Residential HET Program

An overview of Successes
Cost and Benefits

Manny Rosas

City of Redwood City

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Acknowledgements

Program Design:
- John Koeller, P.E., Koeller and Company
- Maureen Erbeznik, Maureen Erbeznik & Associates

Program Implementation:
- Debra Ivazes, Conservation Program
- Courtney Brown, Conservation Program
Presentation Outline

- Redwood City – Background
- HET Program Design
- HET Program Implementation
- Customer Satisfaction
- Conclusions – Lessons Learned
City of Redwood City

- Northern California – Bay Area – “Silicon Valley”
- Retail Water Agency / Wholesaler SFPUC
- Serves 83,000 Residents
- Service Area – 35 Square Miles
- Residential GPCPD: 89
Residential HET Program

Redwood City’s Water Supply

- 100% of potable water supply from Hetch Hetchy regional water system
- SFPUC Supply Assurance amount of 12,243 AF
- Demand exceeds supply since 1998 by 1,000 AF
Residential HET Program

Projected Water Supply Gap

Projected 2010 Overdraft
1,445 AF/Yr

Redwood City Supply Assurance
12,243 AF/Yr
Residential HET Program

Water Supply Solution

800 acre feet through active conservation + 900 acre feet through use of recycled water = 1,700 acre feet
Residential HET Program

HET Program Design Goals:

- Learn from Other Agencies - SCWA
- Take Advantage of Latest Technologies
- Select Best Performing Fixtures
  - + 500 Grams / MaP Test
- Assure Sustainable Water Savings - LAWPD Specification
- Assure a High Level of Customer Satisfaction
Residential HET Program

HET Toilet Exchange – Sept. 2004

1,000 HET Dual Flush
350 Pressure Assist
Residential HET Program

- **2 Giveaway Events** – (650 Toilets each day)
  - Application / Qualification / Appointment

- **2 Old-Toilet Return Events** (by appointment)
  - Customers had 3 weeks to return old toilet
  - Old toilet’s materials recycled

- **Customer Satisfaction Surveys**
  - Satisfaction with flush performance
  - Concerns: P. Assist - Noise / Dual Flush – Design
Residential HET Program

Direct Install / Rebate Programs

- **Program Goals**
  - Direct Install: 10,000 toilets
  - Rebate Goal: 1,200 toilets

- **Toilet Fixtures Performance Standards – (UNAR +)**
  - Minimum MaP performance of 500 grams
  - LADWP Supplementary Purchase Specification
Residential HET Program

Direct Install Program

- Marketing Strategies
  - FREE
  - HIGH EFFICIENCY – LOW-FLOW
  - PUBLIC EDUCATION
  - FLUSH PERFORMANCE
  - RUN TEST

“Try It, You’ll Like It”
Residential HET Program

Direct Install Program

- Toilet Models Offered
  - P. Assist: Mansfield - 525-725 Grams
  - P. Assist: Mancesa “Cyclone” - 650 Grams
  - Gravity: Vitra “Atlantis” 1.6 GPF - 750-800 Grams

- Program Activities – First Year
  - 4,000 Toilets Installed
  - 3,400 – 85% Pressure Assist
  - 600 – 15% Gravity
Residential HET Program

Program Costs

- **Cost per Unit**
  - Pressure-assist - $242 per fixture
  - Gravity - $154 per fixture

- **What is included:**
  - Delivery & Installation of New Toilet
  - Removal and Recycling of Old Toilet
  - New angle stop, supply line, toilet seat
  - Installation of showerhead and faucet aerators
  - One year call-back service
Residential HET *Program*

**Program Savings – First Year**

- 5.0 GPF Average flush volume – old toilets
- 4,000 Toilets Replaced
- 120 Acre Feet – Annual Water Savings
Post Installation Survey

“Customer Satisfaction”
Residential HET Program

Customer Satisfaction

- Post-Installation Surveys / Toilet Satisfaction
  (900 Responses)

- Very Satisfied 45%
- Satisfied 31%
- Neutral 13%
- Dissatisfied 7%
- Very Dissatisfied 3%
Residential HET Program

Customer Satisfaction

- Flushing Noise

- Very Satisfied: 22%
- Satisfied: 26%
- Neutral: 29%
- Dissatisfied: 13%
- Very Dissatisfied: 9%
## Residential HET Program

### Customer Satisfaction / Flushing Noise

<table>
<thead>
<tr>
<th></th>
<th>Mancesa</th>
<th>Mansfield</th>
<th>Atlantis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Satisfied</td>
<td>22%</td>
<td>16%</td>
<td>48%</td>
</tr>
<tr>
<td>Satisfied</td>
<td>26%</td>
<td>21%</td>
<td>33%</td>
</tr>
<tr>
<td>Neutral</td>
<td>29%</td>
<td>33%</td>
<td>16%</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>13%</td>
<td>20%</td>
<td>4%</td>
</tr>
<tr>
<td>Very Dissatisfied</td>
<td>9%</td>
<td>10%</td>
<td>0%</td>
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</tbody>
</table>
Residential HET Program

Customer Satisfaction

- Double-Flushing

- Rarely 28%
- Sometimes 25%
- Very Often 12%
- Never 34%
## Residential HET Program

### Customer Satisfaction / Double Flushing

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Mancesa</th>
<th>Mansfield</th>
<th>Vitra</th>
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</thead>
<tbody>
<tr>
<td>NEVER</td>
<td>26%</td>
<td>43%</td>
<td>45%</td>
</tr>
<tr>
<td>RARELY</td>
<td>32%</td>
<td>29%</td>
<td>25%</td>
</tr>
<tr>
<td>SOMETIMES</td>
<td>29%</td>
<td>22%</td>
<td>21%</td>
</tr>
<tr>
<td>VERY OFTEN</td>
<td>13%</td>
<td>6%</td>
<td>9%</td>
</tr>
</tbody>
</table>
Residential HET Program

Conclusions / Lessons Learned

- Public education is highly important
- Agencies need to collectively continue learning
- Performance Standards are important but need to continue looking for the “Perfect Toilet”
- Customer Satisfaction is Key to Success
Residential HET Program

Questions?

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