



CITY OF LONG BEACH

DEPARTMENT OF TECHNOLOGY SERVICES

R-25

333 WEST OCEAN BOULEVARD • LONG BEACH, CA 90802 • (562) 570-6277 FAX (562) 570-6662

July 22, 2008

HONORABLE MAYOR AND CITY COUNCIL
City of Long Beach
California

RECOMMENDATION:

Authorize the City Manager to execute an agreement, amendments to extend the term and all related documents with Langham Consulting Services, Inc., to provide professional services for the selection of a new customer information system (CIS) to replace the City's existing utility billing system in an amount not to exceed \$200,000. (Citywide)

DISCUSSION

At its July 10, 2007 meeting, the City Council requested the City Manager to work with the Long Beach Water Department to begin the process of upgrading the City's utility billing (UB) system. More specifically, the City Council requested staff to prepare a plan to complete the upgrade that would reflect the implementation of an allocation-based, tiered rate for water conservation purposes across customer types, as well as providing other needed functions not currently available with the existing system. In addition, the plan should provide cost estimates and a funding strategy that minimizes the impact on the City's General Fund. Attached is the completed plan that was provided to the Mayor and City Council in January 2008, indicating that staff would move forward with the system selection process.

Existing System Overview

The City of Long Beach uses a 27-year old, staff-developed utility billing system (UB System) to maintain utility customer information, process utility service requests and to bill for gas, water, sewer and refuse services. The UB system was determined to be one of the high priority systems to be replaced during the development of the 2003 Information System Master Plan. The system uses antiquated technology, which makes it difficult to update to meet new business needs, as well as costly to integrate with other modern systems built with newer technologies. Also, the City has some risk since the staff who developed the system and maintained it for many years have retired, and colleges and universities are not teaching the computer programming language used by the system as in the past. Additionally, it is anticipated that a new system would increase staff efficiency with enhanced reporting and data analysis capabilities.

As with most custom developed applications, the UB system was built and modified over the years with specific functionality to match the business processes of the City. However, the system has limitations as it uses outdated technology. For example, for water billing, the system has been designed to use a tiered rate structure for residential customers and a flat rate for commercial customers. While with substantial financial and staff resources, it may be possible to update the system to apply the tiered rate structure to the commercial customers, the system lacks the flexibility to provide advanced logic that allows for different rate schedules by customer types, past usage, defined allocations, seasonality, etc. These features are common in most modern utility billing systems on the market today.

System Selection Approach

A committee consisting of staff from the Water, Gas and Oil, Public Works, Financial Management and Technology Services Departments was assembled to select and implement a new customer information system (CIS) to replace the existing UB system. Due to the significance of this system, which handles more than \$200 million in revenue annually to the City, and the complexity of the solutions offered by the various vendors in the marketplace, the committee determined that retaining an expert in the utility information systems field would be prudent to guide the system evaluation and selection effort.

A request for proposals (RFP) for professional and technical services was issued on April 3, 2008. Nine potential candidates responded to the RFP. Of the nine proposals, one indicated that it is a minority or women-owned business and none responded that they were a Long Beach business. The committee evaluated the proposals, held oral interviews and completed reference checks. As a result, it selected Langham Consulting Services, Inc. based on a combination of staff expertise, experience, price, and the proposed project approach. Langham has assisted numerous cities and utility agencies with similar projects including Burbank Water and Power, Pinellas County, Florida, and Manatee County, Florida.

With the assistance of Langham, staff expects the customer information system RFP, evaluation, and selection process to be completed by May 2009. At that time, staff will present the proposed recommendation, including detailed project cost estimates, funding approach and the implementation time line, to the City Council for approval.

This matter was reviewed by Deputy City Attorney Gary Anderson on July 2, 2008, and by Budget Management Officer Victoria Bell on July 3, 2008.

TIMING CONSIDERATIONS

City Council action is requested on July 22, 2008 in order to maintain the current project schedule.

FISCAL IMPACT

The \$200,000 amount of the agreement would be shared by the Water, Gas and Oil, and Public Works Departments. Sufficient funds are budgeted in the Gas Fund (EF 301), the Water Fund (EF 310), and the Refuse/Recycling Fund (EF 330) to support this activity. There will be no fiscal impact to the General Fund.

SUGGESTED ACTION:

Approve recommendation.

Respectfully submitted,



CURTIS TANI
DIRECTOR OF TECHNOLOGY SERVICES

CT:jf
Attachment

APPROVED:


PATRICK H. WEST
CITY MANAGER



Date: January 3, 2008

To: *fw* Patrick H. West, City Manager *EW*

From: Curtis Tani, Director of Technology Services *CT*

For: Mayor Foster and Members of the City Council

Subject: **Utility Billing System Replacement Plan / Water Conservation**

This memorandum is in response to the City Council's request to begin the process to upgrade the City's utility billing system.

