Allocation-Based Tiered Rate Structures in the Wake of the San Juan Case

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June 24, 2015
EMWD Water Supply Portfolio (FY 2014)

Imported Water Supply from MWD: 71,628 AF 54%

Colorado River Water (CRA) 33%
Untreated SWP and CRA Water 17%
Recycled Water 28%
Wells 13%
Desalination 4%

Local Water Supply: 60,367 AF 46%
Foundation of EMWD Water Use Efficiency - the Allocation-based Rate Structure

- Commonly Used Names:
  - “Allocation-based Rate Structure”
  - “Water Budget Rate Structure”
  - “Conservation-based Rate Structure”
  - “Tiered Rate Structure”

- Creates an “Allocation” or “Water Budget” for each customer account based upon reasonable indoor and outdoor needs and efficient use.

- Uses Economic Incentives: Water is priced to customer lower for use within allocation – much higher for use over allocation
Unique Features of an Allocation-based Rate Structure

- **Individualized**: based on land-use specific uses (indoor needs) and landscape needs (weather adjusted).

- **Encouraged efficient use pattern**: within allocation through a sharply tiered pricing system
  - Rewards efficiency
  - Communicates cost of water over-use

- **Uses fair premise**: those who over-use pay more, those who use only what they need, pay much less
Unique Features of an Allocation-based Rate Structure

- **Identifies over-use customers:** water bill functions as a “report card” – focus staff resources
- **Provides appropriate nexus:** revenue from over-use tiers reinvested in water use efficiency programs
- **Proven concept:** cited by State Water Resources Control Board as a model structure, University of California Riverside conducting long-term study on impact to efficiency
How it Works - EMWD’s Individualized Allocations

Customer Allocation = Indoor Needs + Outdoor Needs (seasonal) + Variances

• Indoor Water Allocation:
  o 60 gallons per capita per day (GPCD)
  o Single family residential default = 3 person per household
  o Multi-family residential default = 2 person per household
  o Additional allocation for Variances
    - Persons per household
    - Medical needs
    - Licensed Care facility
    - Other
Individualized Allocations (cont’d.)

Outdoor Water Allocation (seasonal):
- Irrigated area and Evapotranspiration (ET)
- Irrigated area is:
  - Area from GIS parcel information
  - Measured using infrared aerial photography
  - Verified in the field where necessary
- Evapotranspiration for 50 separate zones
- Account Adjustment (Conservation) Factor:
  - 1.00 - before September 2008
  - 0.80 - September 2008 and January 2010
  - 0.70 - after January 2010
  - 0.50 - July 6, 2015 (new landscape standards)
EMWD Sends a Clear Pricing Signal

**Indoor Usage Budget**  
Persons x 60 GPD

- **Tier 1:** $1.793
- **Tier 2:** $3.280

**Outdoor Usage Budget**  
Irrigated Area x ET Factor

- **Tier 3:** $5.879
- **Tier 4:** $10.755

**Excessive Use**  
Up to 50% over budget

**Wasteful Use**  
More than 50% over budget
Performance and Demand Reduction

EMWD GPCD

Statewide Average: 198 GPCD

Baseline Average = 196 GPCD

2020 Compliance Target = 175 GPCD

152 GPCD

22% Reduction

Gallons per Capita per Day (GPCD)


Actual GPCD
Baseline GPCD
Target GPCD
EMWD’s Water Shortage Contingency Plan

• Water Shortage Contingency Plan Prioritizes:
  o Public safety, health and welfare
  o Sustaining economic vitality
  o Quality of life

• Five “Stages” of plan tied to supply or regulatory shortages
  o Progressive actions initially focusing on curtailing outdoor use
    ➢ Mandatory Reductions begin in Stage 3
  o Elimination of all outdoor use in Stage 5

• Addresses all customer groups with indoor residential and commercial/industrial given highest priority.

Primary Enforcement of WSCP is through Allocation-based Rate Structure
<table>
<thead>
<tr>
<th>Stage</th>
<th>Date Approved</th>
<th>Description</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>April 2011</td>
<td>Supply Watch</td>
<td>Voluntary reduction up to 10%</td>
</tr>
<tr>
<td>Stage 2</td>
<td>April 2014</td>
<td>Supply Alert</td>
<td>Voluntary reduction up to 25%</td>
</tr>
<tr>
<td>Stage 3</td>
<td>August 2014 (3a)</td>
<td>Mandatory Waste Reduction</td>
<td>3a: No variance adjustments; observation based penalties 3b: Tier 3 budgets decreased by 50% 3c: Tier 3 budgets decreased by 100%</td>
</tr>
<tr>
<td>Stage 4</td>
<td></td>
<td>Mandatory Outdoor Reduction</td>
<td>Watering schedules limited (1-2 days/week) 4a: Tier 2 budgets decreased by 10% 4b: Tier 2 budgets decreased by 50% 4c: Tier 2 budgets decreased by 100%</td>
</tr>
<tr>
<td>Stage 5</td>
<td></td>
<td>Mandatory Indoor Reduction</td>
<td>Catastrophic stage (50% reduction in demand) 5a: Tier 1 budgets decreased by 10% 5b: Tier 1 budgets decreased by 30% 5c: Tier 1 budgets decreased by 50%</td>
</tr>
</tbody>
</table>
“The impact on credit quality will depend heavily on utilities’ rate-setting decisions … [EMWD] in Riverside County, California has significant fixed meter charges and water budget-based rate structures in which tier sizes can be adjusted to reflect drought stresses and supply availability.”

“...self-stabilizing rate structure...”

April 8, 2015:  California Water Restrictions May Sink Utility Revenue
EMWD’s Allocation-based Rate Structure Works:

- Foundational to encourage efficient use, with demonstrated minimum savings of 15%
- Results in greater revenue stability during periods of demand curtailment
- Rating agencies cite it as a credit positive

New Cost of Service Study:

- Consultant engaged: 6-month process
- Revisit budget methodology
- Revisit cost allocations, especially for fixed cost recovery
- Interplay with WSCP
EASTERN MUNICIPAL WATER DISTRICT

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