MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

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TO: Commissioners Simpson, Helgeson, Manning, Mital and Brown

FROM: Mel Damewood, Chief Engineering & Operations Officer,
Matthew Ibaraki, Project Manager

DATE: October 17, 2016

SUBJECT: Use of the CM/GC Alternative Contracting Method for the Grid Edge Demonstration Project

OBJECTIVE: Board Action

Issue Statement

The Grid Edge project team recommends employing the Construction Manager/General Contractor (CM/GC) process for the construction involved in the Grid Edge Demonstration Project. The CM/GC process is considered an Alternate Contracting Method in the State of Oregon, requiring an exemption to the normal public works competitive bidding process. EWEB procurement rules outline the exemption process required to employ Alternate Contracting Methods. This Board Backgrounder describes the CM/GC process, provides context for its use in this demonstration project, and requests Board approval for the Alternative Contracting Method.

Background

EWEB obtained a federal grant administered by the Oregon Department of Energy as well as a grant from Oregon BEST to develop grid connected battery storage technology in the State of Oregon in early 2016. Engineering has determined (with Purchasing Department guidance) that the standard approaches for the Design-Bid-Build process would limit EWEB's product options and lead to rigid, custom designs that could result in higher costs and a project schedule which is not compliant with the grant requirements. Using the CM/GC method, it is expected that the schedule can be reduced 4-6 months. An alternate procurement method, in this case, CM/GC, is required to get a quality, cost effective product installed within the grant required deadlines.

Oregon law requires that all construction projects be bid and awarded at the lowest cost to the contracting agency, as opposed to a Request for Proposals (RFP) where cost is not the sole determination. The CM/GC process is addressed under the Oregon Revised Statutes (ORS) as an Alternative Contracting Method requiring an exemption to the normal public works competitive bidding process. In order to obtain EWEB Board exemption from competitive bidding, staff must document the needs and benefits of using the CM/GC process in a findings report and provide an opportunity for public comment in a public hearing. Once the Board accepts the findings and exempts the project from competitive bidding, staff can procure the CM/GC consistent with EWEB rules. [See EWEB Rules 5-0600 through 5-0690]. Staff intend to use an RFP process, including cost as evaluation criteria, to select a CM/GC contractor.

Description of CM/GC Process

There are several contracting methods that are currently in use on Oregon construction projects including the traditional Design-Bid-Build method, Design-Build, and CM/GC project delivery. CM/GC project delivery is becoming more common with public entities in Oregon as they seek to lower risk, increase quality, lower cost and meet demanding delivery schedules. Large civil works projects such as buildings, stadiums, and water and wastewater treatment facilities are currently being built in Oregon using the CM/GC process. Investor-owned utilities in Oregon are using the CM/GC process for construction associated with license implementation, and EWEB also used a CM/GC process in the construction of our Roosevelt Operations Center, Carmen-Smith Relicensing and Power Plant Upgrades project, and the Carmen Crane Refurbishment project.

The CM/GC process differs from conventional Design-Bid-Build project delivery in that a general contractor is selected early in the project, typically between the preliminary design and 60% completion point in order to provide both constructability related consulting and construction services. The CM/GC is selected using a competitive request for proposals (RFP) process that can be based on qualifications, approach, and experience and unit cost factors, similar to the procurement of engineering firms. A pre-qualification process can also be used if desired.

Initially, the CM/GC provides the design team with assistance under a professional services contract (time and materials at agreed upon rates). By joining the project team during the design phase, the CM/GC can collaborate with the design team on the design and preparation of the construction documents. This interaction ensures improved overall constructability and allows for value engineering reviews to minimize cost and maximize value for the Owner. The CM/GC may also provide assistance with material selection, scheduling, estimating, and other related services during design.

During the construction phase of the work, the CM/GC process combines the general contractor role with the role of a construction manager into a single contract, reducing Owner resource costs and risks associated with coordination during execution. At the completion of the design, typically at the 90% to 100% complete point, the CM/GC develops a cost estimate that leads to a proposed Guaranteed Maximum Price (GMP) for the work. The GMP is a price guarantee given by the CM/GC to the Owner, and it places the CM/GC firm "at risk" for delivery within the set price, similar to any standard construction contract. Since the CM/GC has been involved in project design, the expectation is that they understand the project better than a general contractor bidding solely on a set of construction specifications and drawings with a pre-bid walk through. Consequently, the risk portion of the GMP contingency is significantly reduced to the Owner, resulting in a higher probability of cost savings to be realized. If the Owner and CM/GC cannot agree on a GMP, the Owner is free to bid the work under traditional means, and the CM/GC professional services contract is effectively terminated.

