Water & Sewer Rate Advisory Task Force

2009 Water and Sewer Rate Structure Redesign

Task Force Charges

- To make recommendations to the Town Manager, for presentation to the Select Board, on water and sewer rates for fiscal year 2009 and beyond, with focus on a rate structure that can be sustained and annually modified to meet budgetary and capital obligations, and meet reserve targets;

Task Force Charges (cont.)

- To recommend a reserve target for water and sewer reserves; and,

- To make recommendations on funding mechanisms or strategies for water and sewer capital improvements.

Current Challenge

- Today, we are dealing only with the first charge – the determination of the water and sewer rates.
  - And only for Fiscal Year 2009
    - Later year rates can and will be modified
  - The 2009 budgets represent an increase of approximately 17% over the prior year budget
    - Total combined budget for this year is approximately $3.35 million

Task Force Recommendations

- Though we are focusing only on FY 2009 at this point, the Task Force believes that the rate structure outlined in this presentation presents a rational and well-grounded financial framework for water and sewer rates for 2009 and future years.

Task Force Recommendations

- That the Select Board, in its capacity as the town's Water and Sewer Commission, adopt the new methodology for determining water and sewer rates outlined in this memorandum;

Task Force Recommendations

- Using that methodology, the Select Board, in its capacity as the town's Water and Sewer Commission, adopt rates for Water and Sewer use for the fiscal year 2009 beginning July 1, as follows: (i) a flat charge of $90 per residential household per quarter to be billed and payable on the same schedule as property taxes, plus (ii) a variable charge to each residential household to be billed and payable semi-annually of $2.00 per metered unit of water used; and,

Task Force Recommendations

- That the Select Board authorize the Task Force to initiate a program to educate the town's residents on the new methodology and rate setting process. The program should include a discussion of the financial requirements of the town's water and sewer system, now and into the future.

Overview and General Conclusions

- The town's water and sewer operations are not profit centers. Rather, the budgets for these operations reflect only the actual costs of meeting the many obligations, demands and mandates on the town's water and sewer systems consistent with the health and safety and expectations of the town's residents. As will be seen, some of these obligations, demands and mandates, such as the repair and maintenance of the town's water mains, sewers, drainage pipes and culverts, hydrants and other infrastructure, are within the town's control. Others, including federal and state regulations regarding water and sewer and the cost of water and sewage treatment provided by Springfield are not.

- The bottom line is that there is no free lunch. The town in each fiscal year must raise and appropriate sufficient revenues to meet its budgets for its water and sewer operations. Deficit financing is not an option.

- By all objective measures, costs and water and sewer charges are going to continue to rise. The town's current rate setting methodology appears to yield inequitable results in the water and sewer rates being charged the town's rate payers. The challenge to the town is to manage its water and sewer operations at reasonable costs, consistent with the above obligations, demands and mandates, while charging rates for the operations that are fair and equitable to all the town's ratepayers. The process of setting the rates must also be open and transparent to the town's residents so that they can have confidence that a proper job is being done in maintaining the system and setting rates.

Preliminary Information on Longmeadow Rates

- Prior to proceeding with the full discussion of rate issues, the Task Force thought it would be helpful to provide the following information regarding Longmeadow's relative ranking of its water and sewer rates versus other communities in the Commonwealth. Recent increases in the town's water and sewer rates with more increases to follow, understandably, have been a cause of concern to many town residents. Longmeadow residents, however, have been fortunate in being able to enjoy among the lowest water and sewer rates relative to other communities for many years, although this is both a blessing and a cause now for increasing system maintenance costs.

- In in fiscal year 2007, out of 286 Water Districts in Massachusetts, Longmeadow was 14th lowest in average household annual water bills. Note that we are at that low rate level even including the perceived high usage for irrigation. Even with all the water we use (and Longmeadow users are high on a per person basis), the town's billing rate for these services was the 14th lowest in the state. We believe this reflects, in part, the fact that the town's water and sewer system has been fully built out for some years. The low rate also reflects the reality that previous town's budgets have been inadequate to properly maintain the water and sewer systems.

Types of Services Delivered

- The Town of Longmeadow delivers to our residents two major categories of services within our water and sewer structure
  - Capacity Services, and
  - Delivery Services

Capacity Services

- The town delivers to every home and business (ignoring some very minor exceptions) the “capacity” for water delivery and waste water removal.
  - These are provided through the operation of our Water and Sewer Departments within the Department of Public Works. They include the installation and maintenance of infrastructure (water and sewer mains, culverts, fire hydrants, meters, water tower and so on).

- Capacity services are a public good
  - much the same as the delivery of police protection, driveable roadways, and educational (school) services.
- Capacity services are provided to the townspeople without regard to their utilization of those services.
  - they are available to everyone, with no differentiation as to their utilization by citizens of the town.
  - Every user must have available to their property
    - the hookups to sewer and water pipes,
    - infrastructure for actual water use,
    - as well as hydrant availability for fire protection,
  - all without regard to how much or how little demand the user places on the system.

Delivery Services

- The Water and Sewer Departments arrange for and provide the actual delivery of clean water and the removal and treatment of waste water from the residents and commercial users (again, ignoring some very minor exceptions).
  - Water and waste treatment services are purchased from the City of Springfield (with waste treatment provided by the facilities at Bondi's Island).
  - The Town attempts to monitor the usage of these two services via the use of water meters, and bill according to the individual usage of these services.
- Delivery Services are the delivery of clean water, and the delivery of waste water treatment.

Need For Adequate and Fair Rate Structure

- BACKGROUND:
  - Recent rate structure debacle is well known
  - There is a growing recognition by the Town that the town has underfunded the infrastructure needs of the system for many years

- Objective outside consultant studies and the investigations and daily experience of town employees working in the Water and Sewer Departments confirm the need for increased infrastructure repair, maintenance and, in some cases, replacement.
- There exists an absolute requirement to increase water and sewer revenues to pay for the infrastructure needs of the system, before catastrophic failures of the system become commonplace.

