



EDC, Inc. Hot Water Recirculating System Study

Jorge Gutierrez

Kevin Woo

June 1-3, 2008 – ACEEE Water Heating Conference

General Site Information

- 3 complexes in Westminster, California - 837 units, 26 boilers
- All three sites with gas and water meters but not all dedicated
- Temperature sensor data collected by EDC's own data acquisition system; other data collected by SoCalGas
- Final data normalized for occupancy rate and TOTAL water used

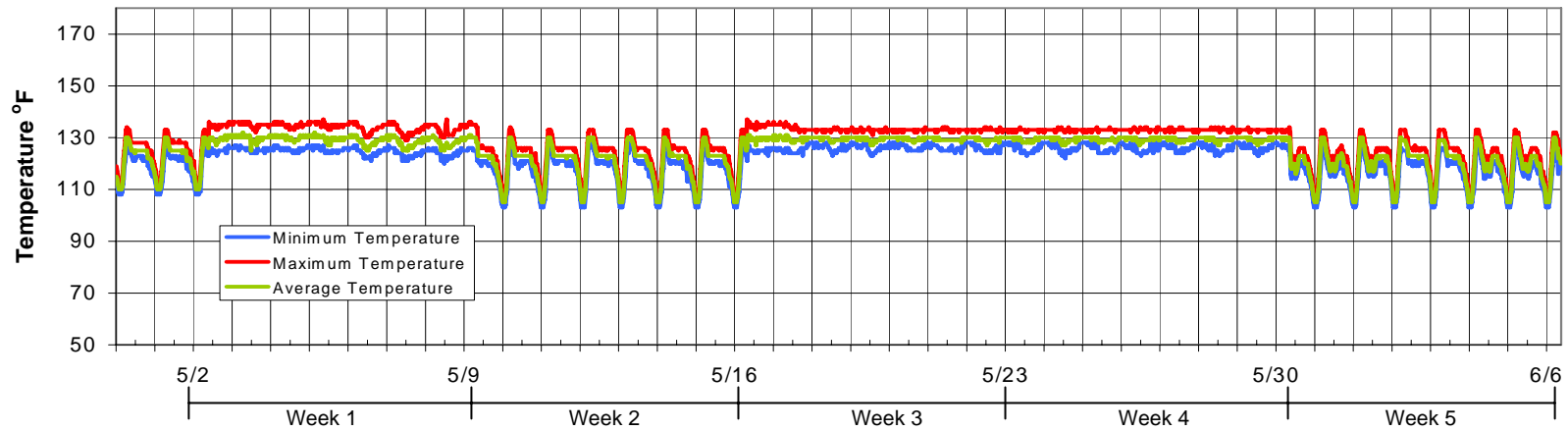
Testing Procedure replicated at each site

- Collect data, occupancy rate and hot water complaints once a week
- Simultaneously set half of the boilers at the site to “controlled” operation and the other half to “uncontrolled” when data was collected
- After the second week, tank temperature setting was lowered 5°F at all the test sites