Following agreement on the GMP, the CM/GC becomes obligated, through a standard construction contract, to complete the work for the GMP, and the CM/GC undertakes the construction of the facility. The CM/GC is required by statute to provide to the Owner a performance and payment bonds for the full value of the GMP. The CM/GC procures subcontracts with trade contractors using multiple competitive bid packages to construct the project, and manages the construction process in lieu of the Owner or a separately hired construction manager. General Conditions work, along with other minor "pick-up" work, is typically self-performed by the CM/GC. In some cases, the CM/GC may be allowed to self-perform all of the work or a percentage of the trade work by competitively

bidding for the work against trade contractors.

The CM/GC method of project delivery is not the best option for all projects. It is best suited for projects that have complex site issues, schedule or coordination constraints, many unknowns, need to be completed quickly or coordinated with other work, or have significant site development work that could be initiated early. The CM/GC process also affords the Owner a larger role in contractor selection since the selection is based on a proposal process.

In general, three primary benefits are attributed to the CM/GC project delivery approach: time savings, cost savings and higher coordination efficiency:

Time Savings: Having the CM/GC on board early in the process allows for the coordination in the development of the project construction schedule and the initiation of early site work where advantageous or warranted. This can help to shorten construction periods and minimize construction operational impacts. Early detection of potential construction difficulties, from a contractor's view, can also prevent potential delays and/or costly change orders.

The CM/GC project delivery approach also allows design/execution pieces to be broken out and executed as the project progresses in phases. There is no requirement to have the project fully designed at the beginning, and executed in one phase. This allows the project to recoup some lost time by not having to execute the project linearly. For the Micro Grid project, this allows for 4-6 months of schedule compression due to reduction in procurement cycles, allowing the Grant required milestones to be achieved with greater probability.

Cost Savings: Early input by the CM/GC during the design process is expected to contribute to general cost savings through constructability assessments. The CM/GC can also provide value engineering, life-cycle cost analysis and construction planning that will potentially lead to cost savings over time, even after acceptance of the installation. Generally, change orders during construction are reduced due to the CM/GC's involvement in design. If subcontracted costs are less than identified in the GMP "open book," some or all of the savings can be passed on to the Owner, depending on the agreement negotiated with the CM/GC.

Coordination: The CM/GC brings specific expertise to the teaming process. Significant technical complexities can be addressed by a collaborative team effort between the Owner, engineer and CM/GC. The contractor assists the team in addressing specific physical project challenges as part of their pre-construction services. The CM/GC can provide input on issues such as operations of the facility during construction, public safety, historic preservation, and complex phasing or highly coordinated scheduling.

Recommendation for use of the CM/GC process on the Grid Edge Demonstration Project

The Grid Edge Demonstration Project will commence in roughly three phases as follows:

- Design and procure energy storage system (ESS) for three sites
- Install systems at sites which involves:
    - Foundations
    - Integration with existing system
    - New conduit/wiring
    - Communications

- Commission devices

EWEB engineering staff will retain an engineering firm using the formal Qualification Based Selection (QBS) process to be the Owner's engineer throughout the entire process, from preliminary design, to the installation and integration designs, and finally the commissioning and testing of the systems. For the procurement of the energy storage systems, installation and integration of the systems, as well as testing of installed infrastructure, it is recommended that EWEB retain a CM/GC. In this fashion, EWEB will have external engineering expertise throughout the entire project familiar with this new technology, and can also rely on the construction and logistics knowledge of the CM/GC to prevent unforeseen execution issues.

As the project was established based on federal and state grants, timelines have been established in which EWEB must perform the tasks associated with the grant. With the CM/GC project delivery approach the team believes that the project can be completed 4-6 months quicker and with higher quality results than a Design-Build or standard Design-Bid-Build procurement approach. Quick installation at these sites is also imperative as they all provide important business value to EWEB, and major downtime at any of the sites due to unforeseen execution issues, would result in significant impacts to EWEB, its partners, and customers.

Requested Action

Staff requests that the Board approve the use of a Construction Manager/General Contractor (CM/GC) Alternative Contracting Method for the procurement and construction of the three battery storage systems associated with the Grid Edge Demonstration Project.

If the use of the Alterative Contracting Method is approved, staff will bring the fully executed CM/GC contract to the Board for approval.