will begin this Spring, with an expected return to service in

the Spring of 2026. Completion of the TG overhauls is necessary to ensure ongoing safe, reliable, and economical operation of the Carmen-Smith Project for long term benefit to EWEB rates.

Contracted Goods and Services

A TG rebuild involves highly skilled labor sets, a global supply chain of custom products, specialty design efforts, and inherent risks of discovering issues with major equipment that has been in service for 60+ years. Implementation of the first unit TG overhaul entailed challenges with each of these rehabilitation project complexities and EWEB staff have been effectively resolving these challenges by consistently maintaining high quality standards through strict adherence to the contract's design and construction specifications. The project approach was to minimize unnecessary expenses by creating a base scope that assumed repair and replacement of only those components with the highest likelihood of issues. For components with a lower likelihood of problems, the approach was to rely on change orders to address as-found issues on a case-by-case basis. By doing so, EWEB has been able to maximize the useful life of many components that might have otherwise been conservatively replaced as part of the project. This approach has resulted in approximately \$3 million in change orders associated with the first unit, which were comprised of \$2.5 million in supplemental repairs, \$250k in improvements to increase reliability or lower long term operating costs, and \$200k for Force Majeure (Lookout Fire) and other contractual compensations to the contractor for unforeseeable conditions outside of their control. As the first unit overhaul comes to a close, we are incorporating lessons learned and re-calibrating expectations for likely repairs and equipment replacement needs for the second unit. Applying the relevant information recently gained, we have already approved \$2 million in change orders for the second unit and expect to encounter needs for an additional \$1 million to resolve remaining known and unknown issues during completion of the second overhaul. The total of approved and projected change orders is \$6 million, bringing the contract costs to nearly \$26 million and exceeding the Board approved amount by about 30%.

It is also important to note that project schedule delays have been a problem for the first unit. Most of the delays can be attributed to contractor causes and unexpected issues during the discovery phase of construction. The most significant delay was a year and a half as the contractor worked to manufacture acceptable stator coils. Months of additional delays are due to construction efficiency disruptions resulting from fabrication/machine shop quality assurance lapses and project management issues. GE has incurred substantial liquidated damages charges resulting from the contractor-caused delays for the first unit and is developing a realistic baseline schedule for the second unit to avoid such charges again. Delay risks have been significantly mitigated for the second overhaul because we have already completed the manufacture of the major components for the second unit (approved stator coils are staged for construction), the contractor's project team has changed for the better, and the new project management team has implemented tools to better oversee the project. A contract schedule change order is currently under negotiation to reconcile the contract completion date with the anticipated actual construction completion date, approximately May 2026. The need for unexpected repairs has also contributed to delays, the most significant of which was the stay ring machining and re-design of the seal, which triggered months of delay. While the stay ring out-of-round condition had to be addressed after discovery for the first unit, we are planning for this issue in the project schedule and through anticipatory change orders for the second unit. While the potential for new adverse discoveries will certainly exist during the upcoming disassembly work, EWEB has mitigated that potential to a great extent by applying lessons learned from the first phase of work.

Purchasing Process

A design-build contract requires an Alternative Procurement process. A public notice is required before posting a bid and such notice was advertised in the Register Guard on February 15, 2017 to allow the business community and public to be aware of the future procurement and express concerns, if any. No concerns were expressed. Approval was then obtained from the Board to conduct an Alternative Procurement process for a Design-Build contract on March 7, 2017. A Formal Request for Proposals (RFP) for Design-Build services was then posted on the then-existing EWEB bid site on May 12, 2017.

The maximum number of possible points for evaluation was 150, including the following criteria and points: Price (40 pts), Completeness & Quality of Technical Design (25 pts), Proposed Team (10 pts), Project Approach &

Schedule (15), Proposed Contract Changes (10), Warranty & Corrections (25), Added Limitation of Liability for Contractor/Indemnification Clauses (10), EWEB Influence During Project (10), and Insurance (5).

Four proposals were received from Voith Hydro of York, PA, American Hydro of York, PA, Gracon, LLC of Loveland, CO, and GE Renewables US of Greenwood Village, CO (originally known as Alstom Renewable US, the hydro division of GE). GE Renewables US was selected as the highest ranked proposer based on points assigned for ability to meet EWEB's standards for delivery and lead time, cost management, and provision of quality product.

Prior Contract Activities

None

ACTION REQUESTED:

Management requests the Board approve an increase to the Contract with GE Renewable US, LLC for design-build services to rehabilitate the turbine generators at Carmen-Smith. Approximately \$9.5 million was planned for these services in the Generation Department's Type 3 budget of \$41.5 million for 2024 and 2025. Variances will be managed within the budget process and Board policy.