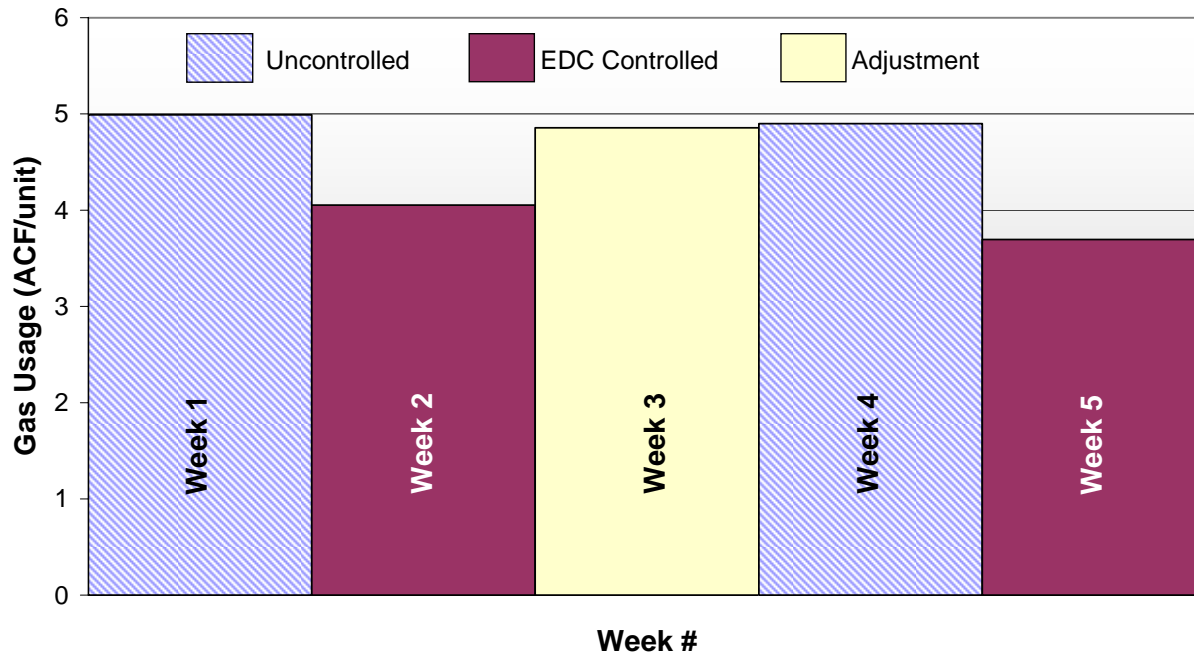


SITE #1 BOILER # 1

**Delivery Temperature sensor
04/30/07-06/06/07**

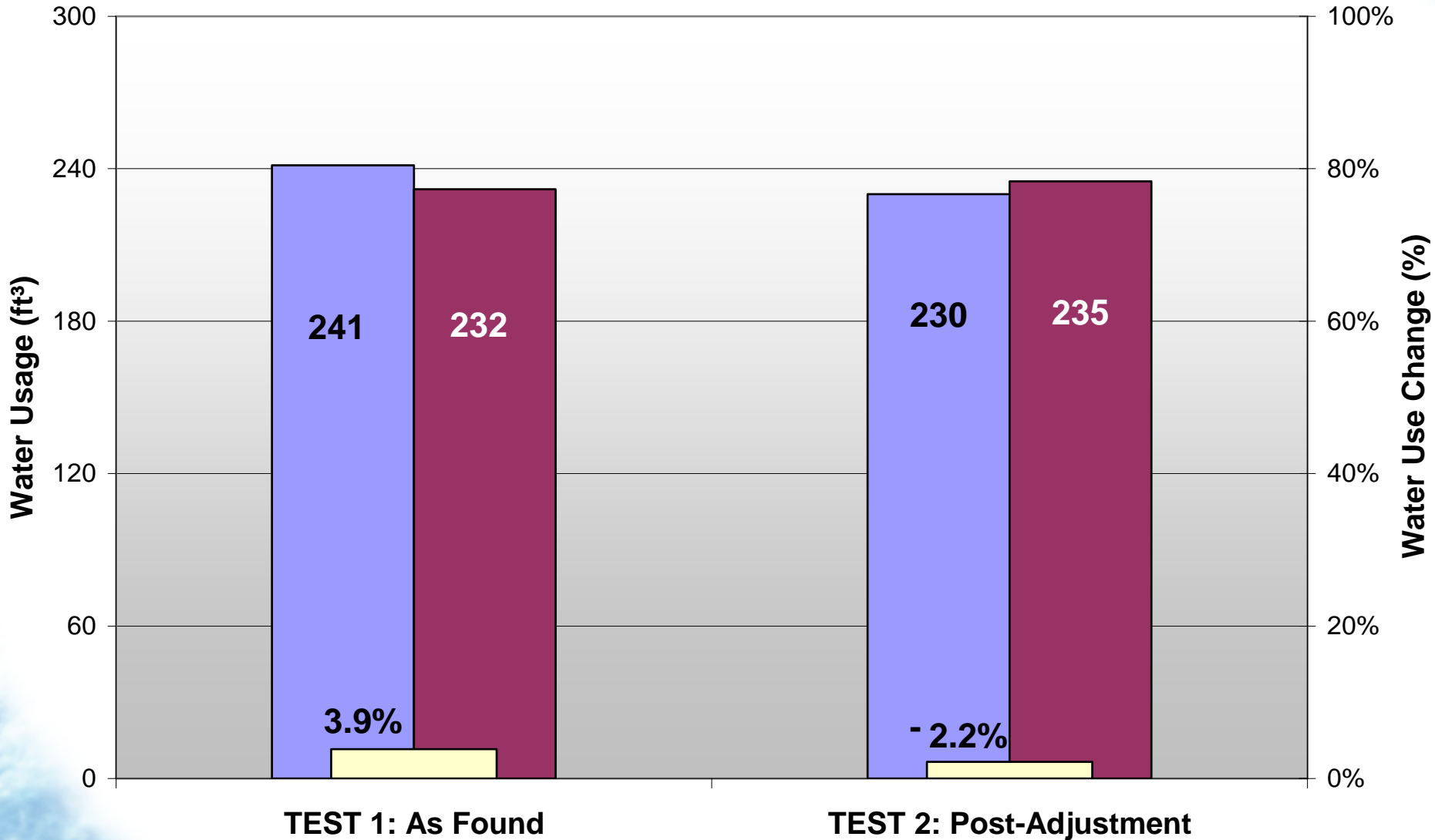


