



# **City of Tulare**

## **Board of Public Utilities**

### **HYDROLOGICAL ENTERPRISE FUND PROGRAM**

**(Water, Wastewater, Surface Water)**

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## **REVISIONS**

Chapter 6.4 Water Meters (added) – Approved by the Board of Public Utilities 6/2/2016

## DEFINITIONS

**BPU or Board:** The City of Tulare Board of Public Utilities. The Board is established by City Charter and is responsible for oversight of all City utility enterprise funds.

**BUSINESS DAY:** Monday through Friday are deemed business days.

**BUSINESS HOURS:** Hours between 8:00 a.m. and 5:00 p.m. within a Business Day.

**HEP:** The Hydrological Enterprise Program described within this document.

**LEAN:** A system of process improvement and project management that strives to eliminate non-value added tasks (so-called, “waste”) in order to delivery what customers value and are willing to pay for (“voice of the customer”) while meeting the needs of the City (“voice of the business”).

**LIFE CYCLE COST OF SERVICES:** An analytical net present value method for evaluating capital asset related disbursements and to compare solution alternatives with regard to long-lived projects. This method is described in footnote 12 within appendix C in the EPA publication, Effective Utility Management. The method takes into account cash flows that happen when the asset or solution is purchased and placed in service, net cash flows over the functioning life of the asset or solution, and net cash flows at the time of disposal of the asset or termination of the solution.

**MID-KAWEAH GROUNDWATER SUSTAINABILITY AGENCY:** A joint powers authority comprised of the cities of Tulare and Visalia and the Tulare Irrigation District formed to achieve compliance with the Sustainable Groundwater Management Act (SGMA) implemented by the State of California.

**RESERVES:** Sums of cash and investments (and other cash-equivalents that are readily liquid and convertible to cash) held for various contingencies and uncertainties.

**VOICE OF THE BUSINESS:** Policies that reflect the need of the business (in this case, the City) to survive to produce the customer-valued products. The voice of the business explains why the products are produced.

**VOICE OF THE CUSTOMER:** Expressions of those who receive the services rendered by the City (customers). These customer expressions reflect the products wanted, demanded and delighted in. Customers value tasks and actions that add value to the product for which they are willing to pay.

**WATER BUDGET:** An evaluation of all the sources of supply and the corresponding discharges with respect to an aquifer or a drainage basin. (Definition copied from glossary, *C.W. Fetter, Jr., Applied Hydrogeology, 1980, page 480*).

**WATER CONSERVATION STAGE:** Conservation stages established by the BPU pursuant to the City's ordinance.

# **1. INTRODUCTION**

## **1.1 SCOPE**

This document contains the strategic business plan for the City of Tulare’s Hydrological Enterprise Program (HEP). The HEP is described more fully in chapter two, but essentially it involves striving for excellence in all aspects of municipal water services and recognizes that water operations are broad in scope and include: all aspects of managing the underground aquifers where water is stored (the City’s water supply) through delivery of potable water to City residents (water deliveries) through recovery of contaminated water (both sewer and surface water) for cleansing to be suitable for re-use and return of the cleansed water for subsequent beneficial re-use. The Board recognizes that such excellence is only likely to be achieved through coordinated and comprehensive planning and implementation and controls.

## **1.2 PURPOSE**

This document presents the Board’s vision about how the City can operate an excellent Hydrological Enterprise Program (HEP) by implementing each strategy and tactic. The goals include effectively and efficiently operating a reliable municipal HEP with integrity (as demonstrated by both financial and operational performance standards) that safeguards City assets and complies with all laws, regulations, policies, procedures, and contracts. This document also defines the key performance measures by which the Tulare Board of Public Utilities can monitor and assess whether the operations are improving toward the desired “excellence” standard.

## **1.3 DOCUMENT ORGANIZATION**

This document is organized around the strategic vision statement: The City of Tulare intends to optimally and financially responsibly operate municipal water and natural resources enhancement services over specified time horizons, in a planned fashion.

Each phrase above can be thought of as a grouping of strategies and related tactics. Section two summarizes the entire strategic breakdown and discusses the strategic concepts. The following sections describe the “tactics” to implement those strategies.

Each tactic is analyzed using the Six Sigma structural approach to improvement called DMAIC – **D**efinition (of the problem or key concepts), **M**easurements (for use in controlling operations), **A**nalysis (Alternatives considered and why the tactic is selected; **I**mplementation (Details on implementation; and **C**ontrol (how to maintain the tactical implementation and monitor it for successful implementation.

## **2. HYDROLOGICAL ENTERPRISE PROGRAM (HEP) STRATEGIES OVERVIEW**

Rather than looking at its water and sewer (and related wastewater pollution control) and surface water operations as separate stand-alone functions, the City of Tulare has recognized the cyclic interrelationship among the various functions dealing with water. This viewpoint causes the City to structure its Municipal Water operations broadly in terms of supply (which comes from recharge through its surface water management and underground water storage in the Kaweah groundwater sub basin), in terms of the water delivery system, in terms of the used water collection and pollution remediation systems (both its surface water recovery system and sewer collection system and wastewater pollution control facilities (which include both the wastewater treatment plant and the surface water basins), and in terms of returning cleaned water to beneficial re-use and recharge.

The surface water recovery system (gutters, street sweeping, pipelines, and basins) include facilities to collect surface water, clean it and recharge the groundwater. Excluded from the HEP concept are those facilities used solely for flood management during storm events. Flood control is a general government function presently funded by the City's General Fund. Flood control encompasses what has traditionally been described as "Storm Water" management since this excessive water problem only occurs during storms events. Even then, however, the surface water management facilities capture as much of the rain events as possible to maximize recharge from the runoff. All recharge adds to the City's water supply; the groundwater sub basin.

The rest of this section briefly explains each strategy; detailed metrics, implementation and control features are discussed separately in the sections that follow.

### **2.1 OPTIMALLY**

The program starts by recognizing that the services are rendered to "customers." These customers want value and are willing to pay for such value, but they do not want to pay for activities in which they see no value. Customers want the City to eliminate non-essential non-value activities from its HEP (non-value activities are also called "waste" in LEAN). Customers express what they value and it is important that the City design the HEP around this "voice of the customer."

For the organization to survive to serve the customers, the needs of the business must also be met. These needs comprise the "voice of the business." This later voice sometimes requires that certain non-value added activities be undertaken because they are essential to the City implementing the HEP. For example, customers might not expressly value "planning" as a function in and of itself (technically making it a "non-value added activity), but this activity must be performed and funded to be able to deliver the valued products desired. The "voice of the business" often calls for the conducting of essential-non-value-added activities.



This business plan recognizes the reality of “trade-offs.” Most frequently, there is a trade-off between the quality or quantity or timely reliability of water desired and the costs required to meet those expectations. Customers want the greatest amounts of what they desire for least cost or undesired trade-offs. This is the concept of optimization; achieving the best of all circumstances reasonably possible.

Examples of goals that customers might wish to optimize in the HEP are the following:

- Quality potable water delivered on demand on a 365 day/24 hour/day basis
- Communications and information about the HEP
- Fine-tuned operations and professional performed projects
- Customer service (high) and adverse customer impacts (low)
- Compliance with laws
- A water and pollution control system that the City can be proud about
- Financial impacts (the requirement that customers pay for the value received)

To achieve some of these goals may require trade-offs with regard to some of the other goals.