- The residents and taxpayers of the Town will not accept a Water and Sewer system that cannot deliver the services expected.
  - Our political leaders are cognizant of the need to make sure that, while basically invisible to the average resident/taxpayer, the water and sewer systems must be maintained to a high degree of performance
  - Controlled investment in infrastructure must be planned and accomplished in such a way as to ensure the viability of both our capacity and delivery services.

Rate Structure Must Be “Fair”

- Must be perceived as “fair” in determining who should pay what for this service.
  - The most recent “taxpayer revolt” was, in our opinion, not only the result of the sharp increases in water and sewer bills, but also a result of a perceived lack of fairness in the determination of the applicable charges for water and sewer services.

- We believe that the residents and taxpayers in Longmeadow are reasonable people who will understand and accept the need for investment in our capacity and delivery services, and will be willing to make that commitment.
- The Task Force also believes that, given the opportunity to understand the rationale, they will support a new rate framework and structure that is fairer and more equitable to all than the current system, and that is grounded in financial fact.

Let's Examine Our Current Rate System

- We will discuss "homes", but the commercial and institutional customers will be included in any ultimate rate structure program.
  - When necessary, we will differentiate those customers from the residential customers.
    - Residential customers are approximately 5500 in number.
    - We have only 80 commercial accounts and 51 institutional accounts.

To Be Done In Phase 2 of the Task Force Work

- Recall that we are currently looking only at our rates for the fiscal year 2009.
- The task force intends to continue its study of the rate system as well as the capital infrastructure needs for the entire water and sewer system, and will make more comprehensive suggestions with regard to a long term plan for meeting the system's long term needs for capital improvements, repairs and maintenance and establishment of reserve policies.

- We also will be looking at the advisability and legality of combining water and sewer (that is, collapsing it into a single budget that covers Water & Sewer).

- Additional repairs, maintenance and capital improvements beyond what is already included in the annual budget will have to be paid with additional funds raised from the ratepayers or taxpayers, and we will be looking at the various options that are open to us for that analysis.
  - This includes the possibility of adding capital items to the real estate levy as allowed under state law.

Current rate system

- Relies on a single meter in each home.
  - That meter records *only* the incoming utilization of water.
  - There is no metering system for wastewater leaving the home on an individual basis.
- So, over the years, a rate structure has been developed that makes certain assumptions about how much of the metered water that arrives at each home is thereafter removed for treatment by the Sewer system.

- Ratepayers are billed on the basis of water metered and a sewer charge that is *related* to metered water usage.
  - There is not an equivalency between water metered and wastewater for all ratepayers
    - less wastewater is removed than water coming in to a ratepayer's home.

What happens to the difference between what is metered and what is assumed to be wastewater?

- That is the water that we *assume* to be used for irrigation.
  - Cost per unit of water is much higher for a unit of water that is subject to water *and* sewer rates than for a unit of water that is just subject to the water rate
    - That water is assumed to be irrigation water going back into the ground and not into the sewer system.

- The Town uses a rate structure that measures “units” of water
  - A single unit = *one hundred cubic feet* (equivalent to 748 gallons)
- The Town deals with concerns about excess sewer charges by imposing a rate cap
  - capping the amount of metered water usage that is allowed to be subject to sewer charges

The BIG Problem!

- We believe the current structure is one of the primary sources of frustration within the Town over rates.
- The current structure produces a desire among ratepayers for maximizing the amount of water that is exempted from sewage charges.
  - The current structure is the *only reason* that there has been a continued hue and cry from a number of townspeople for the opportunity to have a separate irrigation water meter.
  - This would allow them to *prove* that they are being *overcharged* for their sewer treatments.

- Based on the rate analysis used for the EarthTech Study in 2007, less than 20% of the ratepayers exceed the current 220 unit cap (110 unit per billing period)
  - That's the point where the exemption for sewer charges kicks in
- approximately 35% of ratepayers would exceed (be benefited by) a 150 unit annual cap.

Current System Ignores Capacity

- The current rate structure also places the town's ratepayer's focus on water utilization to the exclusion of the cost of capacity service.
- This errant focus diverts the attention of the ratepayers from the daily cost of maintaining the water and sewer infrastructure for each of those ratepayers.
  - That cost applies whether the ratepayer uses 1 unit, 110 units or 1000 units of water in a billing period.
  - Water usage bears no relationship to the cost of capacity service.

- Many ratepayers, however, labor under the misimpression that water usage alone should determine the amount of their water and sewer bills.
  - They do not appreciate the fact that maintenance and repair of capacity service and costs beyond the control of the town (such as the price of services purchased from Springfield, Bondi's Island sewage treatment charges and federal and state regulations) account for a substantial portion of their water and sewer bills.

Perverse incentives

- Since we have a metering system that *cannot* determine the actual usage of sewer services, we have a built in incentive for those who consider themselves overcharged for sewer service to avoid such overcharge by either lobbying for separate irrigation meters or, as many have done, having their own well installed for purposes of irrigation.
- However, those who might be *undercharged* for sewer services to their home by reason of the artificial cap on sewer rates have absolutely no incentive to make sure they are properly charged and incur a higher bill.

The Problem?

- Our current inability to determine the exact usage for sewer service results in the inevitable situation that some ratepayers are subsidizing other rate payers, without actually knowing who is being subsidized and who is doing the subsidizing, and those who *believe* they are doing the subsidizing are unhappy and looking for ways to eliminate that subsidy.

Subsidy #1:

- High irrigation and low sewage use users are actually subsidizing the system
  - As they remove some or all of their use from the system by installing their own wells, the rate payers left behind will face increasing charges since the non-variable costs in the budget (that is, the costs other than water purchase and treatment costs) must still be paid, and will be spread over a smaller base.

Please buy FROM US!

- As an operating business, we actually want to *encourage* water users to buy *all* of their water from the department
  - there is a positive revenue result from *each* unit of water sold
    - that is, we sell each unit of water for an amount that is more than our marginal cost for purchasing that unit.
  - We make a “profit” on each unit of water sold.

