

# Lompoc City Council Agenda Item



**City Council Meeting Date:** August 5, 2014

**TO:** Patrick Wiemiller, City Administrator

**FROM:** Larry A. Bean, Utilities Director  
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**SUBJECT:** Scope of Work for Water Treatment Efficiency Study

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## **Recommendation:**

Staff recommends the City Council:

- 1) Accept the Utility Commission's recommendation that no additional efficiency studies be undertaken for the Water Treatment Efficiency Study, because efficiencies at both the Water and Wastewater Plants should increase with growth of the community by utilizing more of their available capacities and the City being poised to serve economic development needs and take advantage of unused capacity; and
- 2) Direct Staff to propose an amendment to the Resolution implementing the ordinance on Development Project Impact on Water Supply (Lompoc Municipal Code (LMC) section 13.014.070) to permit in-lieu fees for water demand offsets to be used to fund recycled water and water leak detection and repair programs in the City.

## **Discussion:**

The recommendations, the following discussion, and the findings were developed by the Utility Commission and approved by them on July 14, 2014.

At the request of City Council, on June 18, 2013, staff was asked to work with the Utility Commission to develop a Scope of Work to assess the efficiency of the City's Water Treatment Plant. At the Utility Commission meeting of July 8, 2013, the Commissioners and Councilmember Lingl toured the Water Plant with staff. The Utility Director discussed several prior consultant engineering studies related to efficiency at the Water Treatment Plant, for which five reports were prepared between 2002 and 2011. Staff informed the Utility Commission that between 2005 and 2012 electrical usage at the Water Treatment Plant was reduced by approximately 16% as a result of recommended upgrades to the Plant. The Utility Director also presented various scenarios to the Utility Commission comparing energy efficiency cost savings to the cost of studies and equipment.

With that background, the Utility Commission in turn requested staff to participate in a 2012 Benchmarking Survey conducted by the American Water Works Association (AWWA). The City completed the survey for both the Water and Wastewater Plants. Results of the Survey were received by staff in May 2014 (attached), as published in the AWWA 2012 Benchmarking Performance Indicators for Water and Wastewater Utilities Survey Data and Analysis Report (Report). The results were shared with the Utility Commission on June 9, 2014.

The Report compared City facilities information against 103 individual benchmarks in the general areas of organizational development, business operations, and customer service, as well as specific areas of water operations, wastewater operations, and combined operations. Participation was rather low: 37 Water Operations participated in the survey, with 16 of those located in Western states, and 6 serving communities of 50,000 – 100,000; 6 Wastewater Operations participated in the survey, with 3 of those located in Western states, and 2 serving communities of 50,000 – 100,000. Some metrics are expected to be affected far more than others by the small sample size, especially those that depend on particular characteristics of facilities.

The City's facilities compared favorably with many benchmarks. However, for 26 of the benchmarks, about one-quarter of the total, the City's facilities' positions would improve if available capacities were more fully utilized. Many measurements reported, such as cost per million gallons processed, number of employees per million gallons processed, accounts serviced per employee, and others related to revenues, staffing, and volume, are low, primarily because of underutilization of facility capacity. This effect also carries over to compound metrics such as debt service coverage ratio and average customer cost of service. If available capacities were utilized at both plants, then most of the benchmarking metrics would fall in a favorable range.

An anomaly reported in the survey was related to energy consumption efficiency. Lompoc's Water Plant and Wastewater Plant are both technically sophisticated facilities that require significant energy input. The Water Plant uses a soda-lime softening process with subsequent filtration and centrifugation stages. Most plants do not have this energy-intensive technology. However, that improves water quality significantly, with most customers not needing to further invest in costly water softening units.

The Wastewater Plant uses advanced aeration and ultraviolet light disinfection processes, primarily because of its direct discharge into a navigable waterway of the United States, making it among the most highly regulated wastewater facilities in California. At the time of a major upgrade in 2007, a decision to replace chemical disinfection with ultraviolet light disinfection was made, knowing at the time that would increase energy consumption significantly. Given the investments already made in the technologies of both Plants, they operate with reasonable energy efficiency, although consumption remains comparatively high. Interestingly, when compared with results

from a 2011 benchmarking survey, both Plants fared significantly better on energy consumption efficiency.

The Water Plant further noted an anomaly related to total time to address planned service disruptions. The data for that benchmarking metric could conceivably be reported in one of two ways: as the total staff hours required to conduct planned service, or at the time the service was disrupted. The City reported according to the former method, which causes the value to be quite high. It is clear from the results, many of the other water utilities reporting used the latter method.

#### Utility Commission Findings:

1. The Water and Wastewater Treatment Plants compare favorably on most metrics compared with other facilities participating in the benchmarking survey.
2. Some benchmarking metrics are adversely affected by Lompoc's low utilization of the Water and Wastewater Plant capacities. Both Lompoc facilities could increase output by 75% without adding employees and would approach the median values for those benchmarks. The City is poised to serve economic development needs and take advantage of unused capacity.
3. LMC section 13.04.070, "Development Project Impact on Water Supply," requires new construction development to fully offset water demand. In the past, as provided in that section, the Council has adopted resolutions to enact that section through retrofitting fixtures or paying in-lieu fees. Another resolution should be adopted to allow permit in-lieu fees to be used to fund recycled water and water leak detection and repair programs in the City.

#### Fiscal Impact:

There is no fiscal impact to the General Fund caused by the acceptance of the recommendations of this Staff Report. The proposal to amend the programs allowed for under LMC section 13.04.070 would increase the flexibility of the Water Utility to utilize existing deposits of in-lieu fees. Once the proposed programs are authorized, the Water Fund could have additional appropriations for the programs but not greater than the available balance of in-lieu funds which is currently about \$880,000. Use and sales of recycled water may provide some increased revenue to the Wastewater Fund in the future; using infrastructure built using in-lieu funds and other resources.

#### Conclusion:

Additional efficiency studies for the water plant are not warranted at this time.

Both Water and Wastewater plants are operating well below capacity and efficiencies will improve with increased utilization of capacities.

Respectfully Submitted,

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Larry A. Bean, Utilities Director

**APPROVED FOR SUBMITTAL TO THE CITY COUNCIL:**

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Patrick Wiemiller, City Administrator

Attachment: [Benchmarking Survey Report](#)