



City of Santa Clara

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Agenda Report

21-597

Agenda Date: 5/4/2021

REPORT TO COUNCIL

SUBJECT

Action on a Resolution Authorizing the City Manager to Award and Execute Agreements, Amendments, Purchase Orders, and Change Orders, with Various Vendors as Required to Complete Emergency Repairs, Corrective and Preventative Maintenance at the Gianera Generating Station Increasing Previous Authorization to an Aggregate Amount Not-to-Exceed \$10,000,000

COUNCIL PILLAR

Deliver and Enhance High Quality Efficient Services and Infrastructure

BACKGROUND

The City of Santa Clara's Electric Utility, Silicon Valley Power (SVP) operates three power generation facilities within City limits: the Donald Von Raesfeld Power Plant (DVR), the City of Santa Clara Cogeneration Plant, and the Gianera Generating Station (Gianera). These plants are critical to providing sufficient power to meet electric grid reliability requirements, the needs of SVP's power customers, and SVP's Resource Adequacy (RA) requirements.

Gianera houses two General Electric Frame 5 gas turbines (Unit 1 and Unit 2). In Fall of 2020, staff identified issues with the generator and accessory gearbox on Gianera Unit 2 and took initial actions to bring the engine back online. Upon further investigation staff determined that significant repairs were needed to bring the engine back online without risking damage to the system.

On December 16, 2020, Council adopted a Resolution authorizing the City Manager to negotiate and execute agreements, amendments, and change orders with various vendors as required to complete repairs at Gianera, for an aggregate amount not-to-exceed \$1,000,000. The Resolution also directed staff to provide Council with a report on the contracts awarded and work performed once the repairs were completed. On January 12, 2021, Council adopted a Resolution increasing the aggregate maximum compensation from \$1,000,000 to \$2,567,736, after staff discovered more critical issues could have resulted in significant equipment damage or forced outage if left unresolved.

The Gianera Unit 2 repairs have been completed and the engine is now operational. The total cost to date is \$1,837,621. Work included the following services provided by the following contractors:

Allied Power Group (APG):

- Repair Unit 2 accessory gearbox
- Replacement of failed bearing
- Flush / replace Unit 2 lubricating oil (removal of metal debris from bearing failure)
- Inspection & troubleshooting of Unit 1

Electrical Maintenance Consultants (EMC):

- Inspection and repairs of generator rotor

DISCUSSION

While Gianera Unit 2 was under repair, Unit 1 experienced a set of catastrophic issues and taken offline. Gianera Unit 1 is now unavailable for dispatch to meet electric grid reliability requirements and RA needs. An inspection of Unit 1 revealed the following critical issues:

- Cracked blades in the compressor section that will require repair/replacement
- A failed oil seal on a bearing that requires replacement
- Severely cracked combustion liners that require replacement
- Disintegrating Turbine shroud blocks.

The turbine shroud blocks are especially concerning because as they disintegrate the debris causes impact damage to downstream turbine blades. The amount and severity of the damage discovered requires a complete disassembly of the Unit 1 engine. Staff anticipates that further issues may be uncovered while dismantling the unit for repair.

Staff took initial actions, using existing contracts in place, to address the engine issues but were unable to make repairs to eliminate potential further equipment damage up to and including catastrophic failure of major components of the turbine, generator, and accessory gearbox. It is important to note that as part of SVP's new more proactive maintenance program, the Unit 1 engine was already scheduled for a major overhaul in October 2021, and staff was already developing a competitive Request for Proposals (RFP) to select a vendor to perform the overhaul. However, the discovery of the aforementioned critical issues has significantly moved up SVP's timeline to address the turbine engine. The Unit 1 engine needs repairs and to be put back into service by August 1, 2021. While an RFP is in development, the RFP and contract processes will not be completed in time to have the Unit 1 engine back in service by August 1, 2021.