Subsidy #2:

- One inevitable result of our current rate structure is that there are users that are considered “low usage” that are paying charges for the system that do not realistically reflect the cost of providing capacity service to their home.
- There is a substantial infrastructure cost associated with the delivery of that first gallon of water and sewer service to every user, plus the provision of fire fighting capacity.

- When the charges are based *only* on usage, the low usage customer will likely not appreciate the fact that they are not paying their appropriate cost.
  - the result is a subsidy from the other ratepayers to the low usage customer.
  - This is a kind of subsidy that we need to address in a *fair* rate system.
    - ALL users should pay a *fair* rate.

Value of Fire Hydrants

- Homeowner's insurance cost is reduced simply because there are fire hydrants available to protect the property.
  - One home owner's insurance premium we priced was reduced from $1,646 to $1,285
    - Savings $361
      - The protected value of the home (less land and foundation) is $416K;
  - Savings of $86.77 per $100K value because of the fire hydrant system provided by the Town.
- Even low use homes receive this valuable benefit.

A Possible Solution?

- Possible solution to the first “subsidy” problem
  - install irrigation water meters;
  - there has been significant clamor for such an option over the years.
- Even assuming that such meters were installed at the option of and cost paid by the homeowner, it does not solve the structural problem!

Why?

- Unless *every* home that used water for irrigation had a dual meter set up, we would still have some homeowners subsidizing other homeowners, *since it is the artificial cap on sewage use that is really the culprit*.

- If every home had dual meters, the cap on sewage would become unnecessary and would be eliminated.
- However, even dual meters would *not* eliminate the need to have a rate structure that differentiated between the amount of water that is used by the ratepayer (one fee) and the amount of waste water subject to treatment (another fee).

A Better Solution

We believe there is another approach to the problem that is a better solution, and we outline that here.

A Better Solution

- Let us limit our consideration of possible solutions as they relate to residential users.
  - We will of course include any non-residential ratepayers in our ultimate design, but it will make sense to consider non-residential users separately.
  - The non-residential users are a small percentage of our users and the following recommendations will encompass well over 90% of our user base; we will deal with the non-residential users later.

A Better Solution
Fundamental Assumption #1

- The provision of water and sewer *service* (capacity service) to each home/business location is a fundamental Town service that must be provided to each location regardless of usage**.**
  - The costs of providing that capacity service should be appropriately included in the rates paid by each user.

- Just as the police services or school services are provided for those who require them but paid for by all taxpayers, so should capacity service be considered and delivered.
- The design of the water system is based *not* on the expected need for water, but on the basics of fire protection principles.
  - It is simply not true that a so-called “large” user of water needs more infrastructure (larger pipes) than a normal residence. It is the fire suppression needs that drive the design of the infrastructure.

A Better Solution
Fundamental Assumption #2

- Ratepayers have some significant control over the amount of water that they use for irrigation
  - It is not the responsibility of the Town to provide irrigation water without being appropriately reimbursed for the cost of providing that water to the user.

A Better Solution
Fundamental Assumption #3

- The average home in Longmeadow requires a certain amount of waste water treatment, such usage is based mostly on the number of people occupying the home, and the variability of such usage among similarly occupied homes does not vary by a very large degree based on the size of the residential unit.

- Therefore, our rate structure should recognize that the vast majority of homes will require an amount of waste water treatment that does not differ significantly from other homes of the same occupancy, and that waste water treatment service can and should be covered in the rate structure without requiring a variable factor.

- In other words, we eliminate the sewer cap that is the proximate cause of the widespread rate “unhappiness” for many residents in town.
  - We acknowledge that there will be “outliers”
    - such as residents who leave their home unoccupied for substantial lengths of time while occupying another residence in another location
  - for whom the above assumption will not be valid.
- Nonetheless, we believe the proposal below properly includes those situations in its scope.

Where does that leave us?

- What is needed and what the Task Force recommends is a restructuring of the water and sewer rates to reflect financial and user realities and equities.

- The most significant variable item**s** in the Water and Sewer budgets are:
  - the purchase of water, and
  - the purchase of waste treatment services.

- The amount of water used at each home is a significant variable predicated on a number of factors, *but irrigation usage is probably the largest controllable factor*.

- As noted previously, regardless of how much water is actually used by system users, there still are substantial costs that must be incurred for the capacity service.
- This cost is basically a “flat rate” item.
  - Just as the funding for schools or police protection are “flat rate” items in the annual Town budget (with the flat rate being added to the mill rate based on property assessment), the flat rate for capacity service (which includes waste water treatment) can be determined and billed to each home (on a per user basis).
  - In addition, each user would incur separately broken out charges for actual water usage on a metered basis.

- With this methodology, the need for secondary meters for irritation *disappears completely!*
- There is no need for a second meter when charges for sewage treatment are decoupled from water usage and included in a separate charge as an element of capacity services.

- **I**ndividual homes (and businesses) will now pay their appropriate share of the cost of capacity service;
  - the previous rate structures did not derive adequate revenue for the service provided (capacity service) to low users.
    - For example, we do not believe it is appropriate for a home that is connected to the water and sewer system but is only occupied for several months during the year not to pay its share of the fixed costs of providing that capacity service to the dwelling.
    - The cost to provide capacity service goes on whether or not the home is occupied.

- Our current and previous rate structures subsidize those homes that have low utilization, *even though capacity service costs of providing the first gallon of water and sewage treatment are substantial*.
- **There is no justification for this subsidy by other ratepayers; it is an inherent unfairness and should be eliminated.**

What would a rate structure look like under this scenario?

- Our basic recommendation is a bifurcated rate structure consisting of:
  - a flat charge for capacity services; and
  - a variable charge based upon metered water usage.
    - meets the objectives of fairness to all ratepayers and adequate revenues to meet the needs of the system.
- We provide alternative examples so that the interplay between the two fundamental parts of the rate structure can be seen.
- The pricing mechanism is extremely flexible:
  - it is possible to combine these two pieces in many ways to produce almost any result desired, all of which will produce the needed revenue to meet the expenses budgeted.