**Site #1, Boiler #1 Gas Usage
Per Gas Meter, Per Occupied Unit**



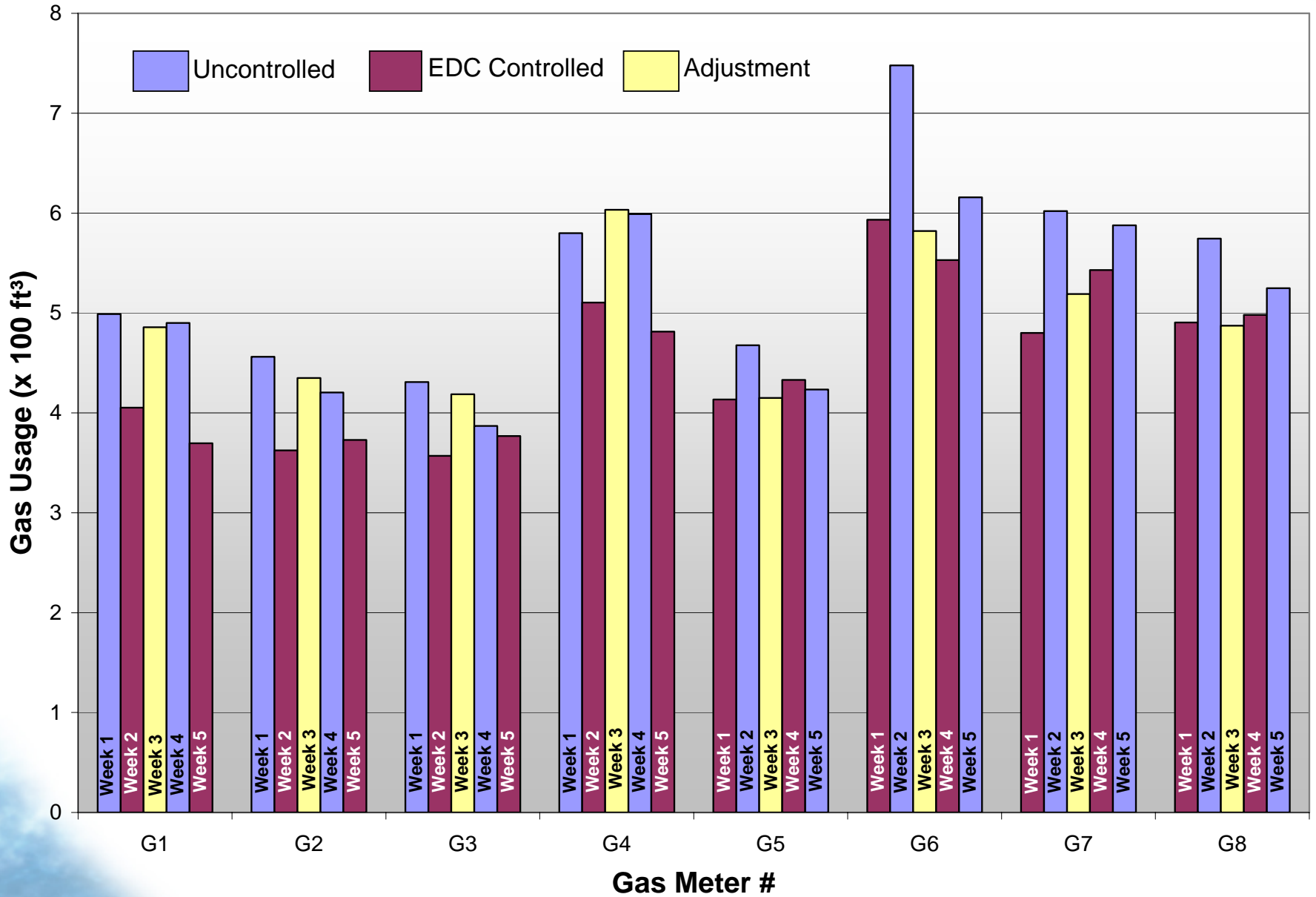
SITES #1, 2 & 3

Average Weekly TOTAL Water Usage Per Occupied Unit