## **2.2 FINANCIALLY RESPONSIBLE**

Financially responsible is a robust concept with many nuances. At its simplest it means having enough financial resources to accomplish the goals satisfying both the voice of the customer and the voice of the business.

Factors of financial responsibility include setting rates and fees to cover costs, making sure there are enough resources (reserves) to withstand the happening of the expected, “unexpected” events inherent in operating the program. Cash Reserves also provide flexibility to allow the City to take advantages of opportunities for great long term benefits.

The financially responsible strategy also encompasses how much of the capital programs are paid for by long term debt as opposed to being paid through accumulated savings (so called, “pay-as-you-go”).

Finally, this strategy includes identifying appropriate measurements (performance metrics) for the Board to be able to monitor its finances periodically to assure that the City is succeeding in this strategy and adhering to Board policies. Once determined, the strategy dictates that certain “accounting” structures be established to collect, classify and report data into usable information formats.

## **2.3 OPERATE**

The City operates its HEP through a myriad of standards, objectives, and activities. Through these operations the customers actually receive the products they value (as reflected by their willingness to pay for the products).

Operations strategies include staff related policies and procedures (including without limit, safety and training and succession planning), arranging operating structures to encourage their costs as fixed or variable, measuring process inputs, and measuring process outputs.

A significant driver of inputs, outputs, fixed and variable costs is the capital program. Once capital is employed it must be maintained and eventually rehabilitated and even replaced. In evaluating capital assets certain risk-based programs can be implemented to evaluate processes in terms of failure risk, failure impacts, and costs to maintain. Again, the concept of optimization becomes a critical gauge for such exercises.

Reliability is a very important product attribute for the HEP. There must be risk-based decisions made about maintenance, adequate inventories of critical parts, staffing and the other factors of production. While risk cannot be totally eliminated, various risks can be mitigated and minimized.

## **2.4 MUNICIPAL WATER**

The City operates municipal water (and pollution control and recharge) systems in the fullest meaning of the concept. In addition to complying with all laws and regulations regarding water and pollution control activities and surface water management, both the water and wastewater systems operate subject to specific State issued permits. There permit terms and specifications (minimums) are incorporated by reference as part of the City's operating specifications. The HEP also seeks to meet customer expectations regarding water pressure, water quality (including waters recharged), fire suppression capacity, and a long term planning and managerial view, among other performance attributes.

## **2.5 NATURAL RESOURCES ENHANCEMENT AND PRESERVATION**

Water supply presently comes completely from the underground aquifer. This makes stewardship of this natural resource of utmost importance. The City participates in the Mid-Kaweah Groundwater Sustainability Agency and undertakes extensive recharge and pollution control and remediation measures to assure this source of supply. The City will approach this strategy in the context of its optimizing strategy.

## **2.6 SERVICES**

The City's approach starts with listening to the "voice of the customer," and a customer-centered orientation permeates the HEP. The customer-centered orientation constantly seeks to understand what customers "value," as evidenced by what they are willing to pay for the products they receive. This approach also invites investigation about what can be included as customer "delighters" whereby the City delivers even more than customers actually pay for, such as customer friendliness, complaint responses that meet the needs where possible, and other positive two-way communication. The benefit of such delighters to the City comes in the form of support for programs and easier conversations about rates and fees.

One of the more important aspects of communication has to do with water conservation (whatever the active stage). It is probable that water resources in the Central Valley (and perhaps in all of California) are experiencing paradigm shift. It is possible that the City's Stage Three Water Conversation Stage is the "new normal." The City will seek tactics and programs to lessen the adverse customer impacts caused by this new paradigm. This also means encouraging development and irrigation changes that permanently eliminate water uses that are deemed less than beneficial.

## **2.7 OVER A SPECIFIED TIME**

Time horizons play a significant role in HEP planning and implementations. Time horizons apply to financial planning and rate-setting, work plans; asset replacement and rehabilitation; capital maintenance periods. Specifying expectations regarding deadlines and time horizons will help staff and the Board assure that schedules are being kept. The horizons should be established so that current work plans and decisions do not inadvertently create major problems in the time immediately after the implementation period. Longer planning horizons provide a margin of safety with regard to such risks.

## **2.8 IN A PLANNED FASHION**

This strategy recognizes that the above strategies cannot reasonably be expected to happen absent significant planning effort. This means that the City may need to contract for major planning where it cannot afford to keep adequately trained staff on a permanent basis or where planning continuity cannot be assured by using City staff.

This also means that the City must constantly collect the data and turn it into useful information on a real-time basis. Good planning cannot occur without solid information and a sound understanding of the financial, operational, regulatory, human nature, and scientific bases on which the entire HEP rests. Again, the strategy of optimization must be heavily exercised in the planning area because if there were a way to operate the HEP without any

planning, most customers would prefer to do so to avoid the costs. Planning is essential non-value added activity so it should constantly be scrutinized for any forms of waste, such as: “excess inventory” (of plans), “overproduction” and “excess processing.”

### 3. OPTIMALLY

**Tactic:** Staff will consider alternatives when implementing any HEP action.

**Define:** It is impossible to optimize marginal benefits without considering alternatives.

**Measurements:** Staff reports will begin recommendation discussions with a list and count of the alternatives considered. Where possible, staff will compute the savings and other benefits of selecting the recommended alternatives.

**Analysis:** It is expected that the costs of additional analysis will be more than offset by the benefits achieved by systemized consideration of alternatives.

**Implement:** This tactic will be implemented through staff reports.

**Control:** Senior Management review of Staff reports.

**Tactic:** Staff will explicitly consider and address trade-offs with regard to recommendations to the Board.

**Define:** It is impossible to optimize with explicitly considering the trade-offs.

**Measurements:** Staff reports will include trade-off analyses as part of discussions regarding proposed Board actions.

**Analysis:** It is expected that the costs of additional analysis will be more than offset by the benefits achieved by systemized consideration of trade-offs. Although this tactic is specifically targeted for Board presentations, staff is encouraged to approach internal decisions in similar fashion.

**Implement:** This tactic will be implemented through staff reports.

**Control:** Through Senior management review of staff reports.

**Tactic:** Senior City Management staff will apply this optimizing principle when developing all work plans and financial plans.

Define: An optimizing (recognizing trade-offs and seeking greatest marginal benefits) is a mindset to be implemented throughout the HEP.

Measurements: No metric presently specified.

Analysis: Several strategies will only be effective if approached from an optimizing mindset.

Implement: This tactic will be implemented by Senior Management with appropriate training on a periodic basis.

Control: Periodic review of this document.

## 4. FINANCIALLY RESPONSIBLY

### 4.1 *General*

**Tactic:** “Cash needs” computations will be used as the basis for financial planning and rate setting; HEP spending will be limited to available cash resources, but management will prioritize making sure that needed resources are made available through service revenues and other sources.

**Define:** The “voice of the business” dictates that the City has access to available cash flow to operate the HEP in manner that assures program survival.

**Measurements:** Total cash inflows, over all planning horizons, must equal all cash outflows and reserve requirements, as shown in financial reports.