Quarterly billing should be implemented immediately

- We recommend that the town move immediately to quarterly bills
  - even before we have quarterly readings with replacement radio meters.
  - the Town would still provide semi-annual meter readings until we had the radio meters installed to allow full quarterly billings
  - Prior to that time, the town should commence quarterly billing for the capacity service flat charge (see below), but bill for the metered water usage only on the semi-annual bills.
- Ultimately, metered water usage would also be included in the quarterly bills.
- We believe that this would make it easier for people to pay their bills, as was the case when the Town switched from semi-annual to quarterly billing for real estate taxes.

Determination of the flat charge

- The flat charge should be both:
  - reasonable; and
  - appropriate
    - the *right* amount to cover the costs intended.
- The challenge is to determine what should be a reasonable flat rate charge.

What should the flat charge cover?

- What should that cost include?
  - It should include the capacity services. Even if a home is unoccupied for the year, the infrastructure costs to be able to deliver water and sewer services do not go away. The flat charge needs to cover the capacity service costs.
  - In addition, looking at our second fundamental assumption, the flat charge should also include some or all of the cost of waste-water treatment
    - this treats it conceptually similar to other town services noted previously (school, police, etc).

What is covered by the variable (or usage) charge?

- If the flat charge includes the infrastructure and some or all of the waste water treatment costs, what else is left to be covered by the charge for water used?
- What's left is easy to determine:
  - it's the *rest of the budget*.

First mathematical analysis

- The total water and sewer budget is approximately $3.55 million.
  - The cost to the Town for water (paid to Springfield) is $675,000;
  - The cost to the Town of waste water treatment (paid to Springfield) is $789,000.
    - Thus, the total cost for water and sewage treatment in the budget is $1.464 million.
- That leaves a balance for the water and sewer budget of approximately $2.084 million (after the cost of water and sewage treatment).

First mathematical analysis - continued

- We believe that this $2.084 million should be considered the true “fixed costs” of the budget.
- The revenue that is raised by a $90 flat quarterly rate (approximately $1 per day) is approximately $2.03 million.
- The $90 flat rate almost (but not quite) covers the fixed costs of the budget.
  - Even at $90, there is a small subsidy provided by the variable rate.

First mathematical analysis - continued

- Thus, a fixed charge of $90 quarter, multiplied by our approximately 5500 residential users will produce approximately $1,980,000 in revenue (5500 x $360).
  - This does not include the commercial and institutional users (approximately 80 + 51 = 131 additional) who would also be paying fees (to be determined).
- Having raised the $1.98 million from the flat charge, we still need to raise revenue to cover the balance of the budget.
  - This comes to $1.567 million.

First mathematical analysis - continued

- If we assume this $1.567 million is to be raised by water charges to users, we divide by our estimated billable units of 865,000 for a rate per unit of $1.82.
  - Note that the estimated billable units includes *all* ratepayers, including commercial and institutional.
  - If we make the usage rate a flat $2.00, we will have $163,000 that we can add to reserves PLUS the amount billed to commercial and institutional users for their flat charge; if we assume the same $360 per user, that would produce another approximately $47,000, for a surplus of approximately $210,000.
  - This $210,000 could be simply added to reserves, and perhaps also help to keep rates stable over a longer period of time.

First mathematical analysis - continued

- An alternative way to look at the revenue and budget:
- Total water and sewer budget is approximately $3.55 million.
- Flat rate of $90/quarter times 5630 (residential plus all others) = $2.03 million
- 865,000 billable units times 2.00 per unit = $1.73 million
- TOTAL REVENUE = $3.76 million
- Contribution to reserves: $210,000

Alternative rate calculation; phase-in of flat rate

- The Selectboard will have to ultimately determine the rate structure to be charged for the 08/09 year. Though the task force believes that the $90 per quarter /$2.00 unit rate schedule is the most appropriate from an overall fairness basis for all Longmeadow ratepayers, we have included an alternative calculation so that you have an idea of what happens to the rate structure as you change the two pricing elements (the flat rate and the rate per unit).

Alternative rate calculation; phase-in of flat rate

- The task force believes we should get to the full flat rate (the $90 flat rate in our example) as soon as possible.
- However, if it were decided to use a phased approach to moving to the $90 flat rate (say, over two years), then a lower flat rate could be adopted for this year (say, $50/quarter) with a required higher rate per unit. Below are the effects of such a rate structure.

Alternative rate calculation; phase-in of flat rate

- Total water and sewer budget is approximately $3.55 million.
- Flat rate of $50/quarter times 5630 (residential plus all others) = $1.126 million
- 865,000 billable units by $2.90 per unit = $2.5085 million
- TOTAL REVENUE = $3.6345 million
- Contribution to reserves: $84,500

- NOTE: if the usage rate is increased, the contribution to reserves will increase. Every one cent increase should produce $8,650 of additional revenue if the estimated billable units holds true.

Alternative calculation: include min. number units in flat rate

- There are an infinite possibility of combinations of flat rate and unit rate that will produce the needed revenue.
- An additional modification can be introduced into the price structure.
  - This would be the possibility of including a minimum number of units of usage within the flat rate.
  - For example, the flat rate of $90 (or $50) per quarter could include a minimum usage of 5 or 10 units per quarter
    - There is no additional billing beyond the flat rate for those units.
    - The inclusion of a minimum number of units for which no additional billing would occur would necessitate a higher variable rate per unit.

- For example, if we include 5 units per quarter (and, for ease of calculation, assume that every ratepayer uses at least that much water each quarter), we will have to raise the unit cost to $2.30 from the previously calculated $2.00.
  - If we included 10 units per quarter, the unit cost would have to go to $2.70.
- *Almost any desired result can be accomplished with the combination of flat rate, unit rate, and minimum includable units.*

Current Rate Schedule vs. Recommended Rate Schedule

- For comparison purpose, we felt it would be useful to include the most current rate schedule (the one adopted for purposes of the refund calculations), and what the rate schedule would have to be under that same scenario to cover the new budget.

