



Commission Staff Report – *DRAFT*

COMMISSION MEETING DATE: September 27, 2024

SUBJECT: Second Amendment to Geothermal Plant 1, Unit 2 Turbine Overhaul Project;
Applicable to the following: The Northern California Power Agency (NCPA) Geothermal Facility.

AGENDA CATEGORY: Discussion/Action

FROM:	Michael DeBortoli	METHOD OF SELECTION:
	Assistant General Manager	<i>Competitive Pricing Process</i>
Division:	Generation Services	<i>If other, please describe:</i>
Department:	Geothermal	

IMPACTED MEMBERS:					
All Members	<input type="checkbox"/>	City of Lodi	<input checked="" type="checkbox"/>	City of Shasta Lake	<input type="checkbox"/>
Alameda Municipal Power	<input checked="" type="checkbox"/>	City of Lompoc	<input checked="" type="checkbox"/>	City of Ukiah	<input checked="" type="checkbox"/>
San Francisco Bay Area Rapid Transit	<input type="checkbox"/>	City of Palo Alto	<input type="checkbox"/>	Plumas-Sierra REC	<input checked="" type="checkbox"/>
City of Biggs	<input type="checkbox"/>	City of Redding	<input type="checkbox"/>	Port of Oakland	<input type="checkbox"/>
City of Gridley	<input checked="" type="checkbox"/>	City of Roseville	<input checked="" type="checkbox"/>	Truckee Donner PUD	<input type="checkbox"/>
City of Healdsburg	<input checked="" type="checkbox"/>	City of Santa Clara	<input checked="" type="checkbox"/>	Other	<input type="checkbox"/>
<i>If other, please specify</i>					

RECOMMENDATION:

Approval of the Second Amendment to Resolution 24-02 for the Geothermal Plant 1, Unit 2 Turbine Overhaul Project: 1) authorizing additional funding and a budget augmentation of \$750,000 for a revised total not to exceed amount of \$10,150,000; 2) delegating authority to the General Manager or his designee to award bids, execute agreements, and to issue purchase orders for the project in accordance with NCPA purchasing policies and procedures, without further approval by the Commission; and 3) authorizing the use of \$750,000 from the Maintenance Reserve.

BACKGROUND:

In December 2023, during a planned transmission line outage scheduled by Pacific Gas and Electric (PG&E), NCPA hired Reliable Turbine Services, LLC (RTS) to perform a nondestructive visual inspection on Plant 1, Unit 2 turbine rotor L-0 blades. The visual inspection revealed significant wear on the L-0 blades, and RTS recommended that the L-0 blades be replaced. The Geothermal Plant 1, Unit 2 Turbine Overhaul Project was originally approved by the Commission on January 5, 2024 (Resolution 24-02) for an amount not to exceed amount of \$7,200,000.

On March 28, 2024, the Commission approved a First Amendment to the Geothermal Plant 1, Unit 2 Turbine Overhaul Project, increasing the budget by \$2,200,000, for an updated total not to exceed amount of \$9,400,000. The project was running just under budget. While NCPA was on-track to complete the work and return the unit to service, the unit tripped. Inspection found that there was damage and that resulted in a Root Cause Analysis (RCA) to be performed to determine the cause of damage.

The early indications showed that the failure was a result of workmanship from the contractor. Further analysis continues to support the initial indications. The contractor has agreed that most of the findings are warranty related and that there will be no cost to the Agency for most of the work. However, there are some disputed items, such as scaffolding and confined space rescue services that are in dispute. In addition, there were other minor discoveries such as scoring in the bearings that have not yet been resolved. While NCPA's position is that this is all related and a result of workmanship, the contractor has not accepted responsibility for the minor items at this time.

This authorization and funding request in this staff report are to ensure that NCPA has the ability to keep work progressing towards completion while the funding obligations are disputed with the contractor.

In addition, one item that NCPA has added that is not in the scope of the contractor is third party engineering support to review and analyze the failure and provide support for the warranty claims.

The request by NCPA for this additional support is \$750,000 to account for any unexpected findings and disputed charges that may occur during the turbine analysis, corrections and startup.

On August 7, 2024, the Unit 2 turbine rotor and diaphragms were sent off-site to the contractor shop in Sullivan, MO, where the vendor performed the seal and caulking wire assessment along with a full turbine rotor/diaphragm inspection. This was performed to the account of the

contractor. The potential costs associated with this additional evolution are shown in the table below.

Description	Cost
Owner’s Engineer Third Party Generator Vibration Investigation	\$80,000
Scaffolding Services & Industrial Cleaning	\$175,000
Owner’s Engineer Third Party Assembly Oversight	\$145,000
Inspection & repair of Unit 2 Turbine Bearings	\$150,000
Confined Space Rescue Team Services	\$50,000
Sub-Total	\$600,000
Additional Contingency 20%	\$150,000
Additional Funding Request	\$750,000

FISCAL IMPACT:

The revised total cost is anticipated not to exceed \$10,150,000. A breakdown of the project costs and prior authorizations is shown in the table below.