Background

At its July 10, 2007 meeting, the City Council requested the City Manager work with the Long Beach Water Department to begin the process of upgrading the City's utility billing system. The City Council requested staff prepare a plan to complete the upgrade reflecting the following:

- Implementing an allocation-based tiered rate structure for conservation incentive purposes across customer types, as well as providing other needed functions not currently available with the existing system.
- Providing cost estimates and a funding strategy that minimizes the impact on the City's General Fund for implementation of changes to the utility billing system, and potentially provides a revenue source from the tiered rate structure that can be reinvested to fund city water conservation projects and programs.
- Contacting the Metropolitan Water District (MWD) to determine if incentives or technical assistance to implement a tiered rate system are available.
- Surveying other municipalities and water agencies to determine what measures have been taken to guarantee the rate structure is implemented fairly and how these rate structures ensure that economically disadvantaged residents can minimize their water costs.

Existing System Overview

The City of Long Beach uses a 27-year old, staff-developed utility billing system (UB System) to maintain utility customer information, process utility service requests, and to bill for gas, water, and refuse services. The UB System was determined to be one of the high-priority systems to be replaced during the development of the 2003 Information System Master Plan. The system uses antiquated technology, which makes it difficult to update to meet new business needs, as well as costly to integrate with other modern systems built with newer

technologies. Also, the City has some risk since the staff who developed the system and maintained it for many years have retired, and colleges and universities are not teaching the computer programming language used by the system as in the past. Additionally, it is anticipated that a new system would significantly increase staff efficiency with enhanced reporting and data analysis capabilities.

As with most custom developed applications, over the years the UB System has been built with specific functionality to match the business processes of the City. For the Water Department, the system has been designed to use a tiered rate structure for residential customers and a flat rate for commercial customers. While it may be possible to apply the tiered rate structure to the commercial customers, the system lacks the flexibility to provide advanced capability that allows for different rate schedules by customer types, past usage, defined allocations, seasonality, etc. These features are common in most modern utility billing systems available today.

Cost Estimates / Funding Strategy

To develop a preliminary cost estimate, City staff collected background data from several sources. We obtained information from a leader in utility billing Customer Information Systems (CIS) industry (TMG Consulting), who compiled system replacement costs from its substantial client base. Below is system replacement cost information presented by TMG at the CIS Conference in May 2007:

- TMG's metrics indicate a multiple metered utility (e.g., two services) will spend between \$40 - \$60 per customer-metered service to implement a new CIS.
- A review of new CIS product solutions found an average monthly information technology cost increase of \$0.25 per customer, from the existing \$0.50 per customer, resulting in a total cost of \$0.75 per customer to operate and support the new CIS product solution.

In addition, we contacted several CIS vendors directly to obtain high-level quotes for system replacement, as well as polled other cities that have recently implemented new systems. The information we collected from the vendors and other agencies validated TMG's estimates. It should be noted we would need to conduct a vendor selection process and develop a detailed project plan to provide a more exact cost estimate.

The City's current number of active accounts is 177,500 and includes two metered services, gas and water. Within this customer base, there are 166,500 gas customers, 90,300 water customers, 122,700 refuse customers, and 87,900 sewer customers. The number of accounts varies by service due to customers having single or multiple services. For example, an apartment building may have one water meter, but 12 gas meters. The estimated cost for the software, hardware and implementation services needed to implement a new system is

between \$7.1 million and \$10.6 million. This does not include internal staffing costs.

There are many factors that can ultimately determine the cost and duration of a project of this magnitude, including the complexity of the vendor solution purchased, the amount of customization required, and the willingness of the City to modify business processes to better adapt to the software capabilities. The direction the City takes in these areas will affect where actual costs fall in the estimated range.

In addition to the software, hardware, and implementation services costs, there would be costs associated with using internal staff from Technology Services, and to backfill key departmental staff within Financial Management, Water, Gas, and Public Works Departments. It is estimated that the equivalent of approximately six internal staff from these departments would be required full-time on the project, at a cost of \$2.4 million. Also, based on the TMG averages, the additional annual costs to maintain the new system would be approximately \$532,500.

Over a seven-year period (the standard duration used to fund large technology projects), the total project cost, including internal costs and additional maintenance costs, would range from \$11.6 million to \$15.2 million. This would be equivalent to a monthly cost of \$0.78 to \$1.02 per customer.

It should also be noted that unless the City simultaneously replaces the other systems that currently reside on the mainframe alongside the existing utility billing system, the non-labor costs (e.g., software, maintenance costs) associated with the current system would remain unchanged. Since the Water and Gas Departments contribute to recovery of these costs, the burden would need to be spread to other department budgets. Once all applications are removed from the mainframe, the City can begin to save on mainframe-related costs. Technology Services is planning to have all mainframe-based applications replaced within the next five to six years, depending on available funding. Once all mainframe systems have been replaced, the City will realize savings in excess of \$1 million per year.

Funding Strategy

The City Council requested a funding strategy that would minimize the impact on the City's General Fund. The best way to accomplish this would be to identify an additional revenue source that could allow the City to recoup the initial project costs and fund the additional ongoing operational expenses. As depicted in the cost section above, a monthly increase in revenue of an average of approximately \$1 per customer (depending on number of utilities used) would recover project and ongoing additional maintenance (financing charges not included). Since the Gas, Water, Refuse, and Sewer utilities all use the system, the cost of the system should be shared by each of these utilities. The specific fee increases and the process to obtain these increases would need to be

determined during the planning phase and then be approved by the appropriate authorities including the Long Beach Board of Water Commissioners. As part of the process, Proposition 218 hearings may be required in order to increase certain rates.

