

Agenda Report

March 24, 2003

To: City Council
Through Municipal Services Committee

From: City Manager

Subject: Authorization to enter into contract with Turbine Technology Services Corporation dba Sermatech Power Solutions for Construction and Installation of Gas Turbine Units 3 and 4 at Glenarm in an amount not to exceed \$19,850,000

RECOMMENDATION:

It is recommended that the City Council:

- (1) Accept the bid submitted by Turbine Technology Services Corporation dba Sermatech Power Solutions (Sermatech) for the construction and installation of Gas Turbine Units 3 and 4 at the Glenarm power plant site;
- (2) Reject all other bids;
- (3) Authorize the City Manager to enter into a contract in an amount not to exceed \$19,850,000;
- (4) Award this contract also on the basis of emergency and/or impracticality in the public's best interest; and
- (5) Amend the Fiscal Year 2003 CIP to appropriate an additional \$8,888,676 to the Light and Power Fund Capital Improvement Program under Budget #3166 for the "Local Generation Repowering Plan" from the unappropriated Light and Power Fund funds.

BACKGROUND:

GT-3 and GT-4 are Key Elements of the Strategic Resource Plan

The City Council unanimously adopted the Pasadena Water and Power (PWP) Power System Strategic Resource Plan (Plan) on November 19, 2001. A key

element of the Plan is the replacement of existing steam generators Broadway 1 and Broadway 2 (B-1 and B-2) with two new 45MW combustion turbines. These new units will be located on the Glenarm property and designated as Gas Turbine Unit 3 and Unit 4 (GT-3 and GT-4). With their higher efficiency, superior operational flexibility, and 98% reduction in NOx emission rates, GT-3 and GT-4 will help maintain PWP's low electric rates and reduce air quality impacts.

GT-3 and GT-4 Project History and Status

Due to the short timeline available to replace B-1 and B-2, the GT-3 and GT-4 repowering project (Project) has been developed on a fast track basis. PWP immediately hired a project manager, contracted with CH2MHill for owner's engineer (OE) services, and contracted with Parsons Engineering for assistance in preparing operating permit application documents. After less than three months of preliminary engineering and feasibility studies, the City Council authorized a contract with General Electric on February 11, 2002 to provide detailed engineering design, construction specifications, and deliver major equipment as needed to support a July 1, 2003 commercial operation date. Staff secured a Conditional Use Permit (including the retrofit of GT-1 and GT-2) on July 31, 2002 and the City contracted with Southwest Industries on September 26, 2002 to begin site demolition and remediation services required prior to construction. The SCAQMD approved PWP's Project application and issued required permits on November 26, 2002 clearing the way to start Project construction. On December 16, 2002 the City Council authorized additional expenses for the demolition contractor to further excavate and remediate contaminated soil that needed clearing prior to construction.

As of December 19, 2002 the majority of major equipment was ready to ship. Since it is the construction contractor's responsibility to receive shipments, this equipment is being stored at PWP's expense until the construction contractor is mobilized.

Throughout the Project, staff has worked diligently to maintain schedule and has taken many measures to reduce project delays. However, on February 3, 2003 staff recommended the City Council reject all bids for Project construction to provide time for a rebid that could reduce risk of work stoppages as a result of labor disruption or contract challenges. Revised specifications were issued to eliminate ambiguities identified in the first specification, include provisions to promote positive labor relations, eliminate work stoppages, and include an early project completion incentive of \$5,000 per day per unit (as well as a complementary late completion penalty of \$5,000 per day per unit).

On March 10, 2003 the City Council authorized additional expenses for the demolition contractor to remove additional structures, further excavate and remediate contaminated soil, and construct the storm drain bypass (on an

emergency/impracticality basis) that must be completed prior to construction. This work was authorized to reduce risks that could cause further construction delays.

Construction Specification and Bidding Summary

Construction Specification LD-03-2 was issued on February 13, 2003 along with all available construction drawings, related data, and general terms and conditions. The specifications included the following scope of work:

- Soil excavation and foundation work
- Receive and install purchased equipment (from GE)
- Furnish and install duct banks and piping systems
- Pull, terminate and test cabling
- Furnish, install and calibrate instrumentations
- Furnish and install paving and fencing
- Furnish and perform start up support services
- Provide quality control, safety and project management

The specifications also required the bidder to execute a Project Labor Agreement (PLA) with the Building and Trades Council. Although the City is not a party to PLA, it protects the City's interest by including provisions for common work rules, prevent work stoppages, and timely dispute resolution.