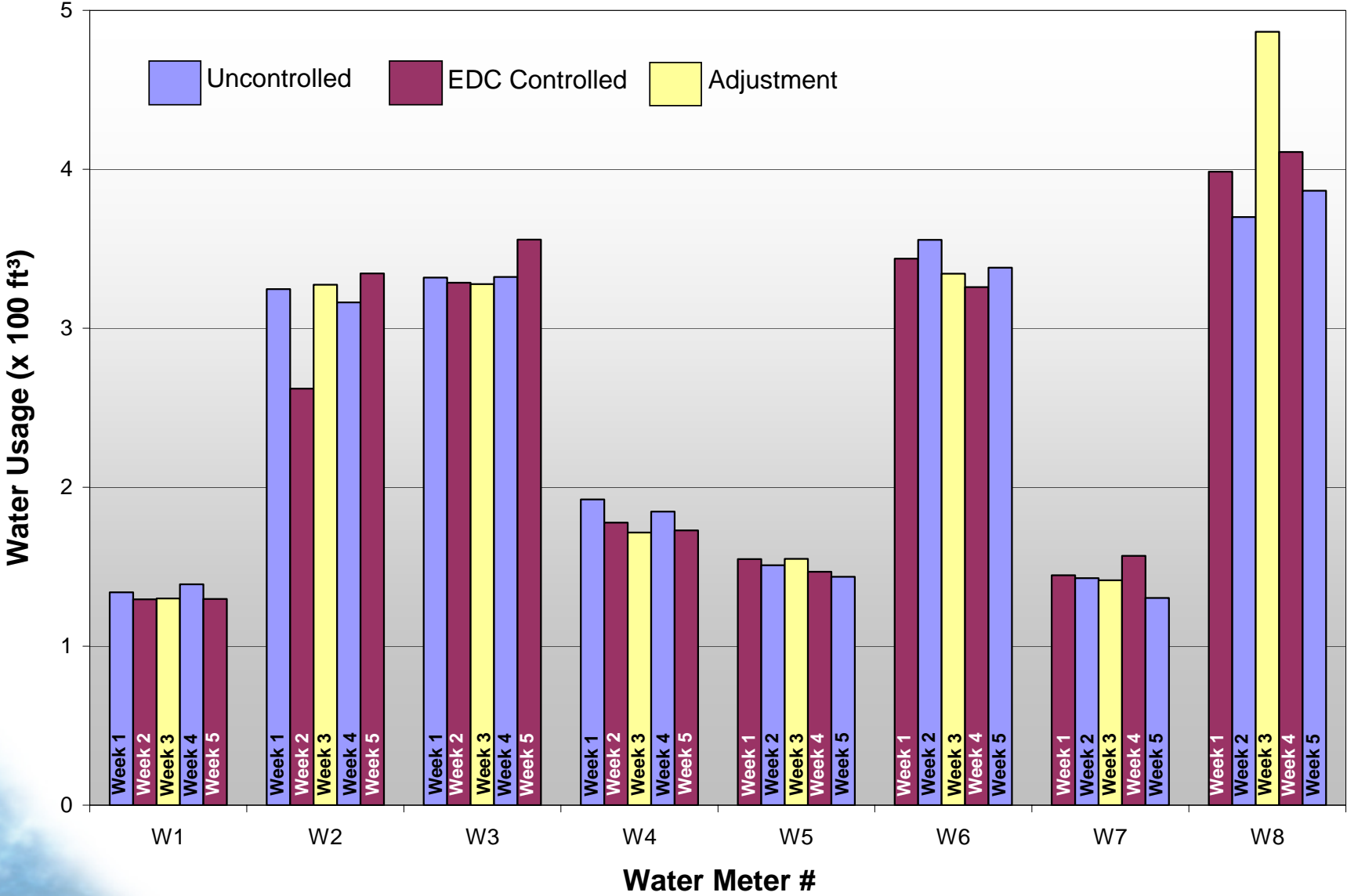
Site #1 Gas Usage

Per Gas Meter, Per Occupied Unit

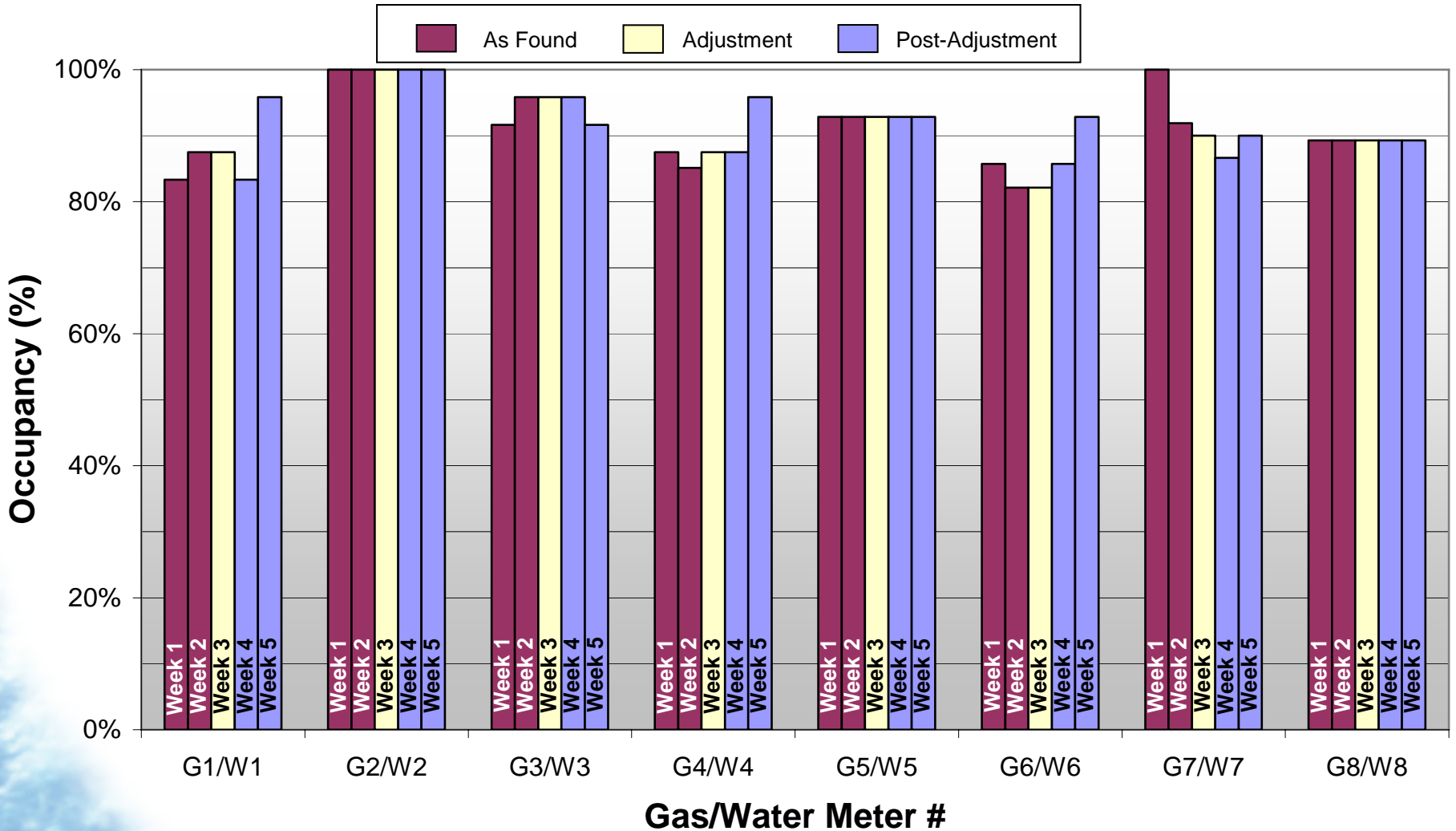


