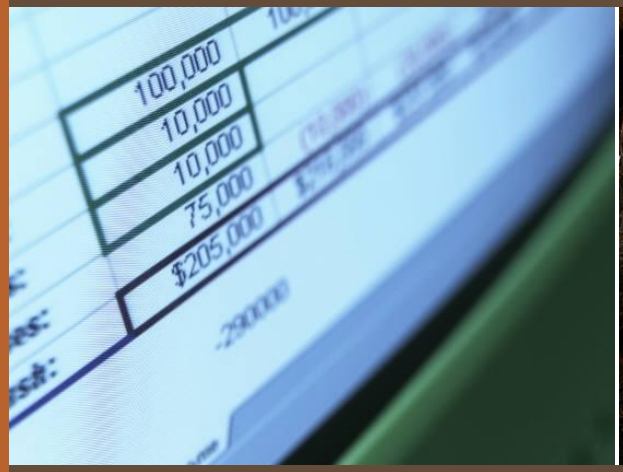



Pacific Northwest Section – American Water Works Association

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Capacity Rental Charges

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Lakehaven UTILITY DISTRICT

Topic Summary

Customers pay a general facilities charge to connect to the system. What happens if their actual use is far higher than what they bought in for?

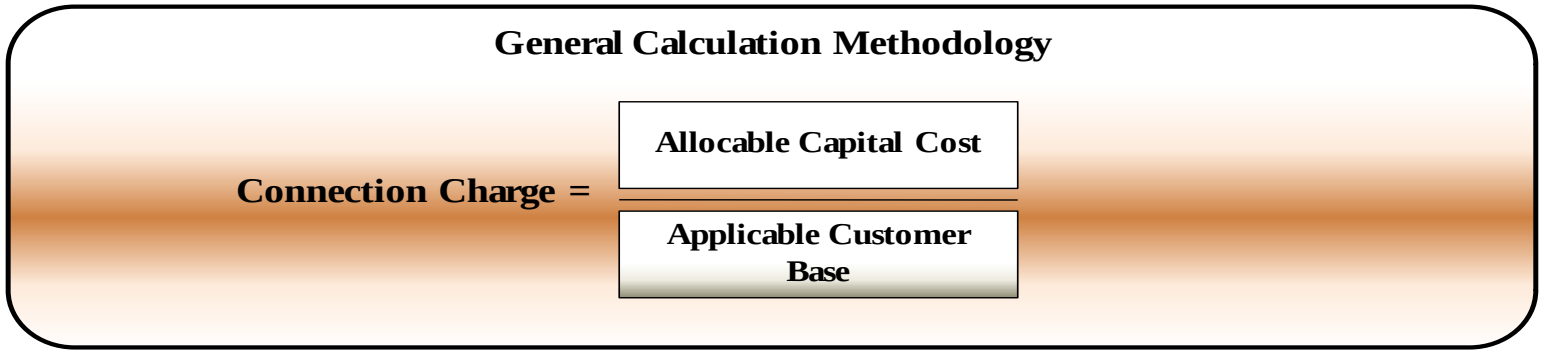
- Rates only cover part of system costs
- GFCs are hard to impose retroactively
- Other customers subsidize the deficit

Lakehaven explored various ways to resolve this problem.

Agenda

1. What is the Issue?
2. Customer Capacity and Financial Burden
3. Choosing an Approach
4. Implementing it
5. Administering it

Customer Cost and Capacity Shares



When you charge a General Facilities charge (GFC) or similar charge, you have assigned a share of capacity. For example,

- Sewer: 1 ERU = 160 gallons, 3 ERU = 480 gallons
- Water: 1ERU= 240 gpd average, 480 gpd peak month

Customers Buy into System Capacity Based on *Estimated* Demand

Examples:

Meters

¾ inch Meter = 1 ERU => $ 3,000

1 inch Meter = 2.5 ERU => $ 7,500

Fixtures

25 Fixture Units = 1 ERU => $ 3,000

100 Fixture Units = 4 ERU => $12,000

Gallons

200 gallons = 1 ERU => $ 3,000

5,000 gallons => 25 ERU => $75,000

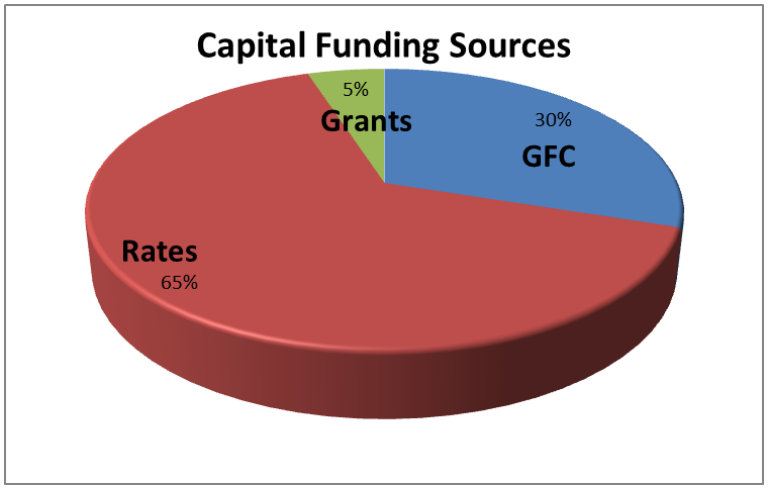
But Customer *Real World* Demands Vary Greatly

Estimates for GFCs:		***Actual Usage:***	
Meters			
¾ inch Meter = 1 ERU =>	$ 3,000	***60 ccf = 6 ERU =>***	***$ 18,000***
1 inch Meter = 2.5 ERU =>	$ 7,500	***200 ccf = 20 ERU =>***	***$ 60,000***
Fixtures			
25 Fixture Units = 1 ERU =>	$ 3,000	***30 ccf = 3 ERU =>***	***$ 9,000***
100 Fixture Units = 4 ERU =>	$12,000	***500 ccf = 50 ERU =>***	***$150,000***
Gallons			
200 gallons = 1 ERU =>	$ 3,000	***10 ccf = 1 ERU =>***	***$ 3,000***
5,000 gallons => 25 ERU =>	$75,000	***1,000 ccf = 100 ERU =>***	***$300,000***

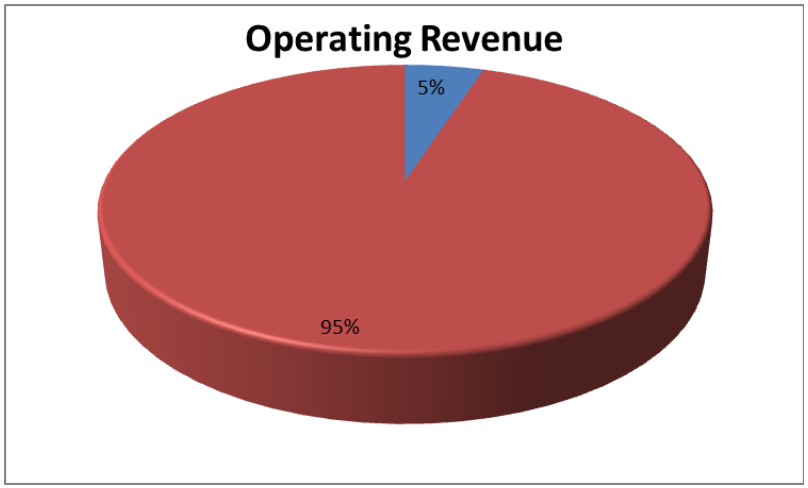
Who pays for the excess capacity these customers use?

So What? They Pay Rates

Capital Costs



Operating Costs



Rates are designed to recover the net capital cost. They are not intended to cover the cost of excess capacity!

Is the Difference Meaningful?

YES!

1. If a customer paid $3,000 for 1 ERU, but uses 2 ERUs of capacity, they avoided $3,000 in system costs
2. This equates to monthly cost for debt service of about $15
3. If a monthly bill is around $30, they should be paying 50% more.
4. Instead, other customers subsidize this cost and their rates are higher.

Options the District Considered

1) Ignore It
   - Pros: Easy, Invisible, Status Quo
   - Cons: Inequitable, Revenue Loss, Unequal Treatment
2) Retroactive GFCs
   - Pros: Equitable, Increased GFCs, Lower Rates
   - Cons: Difficult, Contentious, Prone to Challenge, Properties Change Hands
3) Capacity Rental Charge
   - Pros: Equitable, Increased Revenues, Lower Rates
   - Cons: Data Requirements, Acceptability, Requires Explanation, Bill Impacts

The Capacity Rental Program: In a Nutshell

1) Define a Capacity Right
    a) ERU definitions
    b) Document customer ERU "rights" or "credits"
2) Measure Actual Capacity Used
    a) Annual load, or
    b) Peak capacity
3) Measure Excess
    a) Tolerance for demand patterns and variation
    b) Grace or buffer factor
4) Charge for Excess
    a) Define capacity cost
    b) Apply rental factor

Who Should it Apply To?