The following table depicts an example of a potential bill increase range based on an allocation that is currently used in the Financial Management Department:

Utility	Customers	Current Allocation	Approx. Monthly Inc. (\$)
Gas	166,500	40.96%	.34 - .45
Water	90,300	19.64%	.30 - .39
Sewage	87,900	15.42%	.24 - .32
Refuse	122,700	23.98%	.27 - .35
All Services			1.16 - 1.51

Timeline

Based on information from TMG Consulting as well as from the CIS vendors we contacted, presented below is the estimated timeline for a new utility billing system implementation.

- CIS application plans take between three and six months to complete with approximately six months to approve the application plan results.
- CIS selections take between nine and 12 months to complete.
- CIS installations take 16 to 24 months to complete.
- Once in production, it is taking six months minimum to stabilize the new CIS system.

YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Plan				Select				Install						Stabilize					

As mentioned above, there are many factors that can ultimately determine the duration of a project of this magnitude, including the complexity of the vendor solution purchased, the amount of customization required, and the willingness of the City to modify business processes to better adapt to the software capabilities. Depending on the direction of the City in these areas, the project timeline may be reduced.

System Implementation Strategy

Before embarking on implementing a new CIS, it is important to carefully determine a selection strategy that takes into account how the new system would integrate with the other systems that are facing imminent replacement according to the Information Systems Master Plan such as the financial system, human resource system, payroll system, and billing/collection system. Staff has determined that a new CIS that utilizes industry-standard technology can safely be selected independently of the other pending application replacement efforts without adding risk to the City's inventory of information systems. In addition, the selection strategy would require that the system be able to handle requirements that the City expects to have in the future, such as the ability to accommodate automated meter reading.

Other industry trends should also be taken into consideration including:

- Utilities want their CIS to be the customer system of record for billing all products and services provided by the City/utility.
- Configuration only is the battle cry which means no, or minimal, customization. Significant customization of CIS products has proven to be significant grounds for a replacement after just a few years.
- Accommodation of automated meter interface, meter data management, and mobile computing initiatives have seen CIS selections/installations being placed on hold.

Reinvesting Revenue From Tiered-Rate Structure

The City Council asked if any additional revenue from a tiered-rate structure could be reinvested to fund City water conservation projects and programs. Although this may be feasible, the Long Beach City Charter Section 1403(5) gives the Long Beach Board of Water Commissioners the complete and exclusive power to regulate and control the use, sale and distribution of water owned or controlled by the City and the collection of water charges charged for water for use within the city. Dialog would need to be opened with the Board of Water Commissioners regarding this opportunity.

Metropolitan Water District (MWD) Incentives

The City Council requested that the City Manager contact the MWD to determine the availability of incentives or technical assistance for municipalities to implement a tiered-rate system. MWD is not a retail water agency and only serves 26 customers and 400 meters. They currently do not provide any incentives or assistance with tiered-rate structures.

Survey Municipalities And Water Agencies

The City Council also requested that municipalities and water agencies in Southern California be surveyed to determine what measures have been taken to guarantee the rate structure is implemented fairly and how these rate structures ensure the economically disadvantaged residents can minimize their water costs. The City Attorney's opinion is that, for water rates, alternative rate structures that favor one group of customers over another, such as "lifeline rates," appear to be unsupportable under the California Constitution Sections XIII(C) and XIII(D) (Proposition 218). In order to implement these types of rates, it would be necessary for the Legislature to enact a separate statutory scheme. However, we do provide alternative rate structures for gas rates, which are not subject to Proposition 218.

Next Steps

City staff from the Water, Gas & Oil, Public Works, Financial Management and Technology Services Departments have met to discuss the plan outlined above. It is our intent to immediately initiate the planning phase and begin documenting the existing functionality of the current system. The planning phase will identify a project sponsor and project steering committee as well as produce a project charter, preliminary project schedule, project staffing requirements, and project cost estimates. The planning phase will also determine the appropriate funding methodology that will be used to recoup the project and ongoing costs associated with the new system.

Concurrent with the planning phase, City staff will also begin crafting the system selection documentation. By simultaneously preparing for the system selection during the planning phase, the City can reduce or eliminate the time spent between the planning and selection phases and even reduce the time required for the selection phase. It is anticipated that the planning phase will cost approximately \$200,000 for a project manager and internal staff and will be shared by the departments involved in the project. As a result, we anticipate that the selection phase could start by Spring 2008. Once a vendor product is selected, the detailed project cost estimate can be determined.

Please let me know if you have any questions.

CT:JC:ch

cc: Suzanne Frick, Assistant City Manager
Reginald Harrison, Deputy City Manager
Kevin Wattier, General Manager, Water Department
Lori Ann Farrell, Director of Financial Management
Christopher Garner, Director, Gas & Oil
Michael Conway, Director of Public Works