Site #1 Total Water Usage

Per Water Meter, Per Occupied Unit



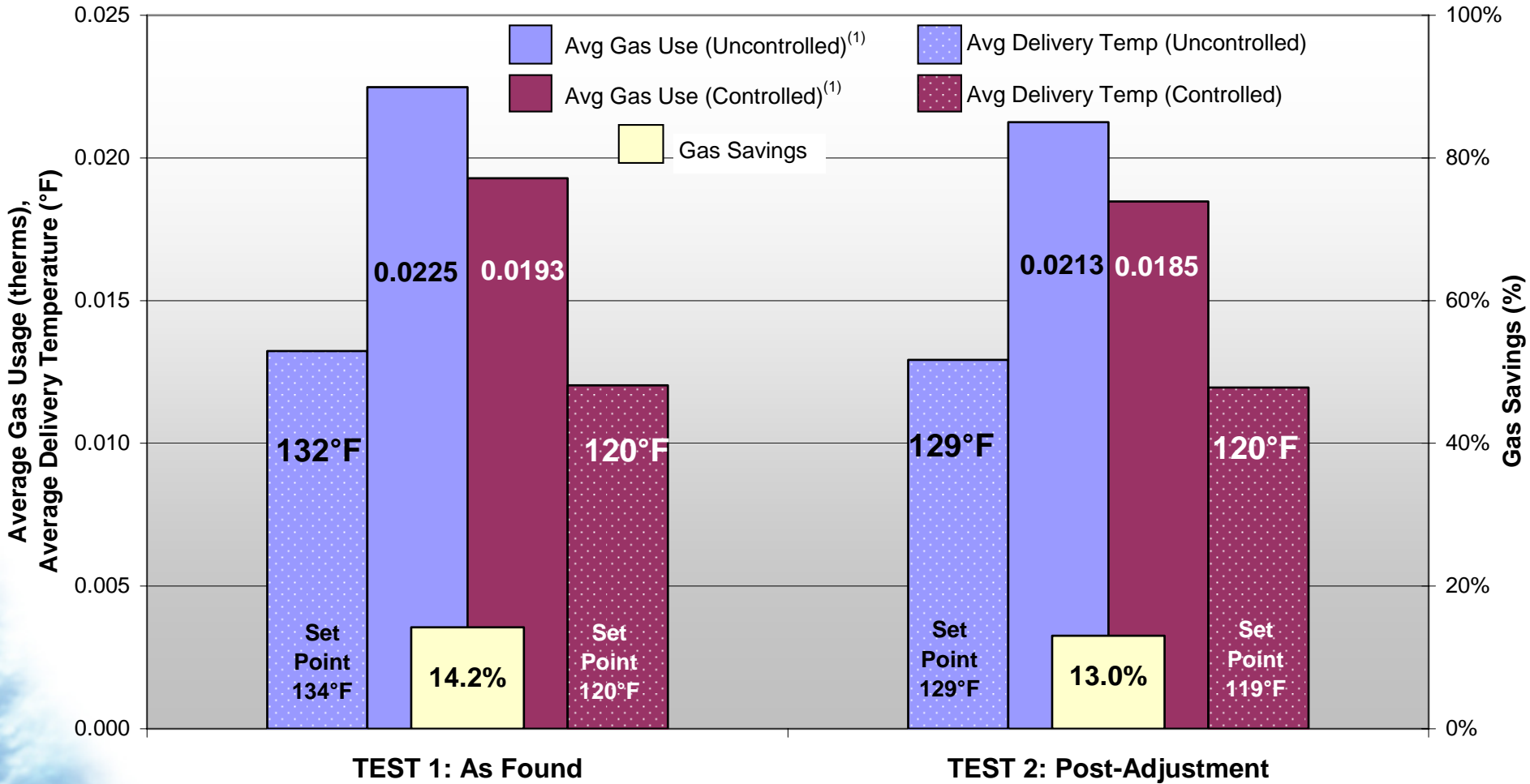
Site #1 Weekly Occupancy Rate Per Gas/Water Meter



