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What's next? Direct install opportunities beyond low-flow spray valve programs

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Overview

- Low-flow pre-rinse spray valve (PRSV) direct-install (DI) programs – big recent success
- But there's more…
  - Ultra-low-flow PRSVs
  - Aerators
  - Showerheads
  - HETs
  - CFLs, Vending Misers, insulation (energy only)
- We'll talk about innovative new DI programs in Western Washington

Direct-install vs. other delivery mechanisms

PRO

- Immediate, documentable savings
- High degree of utility control. Can specify:
  - Amount of savings
  - Timing
  - Benefit-cost ratio
- Little hassle for customers:
  - No cost
  - Virtually no lost time
  - Immediate savings
  - Performance guarantee.

CON

- Takes skill and effort to find opportunities, scale up
- Perceived as expensive

DI pre-rinse spray valves

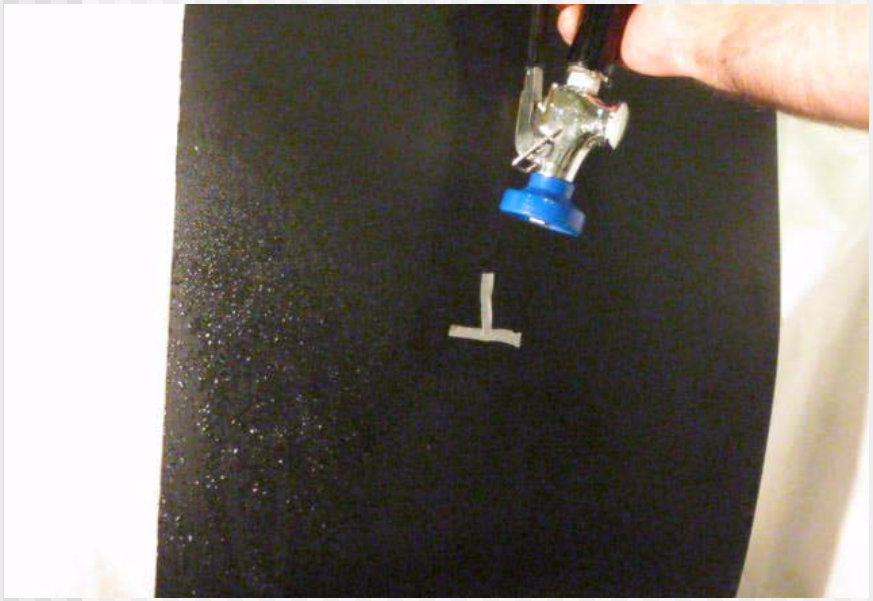
- California
  - CUWCC + water/energy utilities = Rinse ‘n’ Save
  - Third-party installation contractor
  - >40,000 installed (1.6 gpm)
- Washington state
  - Puget Sound Energy (PSE) / Avista + water utilities
  - Third-party installation contractor
  - Oct 2003 – Dec 2007: >10,000 installed (1.6-2.2 gpm)
- Arizona, Oregon, Florida, Texas, etc.

Ultra-low flow PRSVs available

- 2005 EPAct = 1.6 gpm standard
- High efficiency = 20% better than standard (<1.28 gpm)
- EPA WaterSense specification
- Increasingly available through multiple manufacturers
- FSTC has tested numerous ultra-low flow valves

Low flow vs. ultra low flow

1.6 gpm PRSV



0.6 gpm PRSV

Puget Sound Energy PRSV replacement program

- SBW Consulting, with:
  - Puget Sound Energy
  - Cascade Water Alliance
  - Snohomish Public Utility District
- Revisiting previous sites from 2003-07, based on database
- Some units past their nominal life (5 years)
- 2-3 installers replacing 1.6-2.2 with 0.6 gpm valves
- ~3,000 valves installed (Sep 2008 – Apr 2009)
- Starting new phase in fall 2009

Potential savings

- No hard numbers yet – formal M&V in the works for PSE program
- Ballpark estimate:
  - 1.6 → 0.6 nominal gpm
  - 1.2 → 0.6 actual gpm
  - 0.5 hrs/day
  - Unit savings = 9 CCF/year, 18 gal/day
- Cost-effective w/big bulk discounts, program economies of scale

Lowly faucet aerators…

DI faucet aerators

- Been around for ages
- Focus on residential, mailers, giveaways
- Lots of untapped potential in commercial sector
- In U.S., likely tens of millions of faucets with 2 gpm (or no) aerators

PSE DI commercial aerator program

- Originally an add-on at DI PRSV sites
  - Just replaced “convenient” ones
  - Selected 0.5 gpm – aggressive, but proven track record
- Dedicated aerator program conceived
  - ~200,000 in King County, WA (pop. 1.9 million)
  - City of Seattle pilot
  - Puget Sound Energy (Western WA) full-scale program
  - 50,000 installed in a year (June 2008 – June 2009)

How the program works

- Recruit customers w/lots of sinks and people (hotels, large offices):
  - Face-to-face visit (cold call)
  - Calls/emails
  - Tout free, convenient program; immediate cost reduction
- Give customer option to test one area first
- Provide management with info letter for their tenants/guests
- Leave with 30-day guarantee
  - Old aerators can be replaced
  - Dissatisfied customers rare (~6 out of hundreds)

Example #1: Large suburban school district

- Long-term utility conservation relationship
- Over 40 schools and support locations
- Several hundred 0.5 gpm aerators installed
- 66 at high school, 29 at middle school
- Phased approach over several months

Example #2: Large software corporation

- Ongoing utility conservation relationship
- ~50 locations, mostly offices
- Several hundred 0.5 gpm aerators installed (6-100 per location)
- Had installed some aerators previously
- Segue from PRSV work

Example #3: Luxury hotel

- Cold call, door-to-door recruitment
- 119 aerators installed

Potential savings

- No good metering data for commercial/industrial aerators yet
- Field observations: vast majority are 2.0-2.2 gpm
- Ballpark savings estimate:
  - 2.0 → 0.5 nominal gpm
  - 1.5 → 0.5 actual gpm
  - 4 minutes/aerator/day (50% of measured residential)
  - Unit savings = 2 CCF/year, 4 gal/day

DI showerheads

- Proposed multi-utility pilot program for 2010
- King County: 32,000 hotel rooms, 100s of athletic clubs (some have >40 showers)
- Goal of 12,000+ across PSE territory
- Will use proven showerheads
  - 1.5 nominal gpm
  - Performed well in PSE multi-family customer request programs
  - Customers can have test batch installed first
- Hope to quantify savings before or during pilot

Direct installation programs: points to keep in mind

- Seems easy, but much more to it than meets the eye.
- Recruitment is challenging. Need multiple approaches:
  - Door-to-door
  - Phone calls / emails
  - Work existing relationships
- Well-trained, experienced installers are key.
- Fair, well-conceived installer incentives needed
  - Hourly wage
  - Per unit payment
- QC every step of the way.

Utility cost considerations

- Bulk pricing = big material discounts (>50%).
- Bulk price + installation cost < retail equipment cost.
- Program economies of scale improve cost-effectiveness
  - Utility cost-sharing
  - Treat multiple devices
- Program costs vary, depending on “extras”
  - Data collection
  - Field measurements
  - Documentation
  - Supplemental audits

Conclusions

- Direct-install programs can be a key component of a balanced conservation portfolio.
- PRSVs, aerators, showerheads, HETs are all excellent candidates.
- Need a focused, well-organized effort to obtain meaningful results.

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