**Analysis:** This strategy is at the heart of being able satisfy customer wants, demands, and delighters while also being able to continue to provide the HEP in a manner that complies with all laws and Board objectives.

**Implement:** This tactic will be implemented by Senior Management with appropriate training on a periodic basis.

**Control:** Board reporting schedule and annual budget preparation process.

**Tactic:** One hundred percent (100%) pay-as-you-go funding will be the basis for cash needs analysis and paying for the following:

- a. All ordinary operating and maintenance costs;
- b. Existing payment obligations (whether debt or otherwise)
- c. Payment for and correction of existing system deficiencies
- d. Routine five year CIP type 1 and type 2 (see definitions) projects/operations

**Define:** Periodic costs for period benefits are, to the extent possible, to be matched to periodic rate payments for those periodic benefits to achieve intra-period equity among ratepayers.

**Measurements:** Cash inflows must equal cash outflows when segregated and must still provide for excess cash flow for other defined cash needs.

**Analysis:** To the optimal extent possible, it is most equitable for current ratepayers

to pay current costs. Debt is sometimes helpful in spreading the cash payments over the period of benefit. Similarly, combinations of accumulated cash and debt (past use and future benefit) can be helpful in achieving intra-period equity among customer bases.

**Implement:** This tactic will be implemented through constant financial record and report analyses and through the setting of rates to achieve this purpose. It will also be prudent to use debt financing at times to achieve the intra-period equity.

**Control:** Periodic Board budgetary and financial planning review.

**Tactic:** Debt will be issued for:

- a. Large projects with extended useful lives (for example, type 3 projects)
- b. Surplus capacity creating projects for future expansion (interest carrying costs are to be included for repayment in expansion financing instruments such as, but not limited to, development impact fees);
- c. Urgent health and safety essential projects without other funding sources;
- d. Large regulatory compliance related projects without other funding.

**Define:** Debt can help achieve intra-period equity among ratepayers.

**Measurements:** No metric presently specified.

**Analysis:** Like pay-as-you-go funding, debt funding can be used to achieve intra-period equity so that ratepayers in every time are paying for the full costs of the service and product benefits received. Where capacity is purchased in advance of its need, those who will benefit by the capacity created for them can pay the “carrying cost” measured in interest for creating the asset in advance of their benefit period. This is required in the HEP because many infrastructure assets must be created as once and cannot be created incrementally (for example, one cannot construct ½ a water well). Also HEP infrastructure assets can have very long useful lives, e.g., 80 years for residential pipelines.

**Implement:** This tactic will be implemented through constant financial record and report analyses and through the setting of rates to achieve this purpose. Staff will seek other outside funding sources, such as grants, litigation (if injury caused by others), and donations whenever possible to reduce the amount of debt financing required.

**Control:** This tactic will be implemented through constant financial record and report analyses and through the setting of rates to achieve this purpose.

**Tactic:** Economic value will be optimally recovered from all HEP commodity output.

**Define:** The HEP processes produce outputs that can have economic value such as treated water, methane gas, bio-solids, etc.... The City will optimize the economic and practical benefits of those outputs to benefit customers.

**Measurements:** Outside sales of recycled or remediated wastewater, bio-solids, methane gas and other commodity outputs will be accounted for separately and the amounts of these outputs sold will be monitored.

**Analysis:** Optimizing the beneficial of all program byproducts can help reduce customer rates.

**Implement:** Accounting line items will collect the revenue information related to each commodity sale.

**Control:** Financial reports.

**Tactic:** Regularly assess service rates for adequacy by comparing to benchmarks.

**Define:** Rates will be considered in relation to factors such as external economic trends, short-term financial management, long-term financial management and other variable factors that may affect the financial viability of the HEP.

**Measurements:** Finance Cost Accounting personnel will develop and define a suite of key rate adequacy metrics and benchmarks, which will include at least the following:

- a. Comparison of rates over time to inflation rates;
- b. Comparison of rates with other water providers;
- c. Full Life-Cycle Cost of Service analyses;
- d. Multi-year cash flow analyses;
- e. Various triggers as identified in this Plan.

**Analysis:** The metrics above, and others that may be developed, are suitable for checking rate adequacy and fairness.



Implement: The Finance Department will develop a reporting format and schedule satisfactory to the Board.

Control: Board reports.

## 4.2 DEBT MANAGEMENT

**Tactic:** The City will comply with its debt covenant ratios and will manage its rates and revenues and disbursements (cash flows) to assure long term satisfaction of these terms and conditions.

**Define:** Achieving debt covenant ratio compliance requires margins of safety around a specific target ratio.

**Measurements:** The following ratios will be used:

- a. Minimum ratio – Debt instrument specific (typically 1.25X)
- b. Target ratio – Minimum ratio plus 15 basis points (typically 1.40X)
- c. Trigger ratio – Minimum ratio plus 5 basis points (typically 1.30X)
- d. Upper trigger ratio – 1.55X

**Analysis:** Ratio covenant terms are defined for each debt in the issuing debt instruments. However, typically they are computed as follows: Coverage Ratio = system revenues/debt service payments. Most City debt has historically had a minimum coverage ratio of 1.25X) using the foregoing formula.

**Implement:** The Target Ratio is the ratio the City will strive to maintain through rates and fees and revenues, but if the ratio falls below the minimum coverage ratio plus five basis points (typically 1.30X), absent unusual circumstances the City will begin a rate study to adjust its service charges revenues. if the ratio falls below the minimum coverage ratio plus five basis points (typically 1.30X), absent unusual circumstances the City will begin a rate study to increase its service charges revenues. Achieving a coverage ratio of 1.65X will trigger a rate study to consider reducing rates. The coverage amounts will not consider amounts used to fund reserves until such times as the reserves exceed their maximum amounts.

**Control:** Staff will annually report the preceding fiscal year's coverage ratios achieved (along with reserve amounts) during the budget preparation process.

**Tactic:** The City will monitor its Fixed Charges Ratio (FC).

**Define:** Revenues must cover both debt service and fixed costs.

Measurements: The following ratios will be used:

- a. Minimum ratio – 1.0X
- b. Target ratio – 1.0X – 1.20X
- c. Trigger ratio – 1.35X

Analysis: The FC ratio assures there are adequate revenues to pay fixed costs after paying debt requirements. Subtracting debt service from total revenues gives Remaining System Revenues (RSR). FC Ratio = RSR/Fixed Costs.

Implement: The Target Ratio is the ratio the City will strive to maintain through rates and fees and revenues. If the ratio falls below the minimum or exceeds the Trigger Ratio, then rates should be reviewed for adjustment. The above computations will not consider amounts used to fund reserves until such times as the reserves exceed their maximum amounts.

Control: Staff will annually report the preceding fiscal year's FC ratio achieved (along with reserve amounts) during the budget preparation process.

**Tactic:** Debt levels relative to asset age (and therefore typical maintenance costs) will be balanced.

Define: The target is for debt costs plus maintenance costs to remain at steady levels as assets age and are replaced even if the mix of debt to maintenance costs vary.