SITE #1

May 2 to June 6, 2007

Weekly Gas Usage with Boiler Pump Operating 24/7

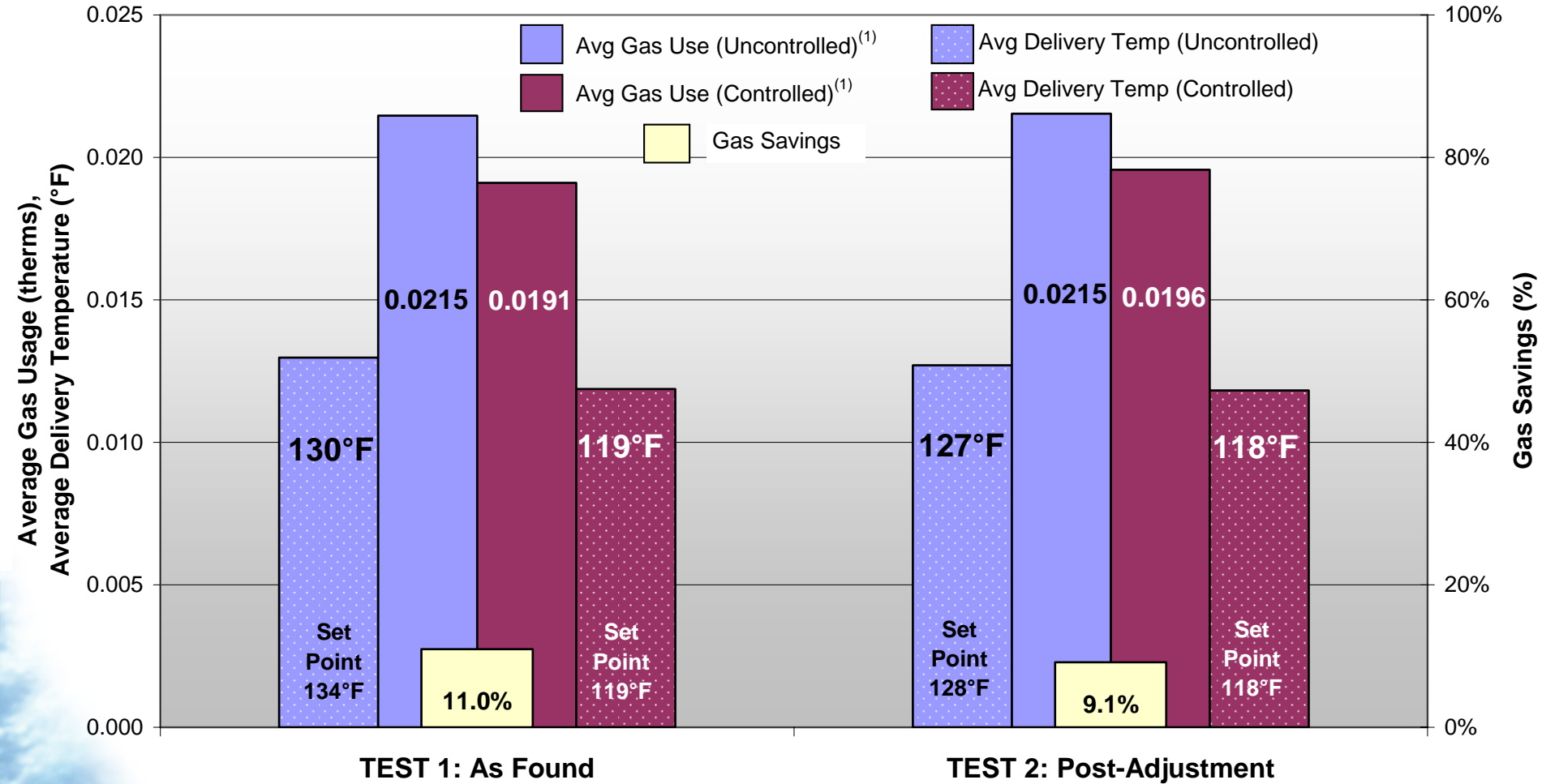


Note: (1) Average gas usage per occupied unit per cubic foot of hot and cold water used; including average extra energy usage running the boiler pump continuously.