Current Rate Schedule

- The “refund rate schedule” is $2.05 per unit for sewer, with a cap of 110 units per billing period (220 per year). The water rate is $1.70.
- NOTE: that means that the rate on the first 110 units of usage (combined water and sewer) is $3.75 per unit, with any additional units billed at the $1.70 rate.
  - The effect of the refund rate schedule was to significantly underfund the revenue side of the budget for fiscal year 2008, with the revenue needed to balance the budget taken from reserves.

Fiscal Year 2009 Schedule if Current Rate Structure Used

- If the refund rate schedule is simply adjusted to cover the increase in the budget, the rates would go up as follows:
  - The sewer rate would be $2.50 (same cap)
  - The water rate would be $1.86.
    - Again, that means that the rate for the first 110 units of usage (water and sewer combined) is $4.36 per unit, with any additional units billed at the $1.86 rate.

Attached Exhibits

- Please see the attached exhibit for graphic examples of these rate calculations.

- We show the proposed 7.5% increase with the current structure and then compare this increase with $200 Capacity Charge structure.

  - The Capacity Charge structure encourages conservation at the higher users > 400 HCF, which seems to be an appropriate goal
  - However, these users actually have a negligible effect on captured revenue and overall usage.

Let's look at some specific cases

- Kathleen Grady in 2006 used 38HCF. Her bill in 2007 @ $3.95/HCF would have been $150.10. This will jump to $161.88 in fiscal 2009 @ $4.26/HCF, starting in July 2008.
  - With a $200 Capacity charge and $2.90/HCF her bill would be $310.20
    - 91.6% increase over the 7.5% case.
  - If we were to include 20 HCF (5 HCF per quarter), her bill would be $252.20
    - 55.8% increase.
- Dean Rogeness in 2006 used 128 HCF. His bill in 2007 @ $3.95/HCF would have been $505.60. This will jump to $545.28 in fiscal 2009 @ $4.26/HCF.
  - With a $200 Capacity charge and $2.90/HCF his bill would be $571.20
    - 4.7% increase over the 7.5% case.
- Dean Kavanagh in 2006 used 187 HCF. His bill in 2007 @ $3.95/HCF would have been $738.65. This will jump to $796.62 in fiscal 2009 @ $4.26/HCF.
  - With a $200 Capacity charge and $2.90/HCF his bill would be $742.300
    - 7.3% DECREASE over the 7.5% case.

Exhibit 1

– shows the various results of the different rate structures and how many users would fall in each group measured in increases of 50 HCF.

		Jan '08 non-tiered $3.95/HCF with 220 sewer cap			Jul-08 $4.26 /HCF with 220 sewer cap			July-08 $200 Capacity Charge +$2.90/HCF		
Units, HCF	# Customers	Yearly cost	Revenue	% of Total Rev	Yearly cost	Revenue	% of Total Re	# Customers	Yearly cost	Revenue	% of Total Rev
0-10	70	19.75	1382.5	0.05	21.3	1.49100E+03		70	214.5	1.50750E+04	
11-50	670	118.5	7.93950E+04	2.61	127.8	8.56260E+04		670	287	1.92290E+05	5.5
51-100	1550	296.25	4.59188E+05	15.16	319.5	4.95225E+05		1550	417.5	6.47125E+05	17.66
101-150	1412	493.75	6.97175E+05	23.01	532.5	7.51890E+05		1412	562.5	7.94250E+05	21.67
151-200	784	691.25	5.41940E+05	17.89	745.5	5.84472E+05		784	707.5	5.54680E+05	15.13
201-250	468	833.5	3.90078E+05	12.88	946	4.42728E+05		468	852.5	3.98970E+05	10.89
251-300	260	918.5	2.38810E+05	7.88	1034	2.68840E+05		260	997.5	2.59350E+05	7.08
301-350	168	1003.5	1.68588E+05	5.56	1122	1.88496E+05		168	1142.5	1.91940E+05	5.24
351-400	86	1088.5	9.36110E+04	3.09	1210	1.04060E+05		86	1287.5	1.10725E+05	3.02
401-500	98	1216	1.19168E+05	3.93	1342	1.31516E+05		98	1505	1.47490E+05	4.02
501-600	43	1386	5.95980E+04	1.97	1518	6.51740E+04		43	1795	7.71850E+04	2.11
601-700	15	1556	2.33400E+04	0.77	1694	2.54100E+04		15	2085	3.12750E+04	0.85
701-800	14	1726	2.41640E+04	0.8	1870	2.61800E+04		14	2375	3.32500E+04	0.91
801-900	8	1896	1.51680E+04	0.5	2046	1.63680E+04		8	2665	2.13200E+04	0.58
901-1000	2	1966	3.93200E+03	0.13	2222	4.44400E+03		2	2955	5.91000E+03	0.16
1001-2000	18	3045	5.48100E+04	1.81	3190	5.74200E+04		18	4550	9.55500E+04	2.61
2001-5000	5	6445	3.22250E+04	1.28	6710	3.35500E+04		5	10350	5.17500E+04	1.69
>11000	1	19195	1.91950E+04	0.63	19910	1.99100E+04		1	32100	3.21000E+04	0.88
	5672		3.02177E+06	99.95		3.30280E+06				3.64516E+06	100

