

Multifamily CDHW Control: QC Manual and Training

ACEEE Hot Water Forum

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Nehemiah Stone

BenningfieldGroup

Why it Matters

- In the US, 30 Million households live in MF buildings (4M in California)
- They pay over \$4 Billion per year for DHW energy
- 82% of MF water use is indoors (compared with 65% for single family).
- In much of California, energy/household for DHW is **greater** than energy for heating and cooling combined.
- California consumes about 250 Billion kWh/yr. Up to 50 Billion kWh/yr is for water use

Study of 139 MF Sites with CDHW

- 139 out of 139 had system faults initially
- Fixing most faults was considered beyond the scope of control installer
- Result: on average, savings were $\frac{1}{4}$ of expected
- In some cases, adding a control increased energy and water use
- Conclusion: ***CDHW systems are systems.*** Duh!
- We can't expect the System to work if:
 - We only focus on one element of it, and
 - We don't communicate with those responsible

Behavior Always as Expected?



SCG/Benningfield Group Project

- Quality Control Manual
- QC Training for IOU Inspectors
- Program training for CDHW Control Installers
 - Based on research and interviews
 - Fault detection checklists
 - Operator's manual
 - Constant or intermittent but regular feedback

Sending Correct Signals to the Market





Schedule

- Contract has begun
- Manual ready in August
- Training in Sept/Oct
- Immediately thereafter:
 - Use of checklists will be required
 - Additional funding may be available for some items
 - Operator's manual will be required
 - Constant or regular feedback may be required



Thank you.

Nehemiah Stone
Principal

The Benningfield Group

nehemiah.stone@benningfieldgroup.com

(916) 221-3110