SITE #2

May 1 to June 5, 2007

Weekly Gas Usage with Boiler Pump in Operation 24/7

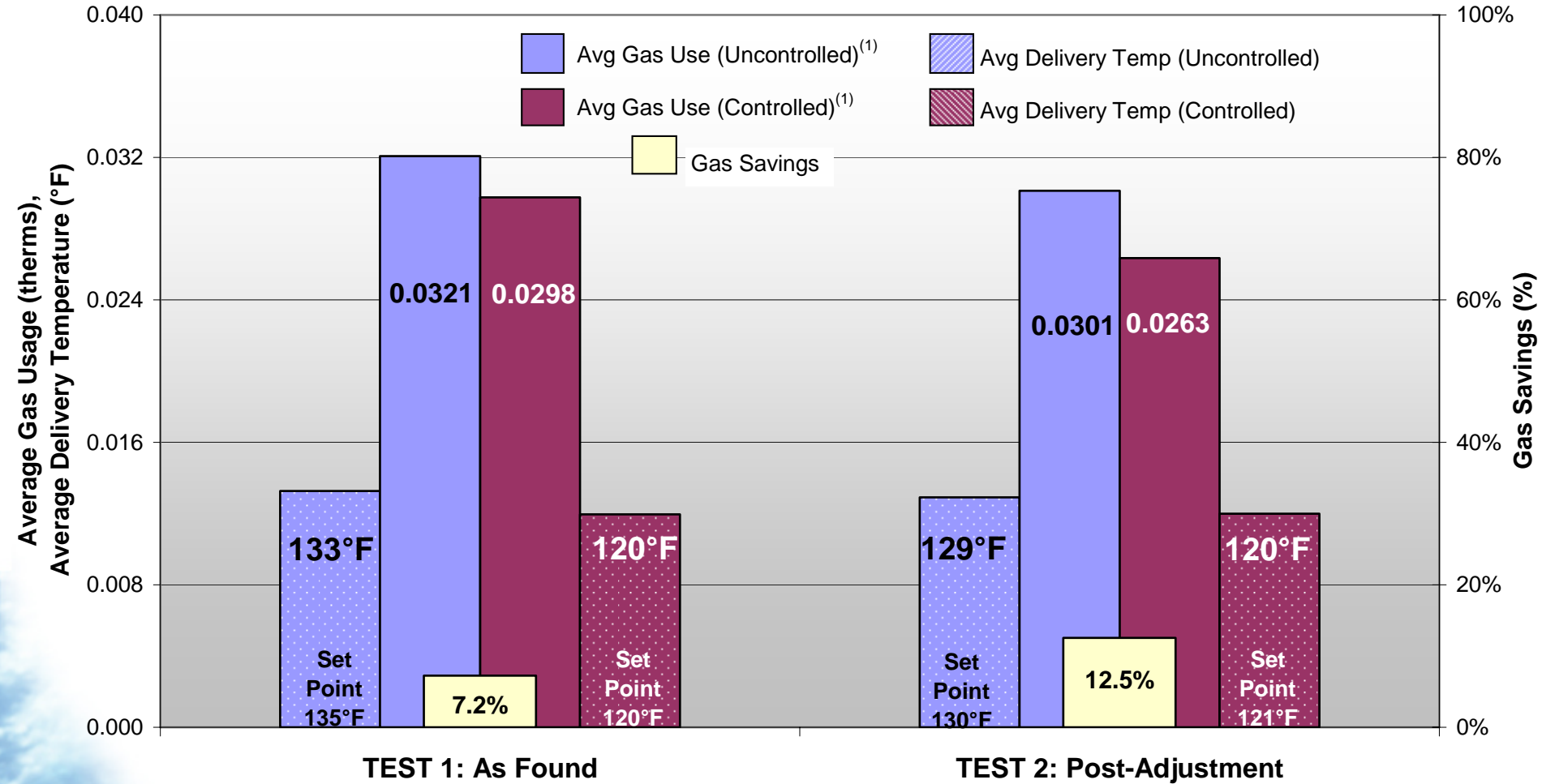


Note: (1) Average gas usage per occupied unit per cubic foot of hot and cold water used; including average extra energy usage running the boiler pump continuously.