Exhibit 1

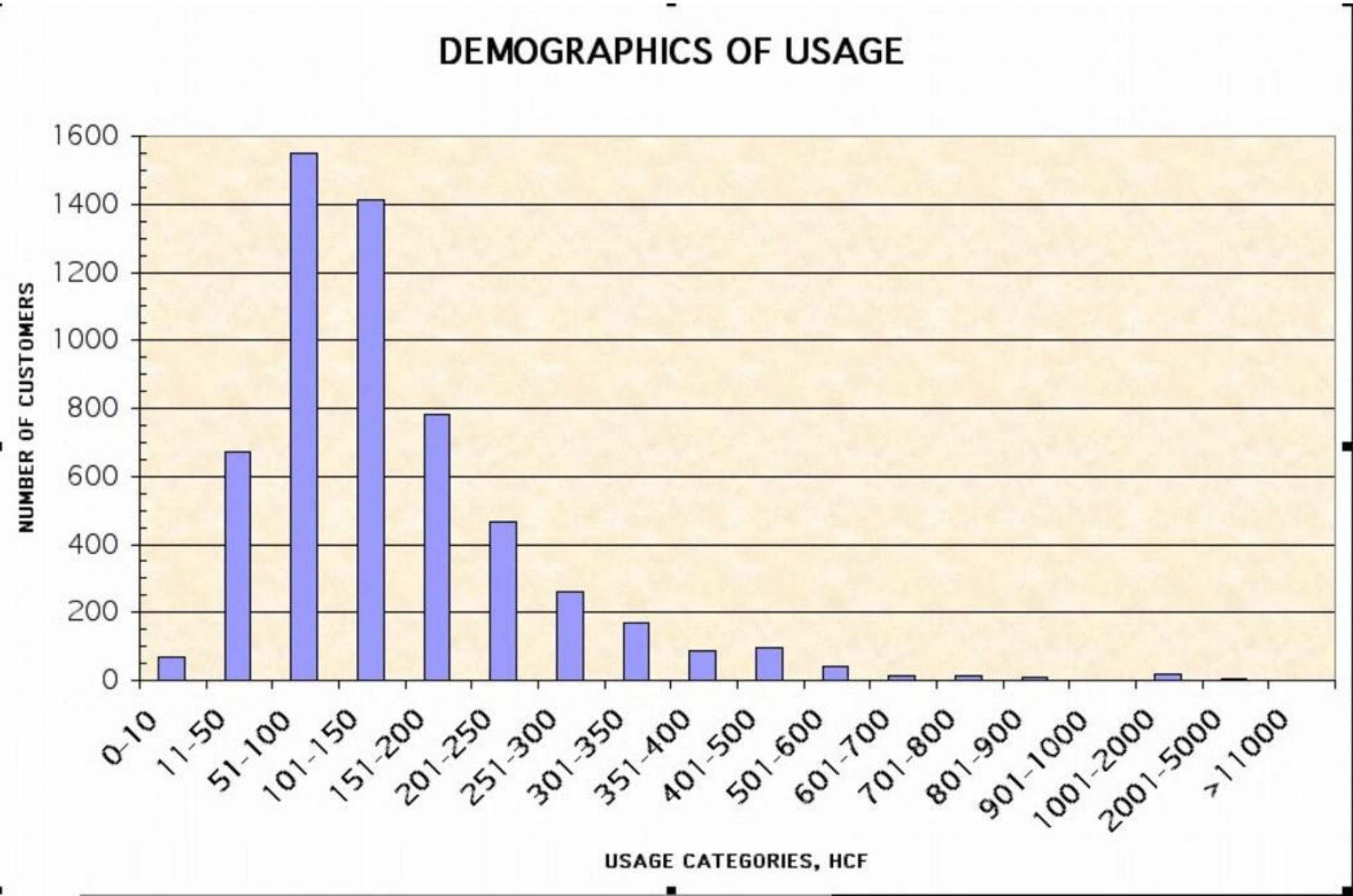
DEMOGRAPHICS OF USAGE
NUMBER OF CUSTOMERS
1600
1400
1200
1000
800
600
400
200
0
0-10
11-50
51-100
101-150
151-200
201-250
251-300
301-350
351-400
401-500
501-600
601-700
701-800
801-900
901-1000
1001-2000
2001-5000
>11000
USAGE CATEGORIES, HCF

Exhibit 2

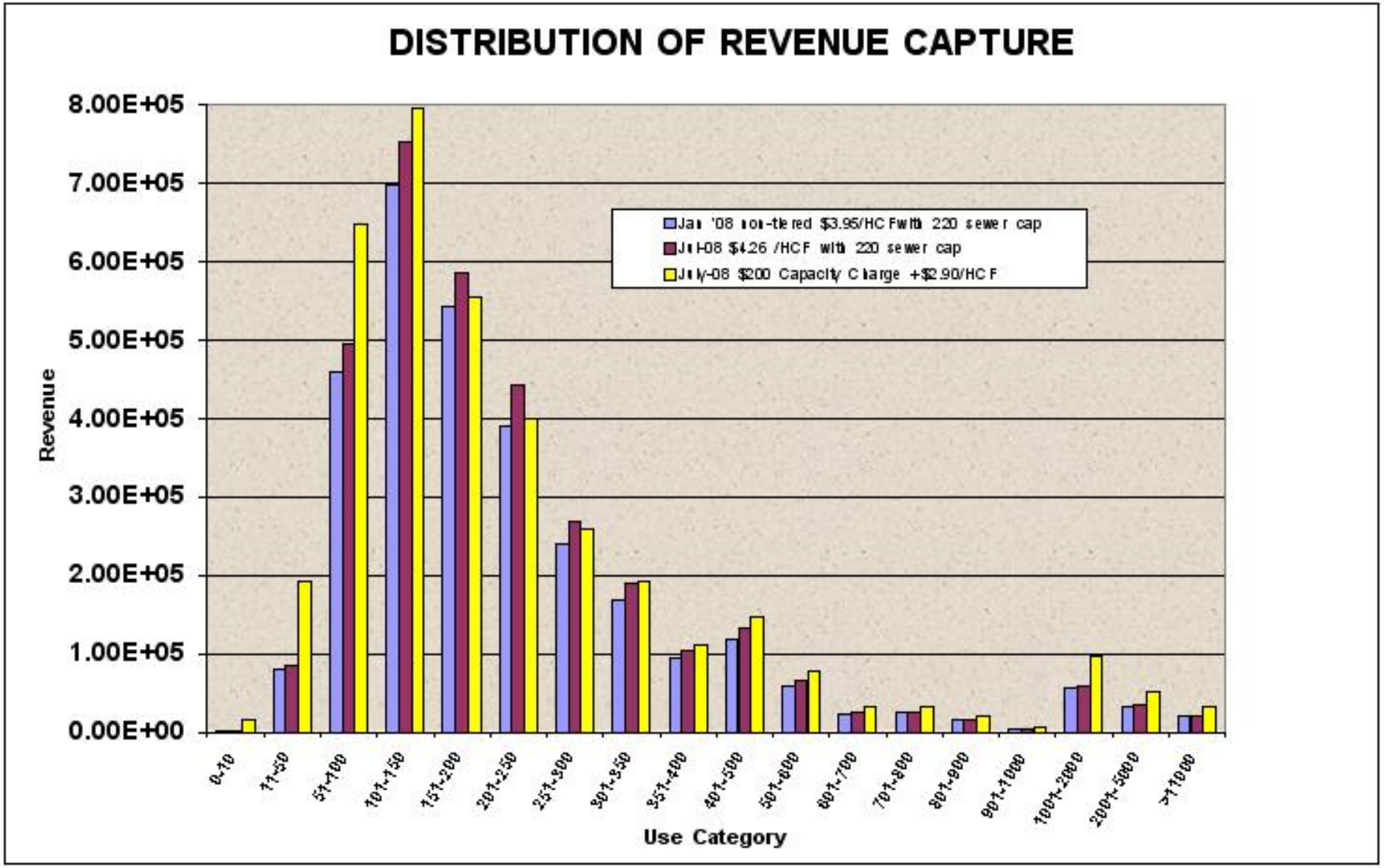
DISTRIBUTION OF REVENUE CAPTURE
8.00E+05
7.00E+05
6.00E+05
5.00E+05
4.00E+05
3.00E+05
2.00E+05
1.00E+05
0.00E+00
Revenue
Jan '08 non-tiered $3.95/HCF with 220 sewer cap
Jul-08 $4.26 /HCF with 220 sewer cap
July-08 $200 Capacity Charge +$2.90/HCF
0-10
11-50
51-100
101-150
151-200
201-250
251-300
301-350
351-400
401-500
501-600
601-700
701-800
801-900
901-1000
1001-2000
2001-5000
>11000
Use Category