Leaving the Unit 1 engine offline is particularly concerning in the summer months, where power needs may be especially high. Additionally, there are concerns related to drought water conditions, which are anticipated to impact power availability from remote hydroelectric sites under contract by SVP. The Unit 1 downtime combined with any drought conditions can lead to estimated revenue losses of up to \$16,000 per day. SVP has sufficient RA capacity until August. However, historically August and September are critical months for energy sources and RA Capacity in California.

Staff recommends authorizing the City Manager to negotiate and execute amendments, change orders, and new agreements with various vendors as required to complete Unit 1 repairs at the Gianera Plant, including sole source authorization(s) where a bid process is not feasible. Staff also recommends that the major overhaul work that would have occurred in October be completed to avoid the additional costs of dismantling the unit a second time. While an RFP will not be completed in time to cover this work, staff still intends to release the RFP to establish a long-term master agreement for future turbine engine service needs. The master agreement approach aligns with SVP's new proactive maintenance approach and also with the recent Council approved maintenance master agreements for the turbines at DVR.

Staff anticipates that the primary contractor will be Applied Power Group (APG), as they performed the major services necessary to bring the Unit 2 engine back into service. APG is also the vendor that the Northern California Power Agency (NCPA) recommends for Turbine repairs. Additionally, staff will execute a separate agreement with a Technical Field Advisor to support staff and oversee the project, direct the prime contractor, and represent the City.

This authorization will not be used for any purpose other than services needed at the Gianera Power Plant including emergency repairs, corrective maintenance, and preventative maintenance that can be economically completed at the same time in order to assure reliable operation through the summer, and until an RFP process is completed and contract awarded.

SVP will coordinate closely with the Purchasing Division as well as the City Attorney's Office to procure and negotiate agreements with terms acceptable to the City, including obtaining reasonable pricing and ensuring compliance with applicable prevailing wage and bonding requirements. Where possible, staff will work with existing contractors but, due to the unknown cause of the issue, staff may need to identify and execute agreements with new vendors. Any requirements resulting in new agreements shall be procured pursuant to the City's purchasing rules including for emergency procurements as applicable. Staff will provide the Council with an updated report on all items associated with the work at Gianera and this authorization once all work has been completed and both units are online and operating.

ENVIRONMENTAL REVIEW

Council action on this item is exempt from CEQA review under Section 15301 of the CEQA Guidelines, operation, repair, and maintenance of existing public facilities.

FISCAL IMPACT

Funds for all repairs and related costs will come from the Major Engine Overhaul and Repair capital project budgeted in the Electric Utility Capital Fund.

The total cost of work at the Gianera Power Plant is estimated not to exceed \$10,000,000 including the previous authorization of \$2,567,736. This includes the work already completed for Gianera Unit 2 as well as estimated costs for a major overhaul of Gianera Unit 1.

COORDINATION

This report has been coordinated with the Finance Department and City Attorney's Office.

PUBLIC CONTACT

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall Council Chambers. A complete agenda packet is available on the City's website and in the City Clerk's Office at least 72 hours prior to a Regular Meeting and 24 hours prior to a Special Meeting. A hard copy of any agenda report may be requested by contacting the City Clerk's Office at (408) 615-2220, email clerk@santaclaraca.gov <<mailto:clerk@santaclaraca.gov>>.

RECOMMENDATION

Adopt a Resolution authorizing the City Manager to negotiate, award and execute agreements, amendments, purchase orders, and change orders with various vendors as required to complete

emergency repairs, corrective and preventative maintenance at the Gianera Generating Station increasing previous authorization to an aggregate amount not-to-exceed \$10,000,000 and directing staff to provide Council with a report on contracts awarded and work performed once the repairs have been completed.

Reviewed by: Manuel Pineda, Chief Electric Utility Officer

Approved by: Deanna J. Santana, City Manager

ATTACHMENT

1. Resolution - Gianera Emergency Repairs and Maintenance