City of Rollingwood, TX

LUE Analysis

Wastewater Utility

Nelisa Heddin Consulting, LLC
(512) 589-1028
nheddin@nelisaheddinconsulting.com

Goals of Analysis

- Identify options for consideration to assess LUEs for the City's wastewater utility.
- Calculate LUE assignments for the City's existing commercial customers for each option.
- Evaluate and recommend option that would be fair and equitable to the City's commercial customers, while also taking into consideration the feasibility of implementation.

Living Unit Equivalents

- A Living Unit Equivalent (LUE) is defined as the typical flow that would be produced by a single family residence.
- There are many ways to determine an LUE, including:
  - Historical Flows
  - Meter Size
  - Facility Size
  - Facility Type

Residential Use

	Total Residential Winter Use	Total Residential Bills	Total Residential Monthly Winter Average (1,000 Gallons)
2016	25386	2527	10.05
2017	21684	2218	9.78
2018	21021	2639	7.97
2019	19171	2477	7.74
2020	24508	2486	9.86
Assumed Residential Average Use			7.50

- For the purposes of this analysis, typical residential use has been defined as 7,500 gallons.

CONSULTING

Options Considered

- Status Quo
- Actual Historical Use
- AWWA Meter Equivalency
- Historical Consumption Meter Equivalency
- Business Type
- Business Size (Square Footage)
- Business Type/Business Size Matrix

CONSULTING

Options Considered

- Status Quo
  - Each individual customer has a specific LUE assignment.
  - Currently unknown how LUEs were determined. These have not been changed or updated during the tenure of existing staff.
  - Equitability to customers cannot be determined.
  - Doesn’t allow for recognition of changes in use over time.
  - Can’t be explained by City Council or Staff and therefore cannot be justified.
  - Cannot be applied to new customers.

Options Considered

- Actual Historical Use
  - Determined by taking average monthly use based on two years of consumption and dividing this amount by 7,500 gallons.
  - Equitable approach that considers individualized customer demands.
  - If recalculated annually, allows for changes in use over time.
  - Cannot be applied to new customers.

Options Considered

- AWWA Meter Equivalency
  - Based upon equivalency ratio table provided by the American Water Works Association.
  - Industry standard, although this reflects the potential flows of a meter, not the actual flows.
  - Could be consistently applied over time.
  - Could be applied to new customers.

Options Considered

- Historical Use Meter Equivalent
  - Based upon average use for historical period of time for City of Rollingwood customers for each meter size.
  - Reflects City of Rollingwood customer averages rather than industry numbers, however this won't reflect individual differences of customers.
  - Reflects current conditions, and thus needs to be updated over time.
  - Could be applied to new customers.

Options Considered

- Business Type
  - Calculated based on the average historical use of business type categories (retail, office, etc.).
  - Provides recognition that different types of businesses will use services differently, however, it does not reflect the size of the business or the individual business itself. This methodology is difficult to apply in hybrid tenant situations where different types of businesses are on a single meter.
  - Reflects current conditions, and thus needs to be updated overtime. Also, staff must continually monitor the type of business in a specific building.
  - Could be applied to new customers.

Options Considered

- Business Size
  - Calculated based on average historical use of businesses based upon square footage of business.
  - Premised on the assumption that larger businesses use more water, which is not necessarily the case. Issue with implementation for buildings having more than one meter.
  - Reflects current conditions, and thus needs to be updated annually. Alleviates need to monitor type of business in tenant situations.
  - Could be applied to new customers.

Options Considered

- Business Type/Size Matrix
  - Develops matrix of equivalency ratios based upon the size and type of the business. This approach is used by the City of Austin and the West Travis County PUA for estimating flows (but not for rate development).
  - Reflects that business type and size are both factors that influence consumption. However, it does not reflect individual business nuances. Issue with implementation for buildings with more than one meter.
  - Reflects current conditions, and thus needs to be updated annually. Requires city staff to monitor and update business type.
  - Could be applied to new customers.

CONSULTING

Findings

- All methods that attempt to categorize customers (meter size, business type, or business size) will result in inequities among customers when compared to their relative demands.
- Historical use will always result in the most equitable assessment as it reflects the actual demands a customer is putting on the system.
- However, this approach is limited due to the inability to be applied to customers who do not have reliable historical usage data.

Recommendations

- Adopt Historical Use Methodology
  - Historical use to be calculated using monthly average historical consumption, divided by 7,500.
  - Similar to residential winter averaging, calculation to be made annually.
  - Customers who do not have adequate historical use (including new customers, dead meters, etc.) would be assigned an LUE based upon the AWWA meter equivalency table until such time that they have historical use data.
  - As total LUEs for commercial customers do not change materially, and therefore revenues from base fees would not change materially, no change in volumetric rates would be recommended.

CONSULTING