Measurements: The following Debt/Plant Cost ratio metrics as compared to levels of accumulated depreciation are evaluated to maintain the balances indicated together:

Expected Plant Age	Debt/Plant <u>Percentage</u>	Accumulated Depreciation/ <u>Plant Costs Percentage</u>
Older Plant	<40%	>60%
Optimal Age	41% – 60%	51% - 60%
Newer Plant	61% - 80%	35% - 50%
Very New	>80%	<25%
(Rate Trigger)	>100%	N/A

Analysis: Although seemingly complex, the above metrics represent a fairly straight-forward idea: New assets with higher related debt interest costs

should require less maintenance (because they are new) than older assets (with lower interest costs, but typically higher maintenance costs).

The standards above reflect the typical situation where there is more debt right after a major expansion (with significant new equipment), but then less maintenance required for a time. The maintenance factor is computed by using a proxy of accumulated depreciation (the total of all years of depreciation expense) which is then divided by total plant cost. Debt/Plant costs reflect the typical situation where debt is used to finance plant capacity expansion.

Typically, both of the above ratios should tend to be about 50%. Higher debt/plan ratios indicate that the plant should be newly purchased so there will have been fewer years to accumulate the annual depreciation. When accumulated depreciation becomes more than 50% it indicates that assets are not being consistently replaced and there may be a higher percentage of older asset components that are part of the system.

**Implement:** If the debt/plant cost percentage exceeds 100% it is an indication that rates should be reviewed for a possible increase as soon as possible. If both debt costs and accumulated depreciation are high then there may be an issue with not timely replacing older assets. If these ratios suggest such a situation it calls for review of maintenance costs and the reasons for deferred replacement and rate increases may be needed. If component maintenance costs are able to better developed then instead of using accumulated depreciation as the proxy, the percent of maintenance costs to plant costs could be better employed.

**Control:** Staff will annually report the preceding fiscal year's coverage ratios achieved (along with reserve amounts) during the budget preparation process.

### **4.3 ACCOUNTING COST CENTERS**

**Tactic:** Classify costs within each of operational segment (water, sewer, surface water management, etc...) to allow analysis of fixed cost and variable cost information and for purposes of rate setting support.

**Define:** Specific fixed and variable cost information is required by pertinent cost center to adequately compute defensible rates to support the HEP.

**Measurements:** Board and Consultant evaluations of the adequacy of the City's cost centers and accounting structure to achieve managerial accounting and rate setting objectives. Consultants will be asked to rank the utility of the cost centers on a scale of from 1 (lowest) to 5 (highest).

**Analysis:** Proposition 218 requires sufficient evidence to support rates and rate structures to recover program costs and adequately fund reserves.

**Implement:** Meaningful cost centers will reported to the Board in the regular financial reports, and adequate cost centers will be established and maintained in the City's account for managerial and rate setting accounting.

**Control:** Consultants will be asked to make improvement suggestions with regard to any rate or fee setting assignments with regard to the City's chart of accounts.

**Tactic:** Regularly report key activity cost related metrics to the Board.

**Define:** Specific fixed and variable cost information and key activity performance metrics assist the Board in measuring routine HEP performance.

**Measurements:** The Finance Cost Accounting personnel will develop and define a suite of key performance metrics, which will include at least the following:

- a. Annual and historical cost per metered account;
- b. Quarterly and annual cost per thousand gallons (Tgal) of:
  - a. Water pumped (at the well),
  - b. Water recharged (intentionally and though leakage),
  - c. Wastewater treated;
- c. Annual and lifetime cost per water well;
- d. Annual and lifetime cost per hundred acre-feet of groundwater recharge;
- e. Fixed and variable costs per major HEP operating segment (Water, Domestic and Industrial Pollution Control, Surface Water Management) and division (e.g., water supply, water transmission, WWPCP, Domestic Sanitary Sewer collection, Industrial sewer collection, HEP administrative costs, Regulatory compliance, etc...).

Analysis: The metrics above, and others that may be developed, are to be suitable for use in benchmarking with investor-owned and other municipal systems providing similar programs.

Implement: The Finance Department will develop a reporting format and schedule satisfactory to the Board.

Control: Board reports.

#### **4.4 RESERVES**

**Tactic:** Adequate Water operations-dedicated reserves will be maintained to assure operating and opportunistic flexibility, cash flows, and to provide for economic uncertainty.

Define: The water supply and delivery system requires reserves for normal cash flows during lower sales volume months (typically in the fall and winter) and for expected “unexpected” contingencies such as the loss of a major customer, economic downturns, or sales restrictions imposed because of the State water conservation ordinances.

Measurements: Reserve levels will be targeted within the following minimum/maximums with the actual target in the midpoint of the stated ranges:

- a. Sixty to one hundred twenty day operating reserve with rate review triggers when the reserve levels equal sixty days (potential increased cash flows needed) or one hundred fifty days (potential to reduce cash flows).
- b. Economic uncertainty reserves between \$250,000 and \$350,000 for events and incidents of a type illustrated by the following:
  - i. Loss of a large water customer,
  - ii. Recession or severe depression,
  - iii. Significant unexpected inflation;
  - iv. Emergency replacement in an amount less than that requiring accessing the Combined Hydrological Reserve described below.

Analysis: Staff will periodically analyze actual demands made upon these reserves and periodically recommend adjustments to this policy where circumstances warrant.

**Implement:** Reserves will be funded on an annual fixed amount subject to the targets above. Where reserves are deficient, the Board will implement increases designed to achieve reserve target levels within two years and will include such cash flow needs in rate setting processes. Funding of reserves is a funding priority behind only debt service and normal operations.

**Control:** Reserve levels will be explicitly reported as part of the annual budget process.

**Tactic:** Adequate Sewer and Wastewater pollution control operations-dedicated reserves will be maintained to assure operating and opportunistic flexibility, cash flows, and to provide for economic uncertainty.

**Define:** The sewer collection, surface water management, and wastewater pollution control elements of the HEP require reserves for normal cash flows and for expected “unexpected” contingencies such as the loss of a major customer, economic downturns, or rapid regulatory impositions by the State.

**Measurements:** The City will target reserve levels within the following minimum/maximums with the actual target in the midpoint of the stated ranges:

- a. Sixty to one hundred twenty day operating reserve with rate review triggers when the reserve levels equal sixty days (potential increased cash flows needed) or one hundred fifty days (potential to reduce cash flows).
- b. Economic uncertainty reserves between \$2,000,000 and \$3,000,000 for events and incidents of a type illustrated by the following:
  - i. Loss or closure of a large industrial customer,
  - ii. Recession or severe depression,
  - iii. Significant unexpected inflation;
  - iv. Emergency replacement in an amount less than that requiring accessing the Combined Hydrological Reserve described below.

**Analysis:** Staff will periodically analyze actual demands made upon these reserves and periodically recommend adjustments to this policy where circumstances warrant. Because a relatively small number of industrial

customers comprise significant percentages of revenues, and because of the relative large debt loads related to the capital assets for this element of the HEP, a larger economic uncertainty reserve is required. It is also anticipated that only relative small (\$500,000 or less) emergency replacements will be made from the uncertainty reserve to preserve it for the impacts related to the industry “concentration” risk.