Exhibit 2

- Exhibit 2 shows the percentage of the total revenue stream that is attached to the various levels of usage.
- We note that very little of the total revenue comes from high end users.
  - In fact, looking at the $200 flat rate ($50 quarterly alternative), we see that the vast majority of users are not materially affected by that change in the rate structure (though we still are recommending a move to the $90 quarterly rate - over time perhaps).
  - The revenue captured by either end of the use category contributes a minuscule portion of the overall revenue.
    - » this means that the highend commercial users and the very low end residential users could be treated differently without substantially affecting total revenue.

Do “big users” stress the system to a larger degree?

- Collectively, those ratepayers that use between 50 and 400 HCF account for 96% of the metered flow and DO pay the lions share of the W&S revenue.
  - Collectively this 96% is distributed around the piping system and not clumped at the end of a delivery pipe
    - Any misperceived and undefined “stress” on the system is not concentrated, but distributed evenly.
  - There are 6 establishments that use above 2000 HCF and these are in the northeast sector between the Huke Lau and the Jewish Nursing home. They account for 3% of the overall flow.
    - We are not aware that these areas experience disproportionately high maintenance issues. Nor does it seem likely that 3% flow could stress the total system disproportionately.

Exhibit 3

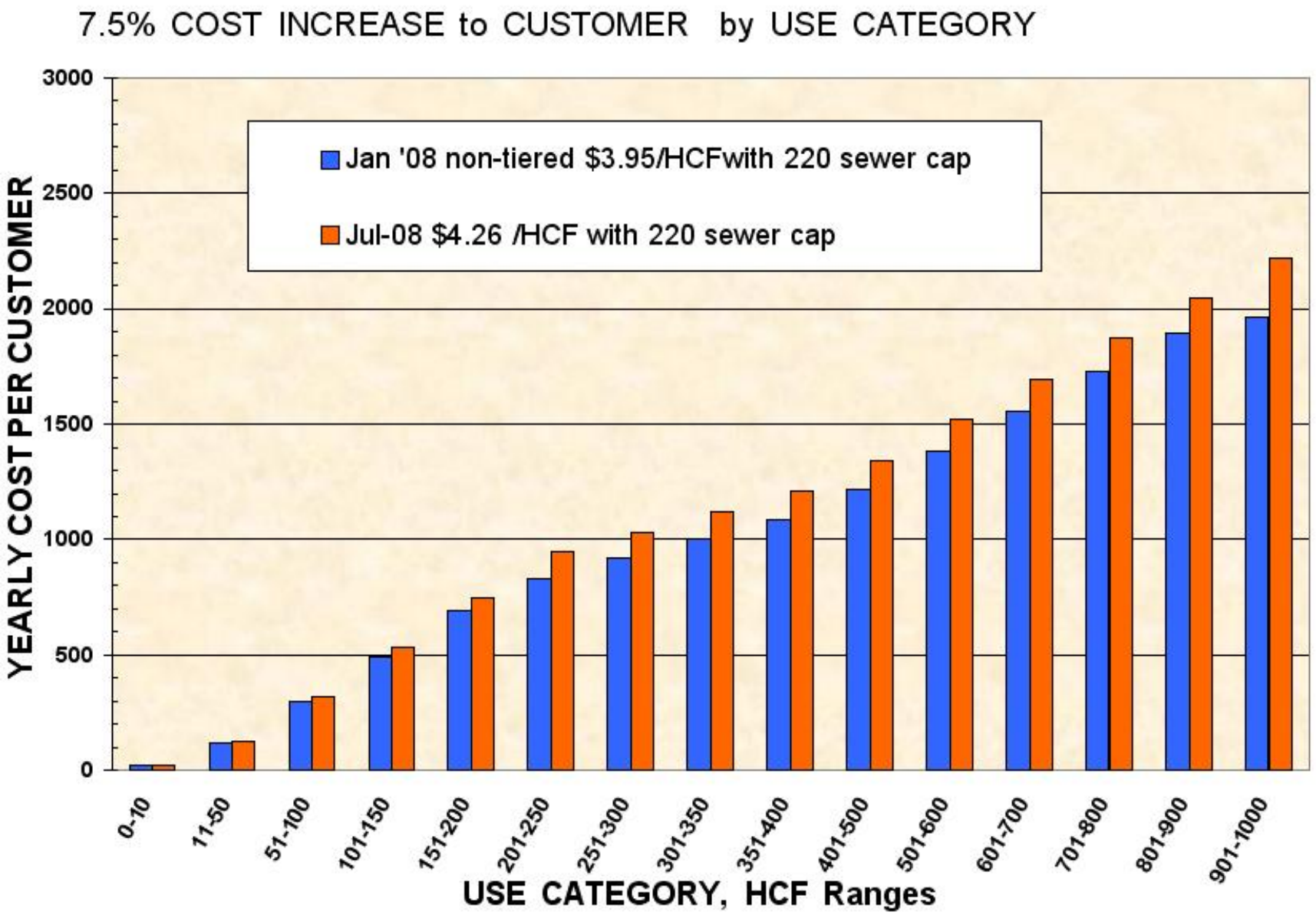
7.5% COST INCREASE to CUSTOMER by USE CATEGORY
Jan '08 non-tiered $3.95/HCFwith 220 sewer cap
Jul-08 $4.26 /HCF with 220 sewer cap
YEARLY COST PER CUSTOMER
3000
2500
2000
1500
1000
500
0
0-10
11-50
51-100
101-150
151-200
201-250
251-300
301-350
351-400
401-500
501-600
601-700
701-800
801-900
901-1000
USE CATEGORY, HCF Ranges