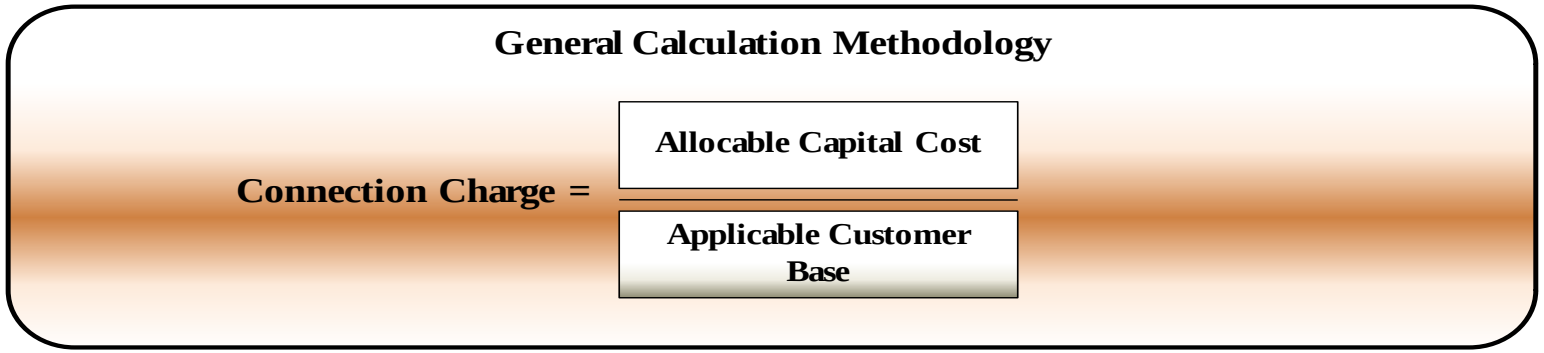
- Originally Targeted toward Very Large Customers
  - Most Significant Deviations
  - Most Meaningful Revenues
- Broadened to all Customers Except SFR
  - SFR defines the "ERU", so it must be in line as a class
  - Still limited to 10% of customer base
  - Reduces the related research and analysis
- Then Extended to All Customers Including SFR
  - Fairness
  - Equal Treatment
  - Defensibility
- But Also Structured to Limit Effect to Extreme Cases
  - Rolling Average Demand
  - Buffer and Grace Credit
  - Option to pay GFCs and "buy up"

What is our Authority to Impose This?

- It is an equitably based rate, which in Washington has broad authority under RCW 57, 35 and 36
  - For example, 57.08.081(2) notes "capital contributions made to the system " as a valid basis for distinguishing charges
  - The capacity rental charge is specifically based on capital contribution relative to demand
- It is preferable to retroactive GFC collection
  - The GFC is tied to granting a new connection; retroactive adjustment lacks the same trigger and control
  - Large charges are often practically problematic
  - Changes in ownership, management and tenancy make them politically problematic as well
- The customer retains options:
  - Reduce use
  - Buy more GFC credits
  - Pay the rent

Calculating the Capacity Rental Charge

Capacity Rental is Cost-Based



It compensates for the difference between the GFC paid and what should have been paid

So, we start with the GFC and what 1 ERU is..

Lakehaven GFCs

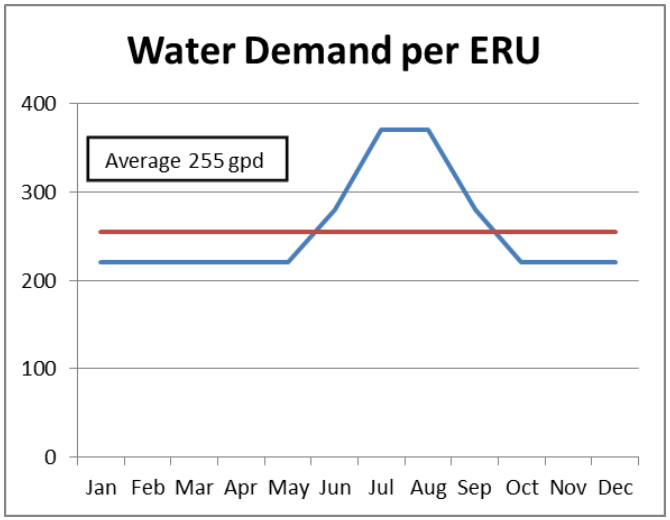
Water

$3,359 per ERU (regular GFC)