**Implement:** Reserves will be funded on an annual fixed amount subject to the targets above. Where reserves are deficient, the Board will implement increases designed to achieve reserve target levels within two years and will include such cash flow needs in rate setting processes. Funding of reserves is a funding priority behind only debt service and normal operations.

**Control:** Reserve levels will be explicitly reported as part of the annual budget process.

**Tactic:** Adequate Combined HEP reserves will be maintained to meet contingencies.

**Define:** The HEP requires reserves for unexpected failures and significant events. Because of the potential capital costs for infrastructure failures are so significant; a reserve must be available to maintain system reliability and compliance. A combined reserve offers economy in scale where the risks of loss are uncorrelated (a failure in the water system is typically independent of a failure in the surface water management system or in the wastewater pollution control system).

**Measurements:** The City will target a combined contingency reserve of \$5,000,000 with minimum/maximums of \$4,000,000 and \$6,000,000.

Equity funding will come from the following HEP elements:

- a. Water - \$2,000,000 target,
- b. Sewer/Wastewater - \$3,000,000 target
- c. Surface water management – zero (subject to later review).

**Analysis:** Staff will periodically analyze actual demands made upon these reserves and periodically recommend adjustments to this policy where circumstances warrant. Because the loss risks are deemed to be uncorrelated the combined reserve should be able to be maintained at a level less than each element of the HEP would need independently. The Surface Water Management reserve component will be evaluated in the



future once the component-failure risks are better quantified.

**Implement:** Reserves will be funded on an annual fixed amount subject to the targets above. Where reserves are deficient, the Board will implement increases designed to achieve reserve target levels within three years and will include such cash flow needs in rate setting processes. Funding of reserves is a funding priority behind only debt service and normal operations. Where a HEP element draws on reserves it will increase its annual cash contributions (with appropriate rate adjustments if necessary) to restore its equity share of the fund.

**Control:** Reserve levels will be explicitly reported as part of the annual budget process.

**Tactic:** Rate studies will be initiated in response to reserve levels falling below specified sums.

**Define:** The reserve program is a priority and where reserves levels threaten system integrity, reliability or ability to maintain compliance they must be aggressively restored within a one year period to above trigger amounts.

**Measurements:** The following rate study triggers apply:

- a. Operating reserves – Below thirty days operating costs reserve level.
- b. Economic uncertainty reserves – if amounts are less than 80% of the target amounts below at June 30 of any given fiscal year:
  - a. Water economic uncertainty reserve – \$300,000
  - b. Sewer/WW economic uncertainty - \$2,500,000,
  - c. Combined Contingency Reserve -- \$5,000,000.

**Analysis:** The City must remain flexible and address unexpected large cash outlays in a way that maintain the financial integrity and operational reliability of the HEP elements.

**Implement:** Rate studies will be begun when the above triggering events occur.

**Control:** Reserve levels will be explicitly reported as part of the annual budget process.

## 5. OPERATE

### 5.1 *Staffing*

**Tactic:** Recruit and retain a workforce that is competent, motivated, adaptive, and safe-working.

**Define:** A critical factor into the HEP is maintaining a competent and stable workforce, including the leadership team.

**Measurements:** The following metrics apply: Employee Turnover Rate, Employee Job Satisfaction, Training Hours Per Employee, Certification Coverage, Key Position Internal/External Recruitment Ratio, Long-term Succession Plan Coverage Percent.

**Analysis:** The analysis and source for this tactic is the EPA Effective Utility Management Publication contained in Appendix A; metrics are more fully described in appendix C to that publication.

**Implement:** Develop an internal set of processes and procedures by December 31, 2016 to fully implement.

**Control:** Make report on this tactic a required part of the annual budget process.

### 5.2 *Operations Standards*

**Tactic:** Maintain documented and Board approved operating standards.

**Define:** Operations-critical processes and events will be operated in accordance with Board reviewed and approved standards.

**Measurements:** Days since last review of standards will not exceed 400 days.

**Analysis:** Many metrics and criteria are useful in evaluating whether HEP operations are performing as intended. These can range from quality standards, to safety and risk mitigation standards, to product quantity and capacity standards to a range of other performance metrics. While these are developed by Staff they are suitable for review by the Board to make sure they are in place and are pertinent to meeting the wants, needs, and

delights sought by HEP customers.

**Implement:** Develop an internal set of standards by March 31, 2016 and make first presentation to Board for review and approval on or before June 30, 2016.

**Control:** Periodic Board review and approval.

### **5.3 Risk-based Analysis of Operations**

**Tactic:** Implement the risk-based maintenance approach for Type I and Type II Projects as defined in the Ewers Report contained in Appendix B.

**Define:** A critical factor into the HEP is maintaining the capital infrastructure which includes replacement and rehabilitation of long-life assets that can be very expensive and require accumulation of funds.

**Measurements:** The following metrics apply with regard to Type I and Type II Projects: Standard (also called “budgeted”) cost versus actual cost and variance (broken between price, quantity, and efficiency), and system risk measures composed of factors for: Likelihood of Failure, Consequence of Failure, Ignorance Factor, and Criticality Rating.

**Analysis:** The analysis justifying, and source, for this tactic is the Ewers Report contained in appendix B. The following tables provide details regarding the project prioritization rankings, project type categories, and risk-based project analysis factors for reader convenience.

<b>Proposed project prioritization</b>		
<b>Priority</b>	<b>Classification</b>	<b>Explanation</b>
1	Health and Safety	Required to eliminate or mitigate a threat to public health or safety.
2	Regulatory or court order compliance	Brings facility into compliance with regulatory requirements governing the operations, maintenance, staffing, or financial status or court order.
3	Renewal and Replacement	Provides for continued facility operations at current capacities through renewal or replacement of existing facilities.
4	Facility Longevity	Develops new facility elements or refines facility to enhance the facility longevity or functionality.
5	Increase staff availability and competency	Develops staff capacity or widens the pool of people available to competently accommodate existing operations.
6	Engineered, high pay back	Fulfills mission and function, mitigates or resolves operational issues and inefficiencies, and yields cost savings in operation and maintenance that pay back investment within a five-year period.
7	Engineered, low pay back over long term	Fulfills mission and function, mitigates or resolves operational issues and inefficiencies, and yields cost savings in operation and maintenance that pay for investment over a period longer than five years.
8	Increase public presence	Increases positive public awareness or remediates concerns expressed by citizens or public officials.

<b>CIP project categories</b>	
<b>Type</b>	<b>Project description</b>
1	Ongoing, periodic costs or a cost over several years in a programmed O&M expenditure
2	One-time costs, typically for large O&M projects
3	Large capital projects that expand capacity or capability of the WWTF

<b>Likelihood of failure rating values</b>	
<b>Rating</b>	<b>Definition</b>
5	High: Near certainty of short-term failure.
3	Medium: Failure will occur in long term.
1	Low: Failure will occur beyond timeframe affected by CIP.

Consequence of failure rating values	
Rating	Definition
5	High: Failure disrupts mission, imposes crippling penalties.
3	Medium: Failure generates long-term disruption and increased cost.
1	Low: Failure disruption is negligible.

Ignorance rating values	
Rating	Definition
5	High: No data are available, nor are data anticipated.
3	Medium: Data are available that indirectly inform the factor.
1	Low: Data are available that directly inform the factor.

