



To Facilities Committee 1-6-2016

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Commission Staff Report

AGENDA ITEM NO.: ____

Date: December 31, 2015
To: NCPA Commission
Subject: Geothermal Turbine Overhaul of Plant 2, Unit 4; **Applicable to the following project: Geothermal Plant 2, Unit 4**

Proposal

Authorize the NCPA General Manager to execute agreements and purchase orders for maintenance work related to the Geothermal Plant 2, Unit 4 Turbine Overhaul, for a total cost not to exceed \$1,871,000.

Background

The GEO has a six year overhaul schedule for each of its power plants; Plant 2, Unit 4 is due in the spring of 2016. During the overhaul, the GEO team will be completing preventative maintenance work on all of the primary pumps, motors, and ancillary equipment that cannot be worked on while the unit is operating without affecting the output of the facility. NCPA will hire a number of contractors to perform the overhaul.

Listed below is a summary of the work to be performed as a part of the Unit 4 overhaul:

1. Overhaul of the main steam turbine and generator
2. Overhaul of the electrical breakers
3. Upgrade of the T-3000 Control System by Siemens (previously approved by the Commission)
4. Installation of a new Partial Discharge Analyzer on the generation to monitor the condition of the generator while in service
5. Inspection of the unit relays
6. Overhaul of the large pumps and motors
7. Modification to the gas removal piping to prevent tripping of the unit in the event of a vacuum pump trip
8. Modification to the treated Stretford gas piping in the cooling tower to reduce chemical usage in the cooling tower
9. Cleaning of the condenser tubes and Cooling Tower
10. All required WECC and NERC testing

Selection Process

All of the work associated with the overhaul will be solicited and awarded by the General Manager in accordance with NCPA procurement policies and procedures.

SR:

This process has already begun. A formal Request for Proposals (RFP) to select the turbine and generator overhaul contractor for this project was issued on December 8, 2015, Bid No. GEO320. The RFP was dispatched to qualified contractors having the requisite experience to properly complete the work. NCPA received bids from two vendors in response to the RFP as follows:

Ethos Energy Field Services, LLC	\$694,928.00
Stephens Mechanical	\$861,269.00

Staff recommends that the General Manager award the bid to Ethos Energy Field Services, LLC based on the cost of the bid along with their extensive experience working in the Geysers and other NCPA facilities. Staff is in the process of soliciting bids for the rest of the work associated with the overhaul project. The remainder of the work will also be awarded by the General Manager as the project proceeds.

Fiscal Impact

The budgetary estimates of the cost to complete the overhaul of Plant 2, Unit 4 are categorized as follows:

Overhaul Work	Anticipated Cost
Overhaul of the main steam turbine and generator(with 30% contingency)	\$900,000
Overhaul of the electrical breakers	\$75,000
Upgrade of the T-3000 Control System by Siemens (previously approved by the Commission)	\$406,000
Installation of a new Partial Discharge Analyzer on the generation to monitor the condition of the generator while in service	\$20,000
Inspection of the unit relays	\$20,000
Overhaul of the large pumps and motors	\$165,000
Modification to the gas removal piping to prevent tripping of the unit in the event of a vacuum pump trip	\$100,000
Modification to the treated Stretford gas piping in the cooling tower to reduce chemical usage in the cooling tower	\$75,000
Cleaning of the condenser tubes and Cooling Tower	\$90,000
All required WECC and NERC testing	\$20,000
Total Cost	\$1,871,000

NCPA has \$2,050,000 of pre-collected funds in the Maintenance Reserve to do the Plant 2, Unit 4 overhaul and associated projects (Account # 265-023-000-634-044-000).

Environmental Analysis

These activities are categorically exempt under Class 1 and 2 from the provisions of the California Environmental Quality Act pursuant to Section 15301 (b) and 15302 (c) of the CEQA Guidelines. A Notice of Exemption was approved by the NCPA Commission on September 27, 2013 for this class of work and was filed in Lake County.