Although seventeen prospective bidders and subcontractors attended the mandatory job walk, only three bids were received by the March 10, 2003 deadline, as summarized below:

Bidder	Bid Amount
Sermatech Power Solutions	\$17,231,697
ARB, Inc.	\$18,050,194
Keiwick	\$18,118,200

Staff has determined that Sermatech is the lowest responsive bidder. Staff recommends authorizing a contract with Sermatech for an amount not to exceed \$19,850,000, which includes a base amount of \$17,231,697 and a contingency of \$2,618,303 (approximately fifteen percent). The relatively large contingency amount is appropriate due to remaining uncertainties and urgent need for project completion without further delay. The uncertainties consist of potential soil contamination and remediation, and potential substitution of material and equipment and scope of work changes due to design modifications resulting from permit conditions or quality control. Additional authorization to pay early completion incentives of \$5,000 per day per unit and other change orders to mitigate schedule delays due to weather or other unforeseen conditions are also

included in the contingency amount.

The construction schedule is highly compressed, and it is essential and prudent that sufficient funds be authorized to ensure expedient resolution of any obstacles that may arise. Bidders have indicated this project has an accelerated schedule that will require significant overtime and must start as soon as possible to meet the 128-day construction schedule.

Emergency Basis for Completion of GT-3 and GT-4

In addition to the competitive bidding basis for a contract award, staff recommends that the City Council also award this contract on the basis of emergency/impracticality independently of the competitive bidding process because public interest would not be served by another round of rebidding. Further construction delays could result in power shortages, increased costs for spot market energy and gas purchases, and potential permit violations that could have long-range impacts on local generation.

Due to their inability to meet stringent emissions requirements imposed by the South Coast Air Quality Management District (SCAQMD) in May 2001, B-1 and B-2 lost their operating permits effective January 1, 2003 and have subsequently been electrically disconnected from the Power System. GT-3 and GT-4 were scheduled to be operational by summer 2003 to replace this lost local generation capacity that is essential to reliably meet PWP's peak loads and provide an important hedge against power market price spikes. Due to project delays, PWP will rely on Broadway 3 and GT-1 and GT-2 to meet peak loads this summer, and any contingency affecting these remaining units could result in local power shortages and increased costs.

Even though the summer peak was missed, GT-3 and GT-4 will substantially lower fuel costs this fall and winter due their flexibility and efficiency. Keeping Broadway 3 on line to meet occasional peak fall demands will cost about \$20,000-35,000 per day more than using the new GTs for this purpose.

Furthermore, the SCAQMD requires that existing gas turbine units GT-1 and GT-2 must be retrofit with state of the art emissions controls equipment by January 1, 2004 in order to maintain their operating permits. To be completed on time, the retrofit construction work must be started by late summer. It is therefore critical to complete the construction of GT-3 and GT-4 as soon as feasible in order to replace the lost capacity of B-1 and B-2 and facilitate the construction necessary for GT-1 and GT-2 retrofit.

Project Budget, Financing, and CIP Amendment

Based on a \$74 million cost estimate provided by RW Beck in the Strategic Plan, which was further estimated by CH2Mhill (PWP's owner's engineer) in January 2002 to range from \$62.23 to \$ 88.60 million, PWP proposed a \$74.8 million dollar budget for this Project and the City Council appropriated this amount to Capital Improvement Project (CIP) Budget Number 3166, "Local Generation Repowering Plan", to fund GT-3 and GT-4. An additional \$7 million was appropriated to CIP 3166 to fund the retrofit of GT-1 and GT-2, bringing the total appropriation for the combined repowering and retrofit projects to \$81,781,324.

Council has approved contract expenditures and related amendments of 62,180,000 to date. This contract award, including contingency amounts, for the sum of \$19,850,000 when added to these expenditures will bring the total for GT 3 and GT 4 project to \$82,030,000 and exceed the appropriated dollars for GT 3 and GT 4 of \$74,781,324 as shown below. Staff is requesting that additional appropriation be made to allow the execution of this contract and to cover expenses authorized by Council of \$1,140,000 for additional demolition and soil remediation already completed under the demolition contract.