Criticality rating values	
Rating	Definition
5	High: Facility and project are integral to immediate operation.
3	Medium: Facility and project are important for long-term operation.
1	Low: Facility and project have minimal impact on operation.

**Implement:** Use funding developed through rate studies and revenues to implement Ewers Report as suggested and to extend risk-based maintenance to all operational segments of the HEP infrastructure by June 30, 2017.

**Control:** Make report on this tactic a required part of the annual budget process.

**Tactic:** Specific identified operational risks will be mitigated with appropriate advance operations related planning.

**Define:** A critical factor into the HEP is identifying risks to system normal operations and planning to lessen or eliminate (to mitigate) critical risks where possible and within the concept of optimization.

**Measurements:** The following metrics apply: Critical Assets Inventory Coverage (percent) (total number of critical assets inventoried within a reasonable period of time/ total number of critical assets); Critical parts and equipment resiliency, Critical staff resiliency, Power resiliency, Treatment Operations resiliency, Pipeline miles to be replaced or rehabilitated per year, funds accumulation per year to replace major infrastructure components (Type III projects in the Ewers Report),

Analysis: The analysis and source for this tactic is the EPA Effective Utility Management Publication contained in Appendix A; metrics are more fully described in appendix C to that publication. The Ewers Report contained in appendix B describes the concept of accumulations for capital infrastructure and defines Type III Projects.

Implement: Develop an internal set of processes and procedures by December 31, 2016 to fully implement. Adopt the following replacement or major rehabilitation objectives immediately:

- Pipelines and related appurtenances – 5 miles per year;
- Lift stations – 3 stations per year to cover all stations over 5 years (estimated to cost approximately \$150,000 per year)
- Sanitary Sewer Control panels – 1 - 2 panels per year
- Surface and Storm Water lift stations – 2 per year (estimated to cost approximately \$100,000 per year)
- Manhole Rehabilitation – 8 per year
- Wells – 1 -2 per year.

Control: Make report on this tactic a required part of the annual budget process and integrate into all rate studies.

#### **5.4 Operational Optimization.**

**Tactic:** Optimize resource usage efficiency, including labor and material per unit of output or mile of collection/distribution system.

**Define:** To continuously improve HEP operations it is necessary to monitor key indicator of efficiency and effectiveness.

**Measurements:** The following metrics apply: Customer accounts/Employee, MGD water delivered (or processed)/Employee, Chemical Use/Volume delivered (processed), Energy use/Volume delivered (or processed), O&M cost/Volume delivered (or processed), Meters functioning/Total meters, Water Delivered/Total Water taken into the system, Planned (to total) Maintenance Hours Ratio, and Planned (to total) Maintenance Cost Ratio.

Analysis: The analysis and source for this tactic is the EPA Effective Utility Management Publication contained in Appendix A; metrics are more fully described in appendix C to that publication.

Implement: Develop an internal set of processes and procedures by December 31, 2016 to fully implement and review results during the annual budget process.

Control: Make report on this tactic a required part of the annual budget process.

### **5.5 Projects Management.**

**Tactic:** Use the Tulare Project Management System to manage all major capital projects and all projects subject to the Tulare Project Management System Policy adopted by the Board.

Define: Efficient management of major projects is critical to the effective management of the HEP.

Measurements: Budget variances by project, schedule variances in days for each project, and number of scope related change orders.

Analysis: The analysis and source for this tactic is the City of Tulare Project Management System Policy and implementing procedures.

Implement: Manage projects using multi-phased approach defined by the policy. Of particular importance are the feasibility analyses (including the alternatives analysis) within the Conceptual phase and the value-engineering portion of the final design phase

Control: Regular Board reports on projects.

**Tactic:** Perform a “Life-cycle Cost Accounting” (LCA) for significant projects and periodically as part of rate evaluations.

Define: Periodically analysis the impacts of capital decisions on all financial aspects of operations and planning. A LCA incorporates accepted service levels, asset condition, budgeted needs based on net present values of current and future assets.

Measurements: Net Present Values of inflows must equal or exceed those of outflows.

Analysis: The analysis and source for this tactic is the EPA Effective Utility Management Publication contained in appendix A; LCA is more fully described in footnote 12 within appendix C to that publication.

Implement: Perform a LCA before December 31, 2018.

Control: Report to Board on progress of LCA during annual budget process.

## **6. MUNICIPAL WATER**

### **6.1 *Water Pressures***

**Tactic:** Water pressures will be maintained throughout the system in accordance with the Board adopted connection policy.

Define: Water pressures are a key operating standard that affect system development and planning.

Measurements: Water pressures throughout the system will be maintained as follows.

- a. Targets: Average daily – 35 p.s.i./Minimum peak – 30 p.s.i.
- b. Maximum – Average daily 45 p.s.i./Maximum – 50 p.s.i.
- c. Trigger – Average daily – 30 p.s.i./minimum 25 p.s.i.

Analysis: Pressure definition is a major component of water system capacity. This standard affects capital and operating costs and has a direct effect on rates and ability to connect new accounts..

Implement: Regularly monitor historical and project 36 months in advance.

Control: Monitored on reports to the Board in relation to requests for new water connections.

### **6.2 *Water Quality, State Standards, and City Standards***

**Tactic:** Product quality goals will meet minimum legal standards, but will also achieve the greatest quality possible taking the following into account:



Published Public Health Goals, available financial resources, available technology, common sense, stakeholder communications, and reasonably anticipated future events.

Define: State and Federal minimum standards must be met, but the HEP will seek to deliver the highest quality products reasonably feasible.

Measurements: Using State and Federal Standards as an outline, staff will develop its quality dashboards for presentation to the Board.

Analysis: The EPA Effective Utility Management Publication contained in Appendix A describes additional product quality standards and metrics in its appendix C. Generally, however, the City's goal is to provide the highest quality product reasonable under the circumstances in line with what the HEP customers are willing to pay for.

Implement: Develop an internal set of measurement standards that meet or exceed legal minimums by December 31, 2016 to fully implement this tactic.

Control: Make reporting on this tactic a required part of the annual budget process.

### **6.3 HEP is Water Centered**

Tactic: Water management is the core focus of the HEP.

Define: Water is a key resource for all community activities and growth. Water is viewed in the HEP as a resource that cycle from rainfall and surface waters recharge followed by groundwater extraction for potable water delivery followed by wastewater recovery and cleaning and then recharge back into the groundwater basin.

Measurements: Water volumes as trackable within the HEP processes (extraction, leaks, delivered, recovered, recharged, etc...)

Analysis: The entire HEP centers on having adequate quantities and quality of water available for customers.

Implement: Integrate the HEP into rate structures, cost recovery, planning to fully effectuate this enterprise fund concept.

Control: Make report on this tactic a required part of the annual budget process.

#### 6.4 Water Meters

Tactic: Water Meters will be installed and maintained to a functional state and accurate operating condition at all usage consumption points in accordance with the Board adopted connection policy. 'Accurate Operating Condition' is defined by the warranty standards of the of meter type being replaced.