Exhibit 4

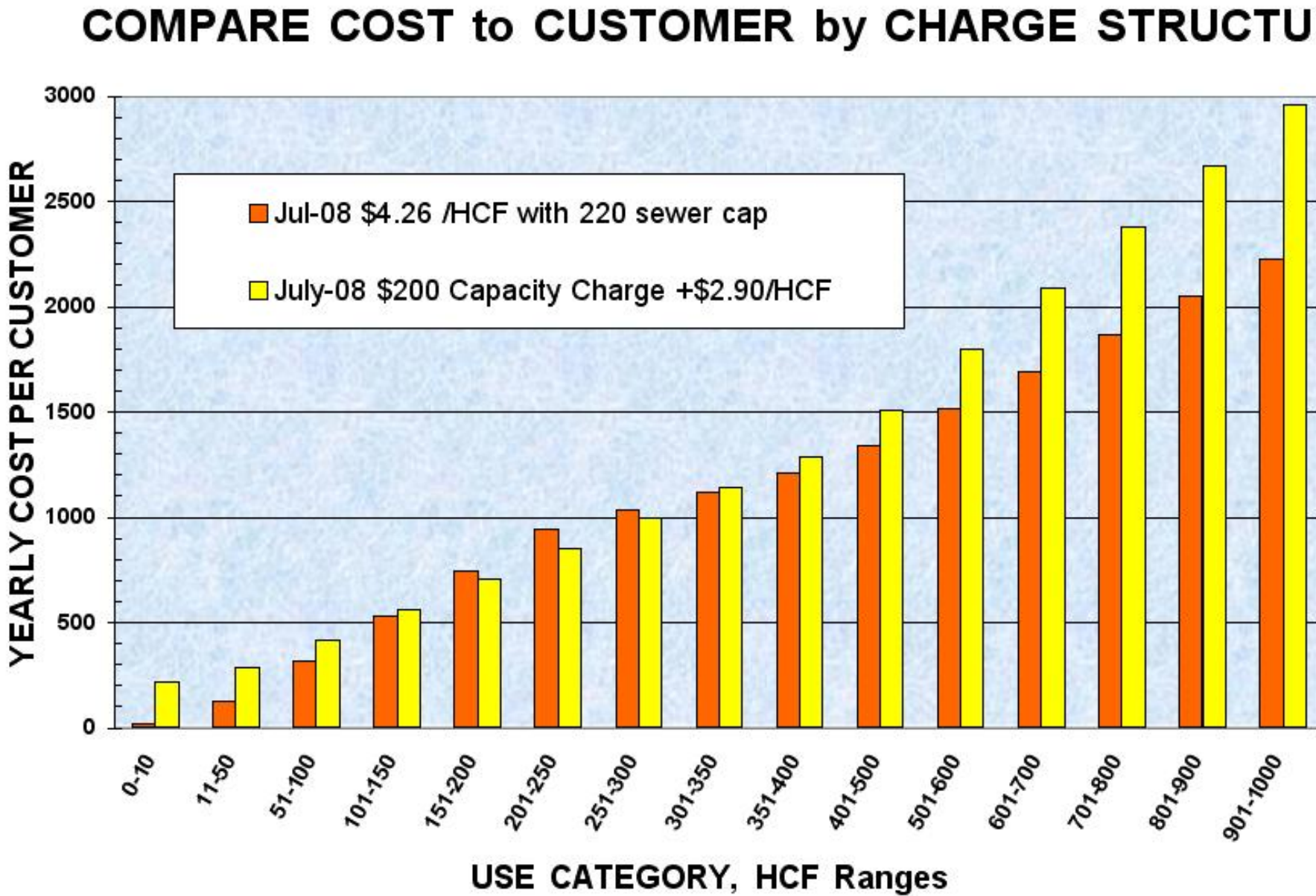
COMPARE COST to CUSTOMER by CHARGE STRUCTURE
YEARLY COST PER CUSTOMER
3000
2500
2000
1500
1000
500
0
Jul-08 $4.26 /HCF with 220 sewer cap
July-08 $200 Capacity Charge +$2.90/HCF
0-10
11-50
51-100
101-150
151-200
201-250
251-300
301-350
351-400
401-500
501-600
601-700
701-800
801-900
901-1000
USE CATEGORY, HCF Ranges

Exhibit 4

- Exhibit 4 shows that the high end and low end users would see a more substantial increase in cost than the center groupings of 100 to 500 HCF.
- For these center users who generate essentially all the revenue (and represent the greatest number of ratepayers), there is very little difference is cost between the two structures.