Nevada Irrigation District

Staff Report

for Board of Directors Meeting of December 12, 2018

TO: Honorable Board of Directors

FROM: Keane Sommers, P.E., Hydroelectric Manager

DATE: December 5, 2018

SUBJECT: **2019 Electrical Engineering Services (Consent)**

HYDROELECTRIC

RECOMMENDATION:
Award a contract to IEC Corporation for electrical engineering support services in 2019 in the amount of $200,000 and authorize the General Manager to execute the necessary documents as recommended by the Water and Hydroelectric Operations Committee.

BACKGROUND:
Following the transition away from the Pacific Gas & Electric (PG&E) Partnership Agreement in 2013 the Hydroelectric Department was no longer able to use PG&E engineers to support the Department. This resulted in a critical gap in the ability to oversee and evaluate electrical work by contractors and consultants and to provide guidance to staff.

In 2017 and 2018 the Department retained the services of IEC Corporation to provide an onsite Electrical Engineer two days per week. The goal was to begin to develop a programmatic approach to capital improvements, increase the speed of repairs to operational problems as they arise, specify standard equipment, and critique the design of other consultants. IEC was selected through a competitive Request for Proposal process.

The contract has been a success and significant progress has been made. In addition to being available to respond to day to day issues, the Engineer has been assigned to complete approximately 48 discreet projects totaling approximately 2,800 hours of work over the last two years. A summary of tasks assigned in 2018 is shown in the attached table.

Using this type of contracting mechanism provides cost savings to the District. Approximately 7 of the projects listed in the table would have required the District to complete some sort of competitive bid process. Avoiding the individual bid process saved the District an estimated $15,000. Additionally, the hourly rate negotiated with IEC for the engineer is below the market rate for similar services. Using the negotiated rate the District saved an estimated additional $15,000 for a total savings of $30,000.

In addition to the cost savings identified above Staff has developed internal resources, expertise, and skills and is recommending the award of a smaller contract this year. In 2017 the contract was $250,000. In 2018 the contract was $257,000. The savings of $57,000 dollars over the 2018 contract brings the total projected 2019 savings to $87,000.

Staff is recommending an award of a third year of the contract. Staff believes that there is a long term, ongoing need for an electrical engineer and will evaluate the need for a staff position during 2019. Staff plans to develop the needs of the position fully and will make a recommendation to the Board during the next budget cycle.

BUDGETARY IMPACT:
The proposed FY2019 Hydroelectric Department Budget includes $200,000 for Electrical Engineering Support Services. The contract being awarded is structured such that it cannot exceed $200,000 unless approved by the District. Costs under the contract will be paid on an hourly basis. No costs will be encumbered until the necessary 2019 budget authorization is received.

KSS

Attachment (1):
- 2018 NID-IEC Electrical Engineering Project Log

2018 NID-IEC Electrical Engineering Project Log						
Line #	Facility	Project Name	Project Description	Project Duties	Est. Hours [#]	Est. Hours [%]
1	BPH	Inter-tie Relay Upgrade	Removal and replacement of the line protection relays.	Performed review and provided markups/comments during the design phase. Provided PG&E interconnection support. Created startup and test plan.	28	2%
2	BPH	As-built Drawing Package	Created powerhouse as-built drawing package	Coordinated gathering of complete powerhouse drawing set. Replaced all sheet borders with updated version. Backchecked all inter-drawing cross references and updated as required. Identified areas which will require field verification.	185	13%
3	CPPH	Backup Genset Design	Add a backup generator for station service backup.	Performed facility loading calculations and preliminary sizing of genset.	28	2%
4	CPPH	Relay Project Closeout	Relay Upgrade	Action Item Log and review of as-built drawings.	57	4%
5	CPPH	Consultant Performance Review	Review of HDR performance on relay upgrade task.	Provided technical support and attended meetings to review consultant performance on the CPPH relay upgrade job.	28	2%
6	CPPH	Step Potential Concern	Main GSU transformer step potential concern.	Performed preliminary inspection and provided recommendations.	14	1%
7	CPPH	BOP PLC Upgrade	Install PLC for float control and turbine vibration monitoring.	Performed review and provided markups/comments during the design and specification. Provided construction support.	28	2%
8	DCPH	PG&E Turnover Documentation	Purchase of Deer Creek Powerhouse from PG&E.	Performed site inspections and review of technical documentation of facility turnover package. Review Doble Testing Standards.	71	5%
9	LRPH	Power House Design	New Powerhouse design.	Performed review and provided markups/comments during the preliminary design and specification.	43	3%
10	NERC	NERC CIP Project Development	Identify CIP projects and create project sheets describe scope and cost estimate.	Reviewed and edited scope and cost estimates.	28	2%
11	NID	NID Communication Design	Develop Wide Area Network for powerhouse communication to hydro headquarters.	Performed review and provided markups/comments of other design firms reports and submittals.	71	5%
12	NID	NID WAN Design	Develop Wide Area Network for communication between powerhouses and hydro headquarters.	Created summary report document with line-of site- diagram, network diagram, recommendations and next steps.	284	20%
13	NID	NID Powerhouse LAN Design	Develop template for Powerhouse LAN	Performed technical review, provided comments and attended meetings to develop template for powerhouse LAN that is in compliance with NERC guidelines.	28	2%
14	NID	NID Drawing Template	Develop drawing template for powerhouse drawings.	Performed review and provided comments on proposed drawing templates.	14	1%
15	NID	Drawing Consolidation Project	Consolidation of powerhouse drawing package onto one drawing style and format.	Performed review and provided comments on drawing package.	28	2%
16	NID	NERC Support	Provide support for NERC submittals	FAC-008, FAC-025	43	3%
17	NID	Drawing Document Control	Drawing Document Control Procedure	Created document control procedures for drawing check-in and checkout.	14	1%
18	RPH	Permanent Emergency Generator	Add a backup generator for station service backup.	Performed facility loading calculations and preliminary sizing of genset. Created generator specification. Provided technical support during bid process.	71	5%
19	RPH	Station Service Emergency Transfer Switch	Install transfer switch to allow emergency generator interconnection to station service.	Performed detailed design, specified and ordered equipment and provided onsite construction support during installation.	170	12%
20	RPH	Howell-Bunger Valve Replacement	Replacement of HBV and actuator system	Performed detailed design for powering of valve motor. Provided technical review of vendor and contractor submittals. Provided onsite construction support.	114	8%
21	RPH	BOP PLC Upgrade W/ HBV	Combine HBV controls with a new BOP PLC	Performed technical review of engineering design and submittals.	28	2%
22	RPH	CAISO Revenue Metering	CAISO Revenue Metering Support	Performed document review and onsite inspections to identify equipment rating information.	28	2%
23	SFPH	Generator Voltage Regulator Upgrade	Replacement of AVR with Basler DECS-250	Performed technical review of engineering design and submittals.	14	1%
					1420	100%