Define: Water meters perform 3 critical functions in the water system:

- a. Provide Billing Information – The variable rate component using in Billing for water services is based on consumption; consumption is measured by functioning water meters.
- b. Promote Conservation – Water meters provide usage information. The first step towards conservation is identifying how much of a resource is being used. Water Meters can provide detailed reports that that can provide information to identify leaks or other undesired behaviors and water consumption and take corrective action.
- c. Monitor System Integrity – By maintaining multiple water meters throughout the water distribution system we are able to monitor the overall health of the system. Water meters at each well provide the volume of water pumped into the system, while endpoint meters provide a volume of water being delivered to customers. By tracking the difference between production and delivery is we are able to determine 'System Loss', the volume of water that was pumped out of the ground, but was not delivered to customers. System Loss in an important measurement in the overall health of a water distribution system.

Measurements: Meter Life on all meters throughout the system will have a 15 year usable life.

Analysis: Age of Meters is an important metric for two reasons: First because the meters contain battery driven technology and only have a finite lifespan to be able to read meters wirelessly. If large numbers of meters simultaneously fail, this will significantly impact our ability to bill accurately. By replacing a set number of meters annually, this will stagger meter age and reduce the potential of large simultaneous failure. Secondly, meter accuracy reduces after 15 years in service, and a replacement program that extends beyond 15 years represents a loss of revenue in delivery and production.

Implement: Dedicate Staff with the primary responsibility of replacing meters on an ongoing basis.

Control: Monitored on reports to the Board on status of Annual replacements. One fifth of all

meters should be replaced every 3 years.

## **7. NATURAL RESOURCES ENHANCEMENT AND PRESERVATION**

### **7.1 *Groundwater Management***

**Tactic:** The City will establish a “Water Budget” using industry common standards.

**Define:** A City Water Budget (for integration with Groundwater Sustainability Agency Water Budgets of the Mid-Kaweah sub-basin) will be developed and maintained.

**Measurements:** The annual and water cycle net quantities of water extracted as compared to the estimated total sub-basin water recharged

**Analysis:** It is important for the City be aware of and knowledgeable about the workings of the groundwater sub-basin from whence it gets all of its potable water.

**Implement:** Incorporate into City planning activities and integrate into City joint efforts through the Mid-Kaweah Groundwater Management Agency.

**Control:** Make reporting on this tactic a required part of the annual budget process.

**Tactic:** Target zero net extractions to be shown on the City’s Water Budget over the Water Cycle (defined as the years between droughts).

**Define:** The City of Tulare fully participates in the Mid-Kaweah GSA which will likely set targets for each extractor. However, separate and apart from that regulatory effort, this tactic adopts a goal of “net zero” extractions over the Water Cycle defined above.

**Measurements:** The annual and water cycle net quantities of water extracted compared to the estimated total sub-basin water recharged and water table levels.

**Analysis:** This becomes the City’s minimum goal for groundwater level maintenance.

**Implement:** Monitor ground water table levels and monitor the Water Budget

compared to the actual amounts of extraction and recharge. This will also require systems to measure rainfall, surface water recharge (both from storms and from return water placed into City streets and on other impervious surfaces).

Control: Make reporting on this tactic a required part of the annual budget process.

## **7.2 *Water Conservation and Demand Management***

**Tactic:** Set permanent and emergency response Water Conservation Stages and their related goals to achieve the target of zero net extractions to be shown on the City's Water Budget over the Water Cycle (defined as the years between droughts).

Define: Set Water Conservation goals to achieve the greater goal of Net Zero Extractions.

Measurements: Board decision on minimum water conservation stage; presently at Stage 3.

Analysis: This tactic is needed to achieve long term planning and to permanently adapt to the water environment. Essentially, the Sustainable Groundwater Management Act appears to be changing the "way of life" approach to groundwater basin management. This change will likely impact what landscaping is installed in the City of Tulare and will make other permanent changes to how water use is planned.

Implement: Currently implemented as Stage 3.

Control: Make reporting on this tactic a required part of the annual budget process.

## **7.3 *Tertiary Treatment and Other Advanced Technology Investments***

**Tactic:** Investments in Advanced Technologies, such as tertiary wastewater treatment, will be evaluated using the "optimization" principle and reasonable rates of return given the relative risks of the investments.

Define: Deliberate processes designed to optimize the benefits when compared to the costs (including without limit, political, environmental, social, technological, legal, and economic costs) will be used when evaluating

water technology investments.

**Measurements:** Each alternative considered will be identified and estimates of costs, such as those defined above, will be made and reported. A financial analysis using net present value techniques (such as Life-Cycle Accounting) are to be used to develop estimates of rate of return.

**Analysis:** There are many trends, such as tertiary water, that may be beneficial in some, but not all, circumstances. This tactic is designed to prevent the City from blindly chasing the latest trends and to instead focus on benefits versus costs. One technique for such evaluations may include the Life-Cycle Accounting analysis.

**Implement:** Follow the provisions of the Tulare Project Management System Policy which is intended to effectuate this tactic City-wide.

**Control:** Confirm in staff reports recommending new investments that this tactic was employed.

## **8. SERVICES**

### **8.1 Customer Service Standards**

**Tactic:** Provides reliable, responsive, and affordable services in line with explicit, customer-accepted service levels.

**Define:** HEP meets reasonable customer demands and wants in terms of water delivery, pollution control and surface water management in a manner consistent with what the customers are willing to pay for the services.

**Measurements:** Customer complaints as measured by:

- a. Customer service complaints per 1,000 customers;
- b. Technical complaints (i.e., pressure, leaks, quality, etc...) per 1,000 customers.
- c. Customer praises (reverse complaints) and compliments per 1,000 customers.

**Analysis:** Customer complaints per thousand customers statistics are a quarterly quantitative method used as a proxy for customer satisfaction

measurement.

Implement: Log the call by categories above, and if desired by additional categories (for example, billing issues, interruptions, quality, taste, odor, appearance, flow/pressure) and if desired by type of customer (residential, industrial, commercial, etc...).

Control: Quarterly reports to the Board.

## **8.2 Responsiveness Standards**

**Tactic:** Receives timely customer feedback to maintain reasonable responsiveness to customer needs and emergencies and provides timely responses.

Define: Systems must be in place to receive and handle customer feedback appropriate to its nature and to the reasonable demands of operating the HEP using the concept of optimizing responsiveness given the costs of doing so.

Measurements: Customer feedback responsiveness measures include:

- a. Contact responsiveness = contacts responded to within 24 Business Hours divided by total contacts during the quarter;
- b. Error-driven billing adjustment rate = error-driven billing adjustments divided by number of bills generated each month;
- c. Service Start/Stop responsiveness = Start/Stop orders processed within the month divided by orders placed during the month;
- d. First Contact Problem Resolution by Month = number of "problem contacts" resolved on first staff contact divided by total "problem contacts" per month.

Analysis: Responsiveness to customer problem feedback should be optimized in light of the available call center resources and the need of management to operate the HEP. To this end, the impacts of overly aggressive responsiveness on managers' time and responsibilities and the relative value of immediate access to senior managers versus having all contacts resolved at the staff level closest to the customer (by people who will have the greatest knowledge of the circumstances) are considered as trade-offs

in the implementation standards below.