SR:

Committee Review

The recommendation below was reviewed by the Facilities on January 6, 2016 and was *[recommended for Commission approval]. For Facilities Committee meetings where a quorum was not present: [No formal action was taken due to the lack of a quorum, however, the [Project name] participants present at the meeting voiced their support for the recommendation below and all other meeting attendees did not have any objections.]*

Recommendation

Staff recommends that the NCPA Commission approve Resolution 16-XX authorizing the General Manager or his designee to award bids and execute agreements and purchase orders for work related to the Geothermal Plant 2, Unit 4 Turbine Overhaul, for a total cost not to exceed \$1,871,000, and report back to the Commission upon completion of the project.

Respectfully submitted,

Prepared by:

RANDY S. HOWARD
General Manager

KEN SPEER
Assistant General Manager

Attachments: (1)

- Resolution

SR:

RESOLUTION 16-XX

RESOLUTION OF THE NORTHERN CALIFORNIA POWER AGENCY AUTHORIZING THE GEOTHERMAL PLANT 2, UNIT 4 TURBINE OVERHAUL MAINTENANCE PROJECT AND AUTHORIZING THE GENERAL MANAGER TO AWARD BIDS AND EXECUTE CONTRACTS AND PURCHASE ORDERS FOR SUCH PROJECT AT A TOTAL COST OF NOT TO EXCEED \$1,871,000

(reference Staff Report #xxx:16)

WHEREAS, the Northern California Power Agency (NCPA) owns, operates, and maintains on behalf of participating members a Geothermal facility consisting of two power plants with containment areas and a steamfield (Geothermal Generating Project); and

WHEREAS, the power plants are on a six year overhaul maintenance schedule and Plant 2, Unit 4 of the Geothermal Generating Project is due for overhaul to perform preventative maintenance in the spring of 2016; and

WHEREAS, during the Plant 2 Unit 4 Turbine Overhaul Maintenance Project (Turbine Overhaul Maintenance Project) various contractors will be needed to perform overhaul of the main steam turbine and generator, electrical breakers, large pumps and motors, and to perform inspections, cleaning, testing, and ancillary work at an estimated cost not to exceed \$1,871,000; and

WHEREAS, NCPA has existing funds in the Maintenance Reserve account of the Geothermal Generating Project sufficient to pay for the Turbine Overhaul Maintenance Project; and

WHEREAS, the Commission desires to authorize the General Manager to solicit bids and award contracts in accordance with NCPA Purchasing Policies and Procedures to carry out the tasks which comprise the Turbine Overhaul Maintenance Project without further approval by the Commission, provided that the cumulative cost of such contracts and purchase orders shall not exceed the estimated cost as stated herein;

NOW, THEREFORE BE IT RESOLVED, that the Commission of the Northern California Power Agency:

1. Finds that the Turbine Overhaul Maintenance Project is categorically exempt under Class 1 and 2 from the provisions of the California Environmental Quality Act pursuant to Sections 15301 (b) and 15302 (c) of the CEQA Guidelines. A Notice of Exemption was approved by the NCPA Commission on September 27, 2013 for this class of work and was filed in Lake County; and
2. Authorizes the NCPA General Manager or his designee to award bids and execute agreements and purchase orders, each in a form approved by the NCPA General Counsel, for work related to the Turbine Overhaul Maintenance Project in accordance with NCPA Purchasing Policies and Procedures without further approval by the Commission, for a total cumulative cost not to exceed \$1,871,000; and report back to the Commission upon completion of the project.

PASSED, ADOPTED and APPROVED this ____ day of _____, 2016, by the following vote on roll call:

	<u>Vote</u>	<u>Abstained</u>	<u>Absent</u>
Alameda	_____	_____	_____
BART	_____	_____	_____
Biggs	_____	_____	_____
Gridley	_____	_____	_____
Healdsburg	_____	_____	_____
Lodi	_____	_____	_____
Lompoc	_____	_____	_____
Palo Alto	_____	_____	_____
Port of Oakland	_____	_____	_____
Redding	_____	_____	_____
Roseville	_____	_____	_____
Santa Clara	_____	_____	_____
Truckee Donner	_____	_____	_____
Ukiah	_____	_____	_____
Plumas-Sierra	_____	_____	_____

CAROL GARCIA
CHAIRPERSON

ATTEST: _____
CARY A. PADGETT
ASSISTANT SECRETARY