$2,753 per ERU (buy-in unit cost)

1 ERU = 255 gpd = 124 ccf/year

= 21 ccf/bimonthly bill



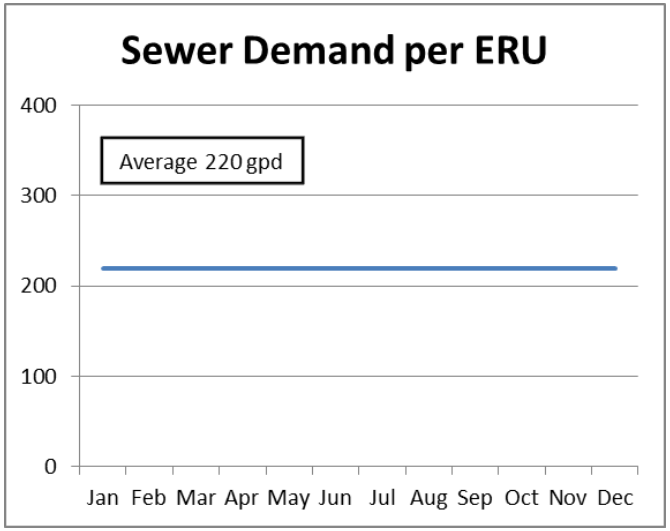
Sewer

$3,031 per ERU (regular GFC)

$2,379 per ERU (buy-in unit cost)

1 ERU = 220 gpd = 108 ccf/year

=18 ccf/bimonthly bill



If they buy more credits,
they pay regular GFC rate.

Define the Threshold

Three components for each customer:

- # of recorded GFC credits (ERUs paid for)
- Buffer: 20% of the recorded GFC credits
- Grace credit: 1 ERU

Threshold = GFC credits X 1.2 + 1 ERU

Excess ccf = 12-month rolling average of metered water usage, minus the threshold

Define the Threshold

Examples:

- Single-family home with 1 ERU GFC paid (water)
  - Threshold = 1.0 x 1.2 + 1.0 = 2.2 ERUs
  - 2.2 ERUs x 21 ccf = 46 ccf/billing period
  - If rolling average over 6 billing periods > 46 ccf, then rental rate is applied to excess ccf.

- Business with 10 ERUs GFC paid (sewer)
  - Threshold = 10 x 1.2 + 1.0 = 13 ERUs
  - 13 ERUs x 18 ccf = 234 ccf/billing period
  - If rolling average over 6 billing periods > 234 ccf, then rental rate is applied to excess ccf.

Why the buffer and grace credit?

Decision to soften the financial impact at time of implementation

- Bad economy, uncertain political reaction

Administrative simplicity

- Grace credit in particular shrinks the universe from 10,000 potential payers to < 1,000

Responds to critique that it is a one-directional correction—there is no refund if customer uses less water