**Implement:** Customer feedback must be counted and the pertinent attribute tracked in order to be able to produce the result. This may include requiring a written (may be entered into computer Customer Response Management software) for routing to the appropriate person who can deal with the issue and close analysis of who the correct person to respond to customer feedback should be. These decisions are to be made in a way that optimizes the HEP resources.

To the extent possible, the use of written forms for contacts by customers will be used to optimize resources and provide information for managing this customer service attribute. When the customer is unable to, or refuses, to use a form, staff will take the information verbally and complete the form for the customer. The standard for responsiveness is 24 Business Hours, as that term is defined. Management staff are not required to handle every request of them for a conversation especially when they may not have all the details regarding a circumstance

**Control:** Quarterly reports to the Board.

### **8.3 Service Affordability**

**Tactic:** Monitor “Bill Affordability” as defined below.

**Define:** Bill Affordability means that the HEP bills, and each individual operations segment portion, are no greater than a specified percentage of median household income.

**Measurements:** Percentage of customers whose bills are estimated to exceed the Bill Affordability and the computation of the actual percentages achieved.

**Analysis:** This statistic helps the HEP tailor its programs, but also this statistic is important in securing outside grant funding targeting disadvantaged communities, such as the City of Tulare. The City has not traditionally maintained information on this statistic so reasonable standards remain to be developed.

**Implement:** Obtain estimates of household incomes from the Community

Development Department, estimate incomes by household income categories and determine what percentage of those incomes the HEP charges represent. During the next significant rate study related to HEP segment operations this relative percentage should be computed and standards can then be adopted by the Board.

Control: Make report on this tactic a required part of rate setting projects.

**Tactic:** Monitor Low-income billing assistance programs.

Define: The City of Tulare and outside agencies provide assistance with regard to paying HEP service charges through various billing assistance programs.

Measurements: The number of customers receiving various forms of billing assistance and the amounts of assistance being received, as reflected in HEP billing records.

Analysis: These measures help the Board tailor HEP programs and charges, and also are useful in securing outside grant funding targeting disadvantaged communities, such as the City of Tulare.

Implement: Identify forms of billing assistance recorded in HEP billing programs and report numbers of recipients by each type of billing assistance.

Control: Make report on this tactic a required part of the annual budget process.

## **9. SPECIFIED TIME HORIZONS**

### **9.1 *Capital Replacement***

**Tactic:** Funds for capital asset replacement will equal their estimated useful lives on City's depreciation schedules except the assets described below for which funds will be accumulated according to the lives stated.

Define: HEP must accumulate cash needs to replace HEP infrastructure, mission-critical capital assets.

Measurements: The following capital assets will employ the time horizons indicated for accumulating cash for replacement:



- a. Water and residential sanitary sewer pipelines – 80 years;
- b. Industrial wastewater lines – 50 years;
- c. Domestic wastewater treatment plant – 80 years;
- d. Industrial wastewater treatment plant – 60 years
- e. Water wells – 40 years.

Analysis: The years in which to accumulate assets will dictate the amounts included in rates for such accumulations.

Implement: Incorporate into rate studies. The goal for pipelines is to replace a minimum of 5 miles per year until current deficiencies are addressed at which time the 80 year useful life estimate may be applied to compute the required number of miles per year.a

Control: Board reports on replacement progress.

## **9.2 Operating Cycles**

**Tactic:** Type I and Type II projects, as reported in the Ewers Report, will be accomplished on an 8-year cycle.

Define: The risk level associated with an average 8-year cycle within the Ewers Study is adopted so that cash need estimates to meet such a cycle will be folded into rate modeling.

Measurements: Type I and Type II risk-based assessment factors.

Analysis: The criteria in this tactic are adopted as reasonable risk-management choices and in order to optimize system performance and longevity and financial resources applied.

Implement: Incorporate into rate setting.

Control: Board review of rates.

## **9.3 Rate Setting and Business Plan Updates**

**Tactic:** Define rate setting and business plan update time horizons.

Define: Provide for certain schedules for review of mission-critical financial review

tasks.

Measurements: All of the following plans are to be reviewed, at a minimum, on five year cycles or as triggered by other tactics in this Plan:

- a. Operational work plans
- b. All HEP rates and fees;
- c. Development Impact Fees for new expansion;
- d. Business Plans;
- e. Ten-year Energy Plans;
- f. Urban Water Management Plans.

Analysis: This tactic establishes minimum cycles for plan and rate reviews.

Implement: Annually report next scheduled reviews in annual budget report.

Control: Annual budget process reporting.

**Tactic:** Planning horizons appropriate to the nature of the plans will be used.

Define: Planning horizons are the period over which decisions will be implemented or which will be effected by the decisions made.

Measurements: The following planning horizons will be used:

- a. Intermediate term financial plans – 10 years;
- b. Long-term Type III project financial plans -- 80 years;
- c. Maintenance work plans -- 10 years;
- d. Growth and normal capital plant development plans – 30 years
- e. Water Supply plans – 40 years.

Analysis: Plans should extend beyond the period of action so that constraining decisions can be avoided or mitigated.

Implement: Use the Measurements above for plan horizons.

Control: Board reports.

## 10. IN A PLANNED FASHION

### 10.1 *Organized Program Planning – A Priority*

**Tactic:** Planning to achieve a successful HEP is a priority and adequate resources will be devoted to this activity.

**Define:** The HEP is complicated and requires various plans for successful implementation and to be sure that water is always available for potable delivery and that pollution can be removed from surface water and returned wastewater.

**Measurements:** Existence of updated short-term (typically budget), intermediate term and long-term HEP plans regarding the following:

- a. Financial health and cash need satisfaction;
- b. Maintenance and operations work plan;
- c. Capital investment plan;
- d. Ten-Year energy plan
- e. Expansion plan
- f. System Customer Connection plan
- g. Environmental and Regulatory Compliance plan
- h. Staff Succession plan
- i. Staff Training and Education plan
- j. Urban Water Management Plan.

**Analysis:** All planning is to be done keeping the principle of optimization in mind. However, given the complexities and interrelatedness of the various HEP components successful achievement is unlikely without sound planning.

**Implement:** City staff will participate in planning efforts, but the City may either create an internal planning staff dedicated to the planning efforts or may contract with outside consultants who have specialized knowledge. Under either scenario, there will be an ongoing continuous process of planning data collection and classification to allow competent plans for non-interrupted HEP services to be able to be continuously supplied.

**Control:** Presentation of various plans to the Board.

## **10.2 Ten-year Energy Plans**

**Tactic:** Develop and administer energy costs, usage and pollution control in accordance with a regularly updated ten-year energy plan.

**Define:** Energy plans will consider all HEP energy usage and all opportunities for selling or re-using energy commodities produced as well as environmental and regulatory practices.

**Measurements:** Energy costs, energy consumption, energy produced, and energy revenues.

**Analysis:** Energy is one of most significant of inputs (and potentially of outputs) with regard to the HEP. It is important to optimize these factors. Given the complexity and changing nature a purposeful organized approach is necessary to optimize outcomes..

**Implement:** Present the first ten-year energy plan to the Board on or before January 31, 2016.

**Control:** Regular reporting to the Board.

## APPENDICES

*Appendix A: Effective Utility Management*

*Appendix B: Ewers Report*