Installation of GT 3 and GT 4

prior expenditures- Council approved	62,180,000.00	
This Contract Award (Sermatech)	<u>19,850,000.00</u>	
	82,030,000.00	
Current Appropriation GT 3 and GT 4	<u>74,781,324.00</u>	74,781,324
Difference	7,248,676.00	
Unforeseen expenditures- GT 3 and GT 4		
Soil contamination and additional demolition	<u>1,140,000.00</u>	
Additional appropriation requested		<u>8,388,676</u>
GT 3 and GT 4 new appropriation		83,170,000

Since GT 1 and GT 2 retrofit is included in the same CIP as the installation of GT 3 and GT 4, staff is also recommending to increase the appropriation for this retrofit project by \$500,000. Bids for the retrofit have been received and were more than anticipated. The recommendation of award for the retrofit contract will be submitted at a later date. The additional appropriation will cover the labor charges for in house work.

Retrofit of GT 1 and GT 2

Future contract award (including contingency)	7,000,000.00	
Current appropriation		7,000,000
additional appropriation requested		<u>500,000</u>
GT 1 and GT 2 new appropriation		7,500,000

To cover the increased Project costs for GT 1 and GT 2, and GT 3 and GT 4, an additional \$8,888,676 appropriation is being requested at this time for CIP 3166, bringing the total appropriation for the local generation repowering plant to \$90,670,676 as shown below.

Local Generation Project Budget and CIP Authorizations

	Authorized Budget	Additional Appropriation	Updated Budget
GT-3 and GT-4	\$ 74,781,324	\$8,388,676	\$ 83,170,000
<u>GT-1 and GT-2</u>	<u>7,000,000</u>	<u>500,000</u>	<u>7,500,000</u>
Total CIP 3166	81,781,324	8,888,676	90,670,000

The initial \$74 million Project budget for GT-3 and GT-4 was funded by a bond financing completed in August 2002. Funds are available in the Light and Power Fund to cover the additional \$8,888,676. It is staff's intention to issue bonds at a later date to reimburse the Light and Power Fund.

The \$8.888 million Project overrun will be depreciated over the 20 year life of the Project at approximately \$444,000 per year, resulting in a relatively small energy rate impact of less than 0.04¢/kWh.

Analysis performed for the November 2001 Strategic Resource Plan indicated that the local generation repowering plan (including the GT-3 and GT-4 project and GT-1 and GT-2 retrofit project) resulting in savings (net present value over 20 years) of approximately \$151 million (versus market procurement), compared to an estimated capital cost of \$81 million for these projects. Even with the current combined budget of \$90.67 million in capital costs, these projects will still result in annual savings that yield lower overall rates for PWP customers.

Pending Council Authorizations

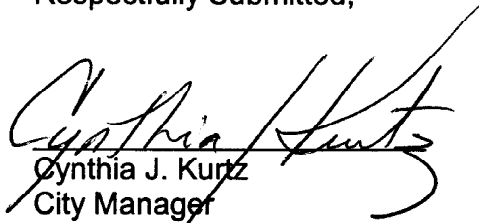
Although this is the last major contract award associated with the GT-3 and GT-4 Project, PWP anticipates that it may return to Council in the coming months to request approval of contracts extensions with current vendors for additional services needed for the Project, including:

- Extension of the contract with GE for additional costs related to the construction delay
- Contract for the GT-1 and GT-2 retrofit project
- Soil excavation and remediation if additional contamination is discovered during construction
- Independent construction and/or performance testing

FISCAL IMPACT:

Funding is available from the Light and Power Fund Capital Improvement Program under Budget #3166 for the "Local Generation Repowering Plan" and the unappropriated Light and Power Fund fund balance. This CIP has been funded with proceeds from a bond issuance that closed in August 2002. This contract award represents the last major expense authorization required with the GT-3 and GT-4 construction project. It is currently projected that this project will exceed the original \$74.8 million budget estimate by up to \$8.388 million (11%) depending upon the final costs for construction, soil remediation, and other unforeseen conditions that may arise. The \$8.388 million project increase in GT-3 and GT-4 project, along with the increase of \$0.5 million on GT-1 and GT-2 project will be depreciated over the life of the Project at approximately \$444,000 per year, resulting in a relatively small energy rate impact of less than 0.04¢/kWh relative to the initial budget in the CIP. Nonetheless, completion of the Project is not expected to increase electric rates, because savings in fuel and purchased power expenses are expected to more than offset Project amortization costs.

Respectfully Submitted,



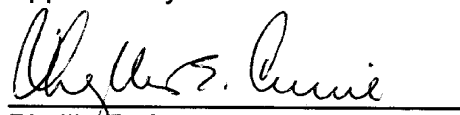
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