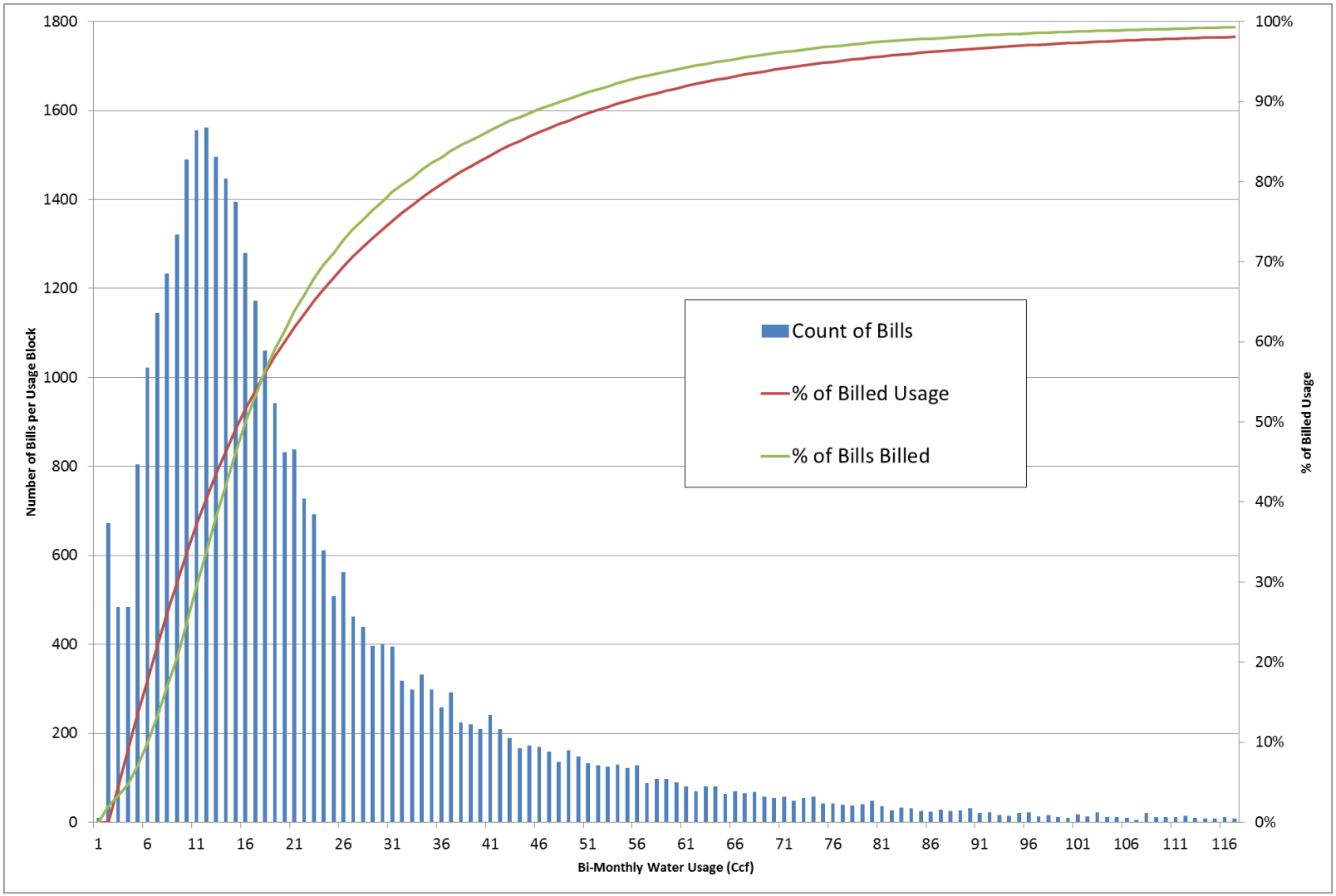
- This tool focuses on the most egregious cases of overusage

Why not give a credit to those who use less than they have paid for?

It could be done—however:

- A property owner's decision to connect creates an obligation on our part to supply capacity, which creates fixed costs for the utility
  - Those costs do not go down by much when a customer uses less than projected
  - The customer has the right to a certain share of capacity, whether it exercises that right or not
- "One-tailed" distribution curve—there is a large number of slightly low users and a small number of very high users
  - Because of buffer and grace credit, almost no one would be in a position to receive refunds

Bill Frequency Distribution Curve



Calculate the Rental Rate

Interest rate: 6%/year = 1% per billing cycle

Water

- $2,753 * 1% interest = $27.53/bimonth
- Bimonthly Usage/ERU = 21 ccf
- Rental Charge = $1.32/bimo./excess ccf

Sewer

- $2,379 * 1% interest = $23.88/bimonth
- Bimonthly Usage = 18 ccf
- Rental Charge = $1.32/bimo./excess ccf

Coincidence that water = sewer in 2013

Managing the Capacity Rental Charge Program

Program Rollout

- Notification of the program included on customer bills beginning a year before implementation
  - Messages and estimated charges in bold & red letters
- Lakehaven staff met with representatives of larger customer groups (The Commons, property managers for larger multifamily complexes, etc.)
  - Discussion with these customers ultimately led to the account grouping, the buffering, and the 1 ERU grace credit.
- Customer outreach presentations offered at various times
- Single point of contact for all program questions
- Customer reaction? Once they understand the reasons for the program and how it affects them, most have acknowledged that the program is fair and reasonable