Description	Cost
Unit 2 Turbine Rotor Overhaul and Generator Reset	\$4,500,000
Unit 2 GSU Transformer Overhaul	\$300,000
Transportation and Insurance	\$100,000
Additional Balance of Plant Work	\$200,000
Incidentals (scaffold, etc.)	\$400,000
Lakeville 230KV Line Repairs	\$500,000
Contingency	\$1,200,000
First Amendment (Approved March 28, 2024)	\$2,200,000
Additional Funding Request – RCA Contingency	\$750,000
Revised Total Not to Exceed	\$10,150,000

The original \$7,200,000 for the Geothermal Plant 1, Unit 2 Overhaul Project was funded from the GEO Decommissioning Reserve. Those funds were approved to be replenished by the Project Participants over a three-year period through the normal budgeting process beginning in Fiscal Year 2025. First Amendment was approved for an additional \$2,200,000 funded from the Maintenance Reserve was authorized to be replenished by the Project Participants over a ten-year period through the normal budget process for Fiscal Years 2025-2034. NCPA is proposing that the additional \$750,000 be funded from the Maintenance Reserve. In this case, work was planned in the steamfield. This work has been completed with additional funds available to draw from. No further collections will be needed for this work. The maintenance reserve account for this fiscal year and the next five year forecast of maintenance reserve is in the tables below.

Balances Fiscal Year 2025		Cost
Geo Maintenance Reserve account (7/30)		\$4,888,186
To be paid out when the Final RTS is received, per prior Commission approval		\$2,200,000
Funds to be collected through the ARB in FY2025		\$5,332,452
The FY25 Maintenance Reserve planned spending plus extra work as may be authorized in this Staff Report		\$2,000,000
End of Year Balance		\$6,020,638

5 Year Maintenance Reserve Projections	2025	2026	2027	2028	2029
Annual Collections	5,332,452	5,680,263	5,781,270	5,811,270	5,945,551
Planned Spending	4,200,000	3,027,500	3,055,763	7,684,809	9,445,660
End of Year Balance	6,020,638	8,673,401	11,398,908	9,525,369	6,025,260

SELECTION PROCESS:

The majority of the work being performed is an undisputed warranty claim with the contractor. The contractor will continue to work and honor its obligations. Other disputed work in the machine such as bearings will be performed by the contractor so as not to create warranty confusion. Other aspects of this request are related to support services that are not performed by the contractor but others. Work by those other services will follow procurement procedures of the Agency.

ENVIRONMENTAL ANALYSIS:

These activities are categorically exempt under Class 1, 2, 3, 4, and 11 from the provisions of the California Environmental Quality Act pursuant to Sections 15301 (b), 15302 (c), 15303, 15304 and 15311 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 Sonoma County. No environmental review is necessary.

COMMITTEE REVIEW:

Pending Committee review and approval.

AFTER FACILITIES APPROVAL: On September 17th, 2024, the Facilities Committee reviewed and endorsed the recommendation above for Commission approval.

Respectfully submitted,

RANDY S. HOWARD
General Manager

Attachments (1):

- Amended Resolution 24-02

DRAFT

AMENDED RESOLUTION 24-02

**RESOLUTION OF THE NORTHERN CALIFORNIA POWER AGENCY
APPROVING THE SECOND AMENDMENT TO THE NCPA GEOTHERMAL PLANT 1, UNIT 2
TURBINE OVERHAUL PROJECT**

(reference Staff Report #241:24)

WHEREAS, in December 2023, during a planned transmission line outage scheduled by Pacific Gas and Electric (PG&E), NCPA hired Reliable Turbine Services, LLC (RTS) to perform a nondestructive visual inspection on Plant 1, Unit 2 turbine rotor L-0 blades. The visual inspection revealed significant wear on the L-0 blades, and RTS recommended that the L-0 blades be replaced; and

WHEREAS, the Geothermal Plant 1, Unit 2 Turbine Overhaul Project was originally approved by the Commission on January 5, 2024 (Resolution 24-02) for an amount not to exceed amount of \$7,200,000; and

WHEREAS, on March 28, 2024, the Commission approved a First Amendment to the Geothermal Plant 1, Unit 2 Turbine Overhaul Project, increasing the budget by \$2,200,000, for an updated total not to exceed amount of \$9,400,000; and

WHEREAS, on August 7, 2024, the Unit 2 turbine rotor and diaphragms were sent off-site to the RTS shop in Sullivan, MO, where the vendor performed the seal and caulking assessment along with a full turbine rotor/diaphragm inspection; and

WHEREAS, NCPA is now seeking approval for an additional \$750,000, for an updated total project cost not to exceed \$10,150,000 for the additional work required to complete this project to account for any unexpected findings and disputed charges that may occur during the turbine analysis, corrections and startup; and

WHEREAS, these activities are categorically exempt under Class 1, 2, 3, 4, and 11 from the provisions of the California Environmental Quality Act pursuant to Sections 15301 (b), 15302 (c), 15303, 15304 and 15311 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 Sonoma County. No environmental review is necessary; and

NOW, THEREFORE BE IT RESOLVED, that the Commission of the Northern California Power Agency authorizes approval of the Second Amendment to Resolution 24-02 for the Geothermal Plant 1, Unit 2 Turbine Overhaul Project: 1) authorizing additional funding and a budget augmentation of \$750,000 for a revised total not to exceed amount of \$10,150,000; 2) delegating authority to the General Manager or his designee to award bids, execute agreements, and to issue purchase orders for the project in accordance with NCPA purchasing policies and procedures, without further approval by the Commission; and 3) authorizing the use of \$750,000 from the Maintenance Reserve to be replenished by Project Participants over a ten-year period in Fiscal Years 2026 - 2035 through the annual budget process.

///

///

///

PASSED, ADOPTED and APPROVED this ____ day of _____, 2024, by the following vote on roll call:

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

 JERRY SERVENTI
 CHAIR

ATTEST: _____
 CARRIE POLLO
 ASSISTANT SECRETARY