SITE #3

May 1 to June 5, 2007

Weekly Gas Usage with Boiler Pump Operating 24/7

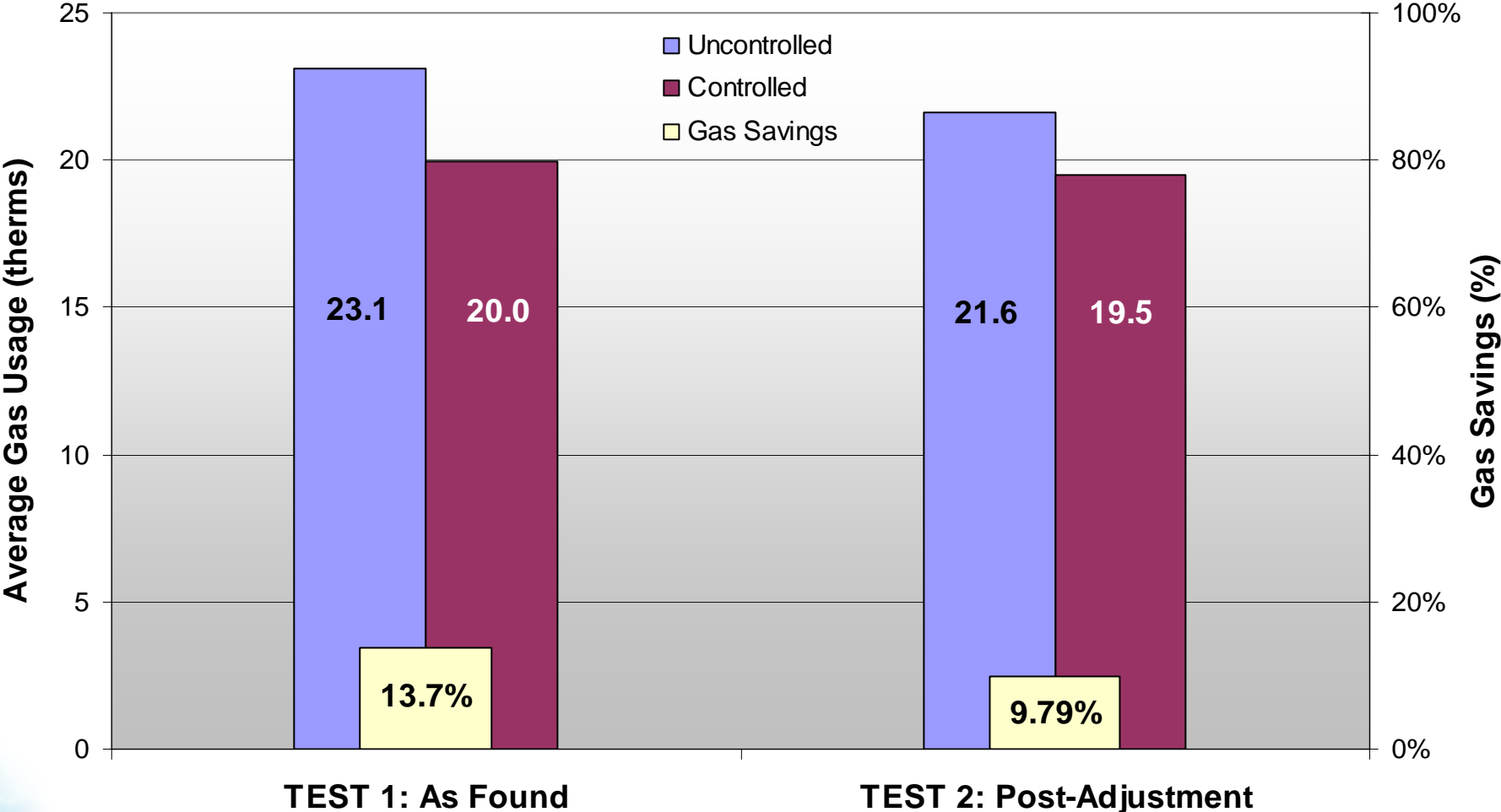


Note: (1) Average gas usage per occupied unit per cubic foot of hot and cold water used; including average extra energy usage running the boiler pump continuously.

EDC SYSTEM SUMMARY

May 1 to June 6, 2007

Total Average Monthly Gas Savings



Note: (1)Average gas usage per occupied unit; including average extra energy usage running the boiler pump continuously.



Observations - Conclusions

- In all three complexes, we found consistent, gas savings between 7.2 and 14.5%.
- Post-Adjustment data more accurately represents the true gas savings of the system..