Results

- How much revenue is generated?
  - District is collecting about $360,000 per year, or 1% of combined revenue for water and sewer
  - Primary purpose is not primarily to generate revenue but to address inequities among customers and promote conservation; however, District could decide to be more aggressive and generate more revenue at a later time
- How many customers are affected?
  - Lakehaven bills about 35,000 accounts six times a year
  - About 1.5% (525 accounts) receive a capacity rental charge. Of those:
    - 158 accounts > $10
    - 29 accounts > $50
    - 11 accounts > $100
    - None are over $250

Three Main Types of Implementation Issues:

- Grouping
- ERU Data
- Rolling Average

Implementation Issue: Grouping

- Grouping allows owners of multiple properties to take advantage of "overs and unders" in their consumption
- Capacity and average consumption from multiple accounts are grouped if:
  - Same or contiguous parcels
  - Common ownership
  - Common site development plan
- Largest group is the Federal Way Commons Mall, with 124 accounts
- Total computed charge spread among members of the group based on their share of average consumption

Data Issues: Determining GFC Credits

- Lakehaven connection records date back to 1960s.
- Over the years, different methods used to calculate ERUs
  - Area Charges: Estimated capacity was based solely on area, no matter the type of structure or its use
  - Standard Estimates with True-up: Capacity was estimated based on industry averages for business types, with a monitoring period and a "true-up"
  - Standard capacity: Capacity is estimated based on size of structure and industry averages for business types (office, retain, school, restaurant, etc.) – no true-up
- Some irrigation meters given 0 ERUs because they were assumed to be part of other service on the property.
- Lakehaven Staff reviewed ALL connection records (starting with highest capacity rental charges first), because bad data = bad program.

More Data Issues regarding GFC Credits

- What if no record of payment for capacity? Customers may have been connected for 20-30 years, but no capacity calculation found in files.
  - Impute a GFC credit based on date of development and method used at that time.
- What if there is a record of no payment? Development files may contain an actual document showing that no capacity was purchased at connection
  - Accounts are charged full capacity rental charges
- What if common areas were ignored (typically multifamily properties)? When first connected, capacity may have been calculated based on area of the building only, while common areas were ignored.
  - Correct the calculation -- recalculate capacity based on actual area of property.

Issues with Rolling Average Demand

- Leak Adjustments / Unexplained Water Use
  - Since capacity rental charges are based on a 12-month average, leak adjustments affect multiple billing periods.
  - Prior period capacity rental charges must be computed based on recalculated averages
  - Additional complexity if leak occurred at a service that was part of a group of accounts. It affects not only that account, but every other account in the group.
  - Lakehaven adjusts regular charges based on 50% of the lost water, but capacity rental charges are adjusted based on 100% of the lost water. Why? Incentive to repair leaks.
- New accounts or new tenants
  - Give them a fresh start. They only have a 12-month average after 12 months.

Other Implementation Issues or Decisions

- "De-grouping" when one parcel in a group is sold
  - So far, allocating the GFC credits by land area has been satisfactory to the new owners, but one can imagine scenarios where that might not work so well
- Data management and compilation
  - Once the historical ERU data is initially cleaned up, then it stays relatively clean, because now the data is being used
- Accounting for Capacity Rental Revenues
  - Revenue is placed in capital fund, not operating fund.
- Keeping Customers in Control
  - Pay the rent
  - Buy more ERUs

What Comes Next? Possibilities

- Updating the Charges
  - Changes in GFCs
  - Changes in interest rates?
- Changing Demands Mean Changing ERUs
  - How does the capacity share relate to a changing statistic?
- Tightening the Screws
  - When should the buffer be reduced?
  - How about high strength sewer (biological capacity)?
- Opportunity for Incentives?
  - Linking conservation investments to waiver or reduction of rental charge?
  - Direct reimbursement to under-capacity customers?

Summary – Should You Do Something Like This?

- Conceptually, good idea
  - It addresses an equity issue that we all face
  - It feels fair to most customers once it is explained
  - It can be tailored to specific utility issues
- Requires investment of time
  - Historical ERU data for commercial/multifamily customers
  - Burden of explanation, with plenty of lead time
  - Ongoing data management
- Requires procedural decisions
  - Learn from our experience – you don't have to re-invent the wheel
  - Method of calculation – buffer, grace credit, and rolling 12-month average are useful features, learned by trial and error

Questions?