

Economizers: Design, Performance, and Commissioning Issues

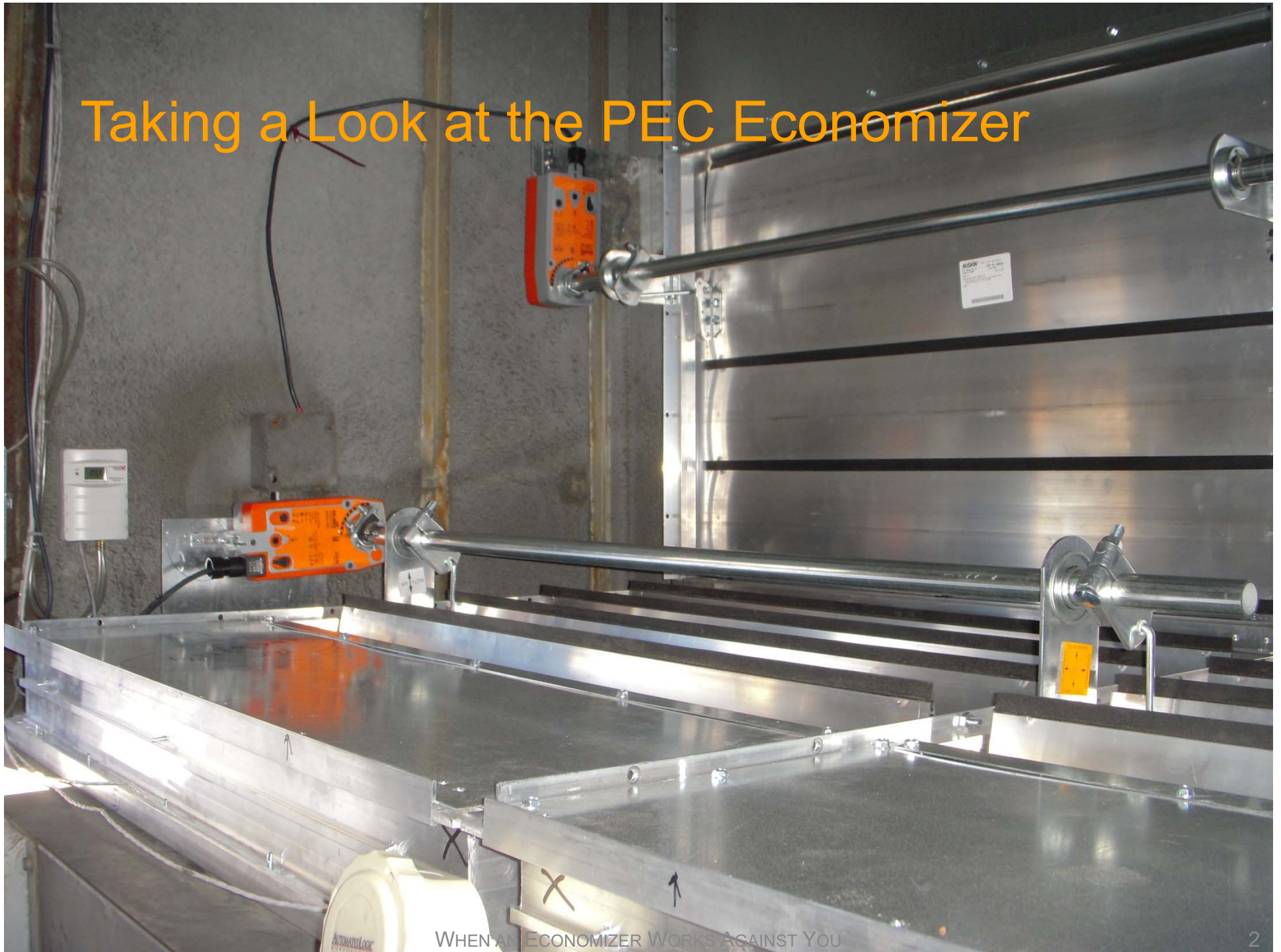
When an Economizer Works Against You



Instructor:

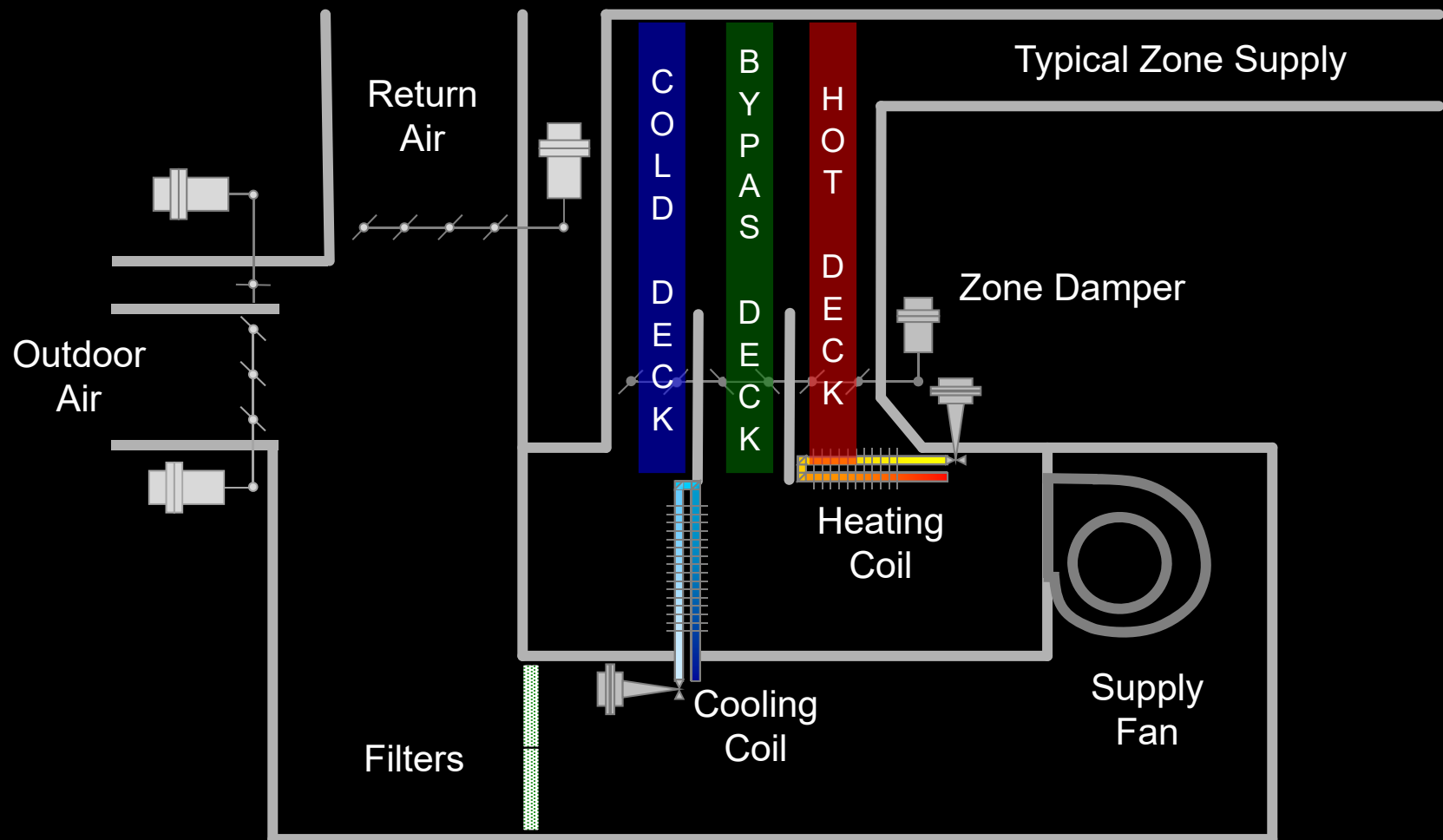
- David Sellers
- Senior Engineer
- Facility Dynamics Engineering
- February 6, 2018

Taking a Look at the PEC Economizer



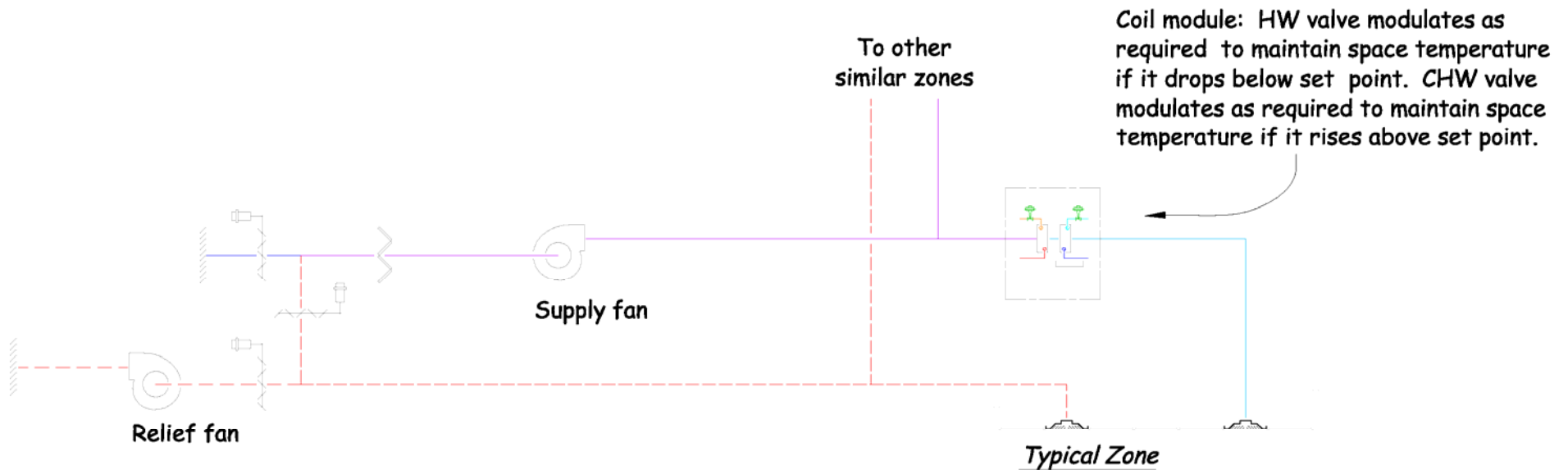
WHEN AN ECONOMIZER WORKS AGAINST YOU

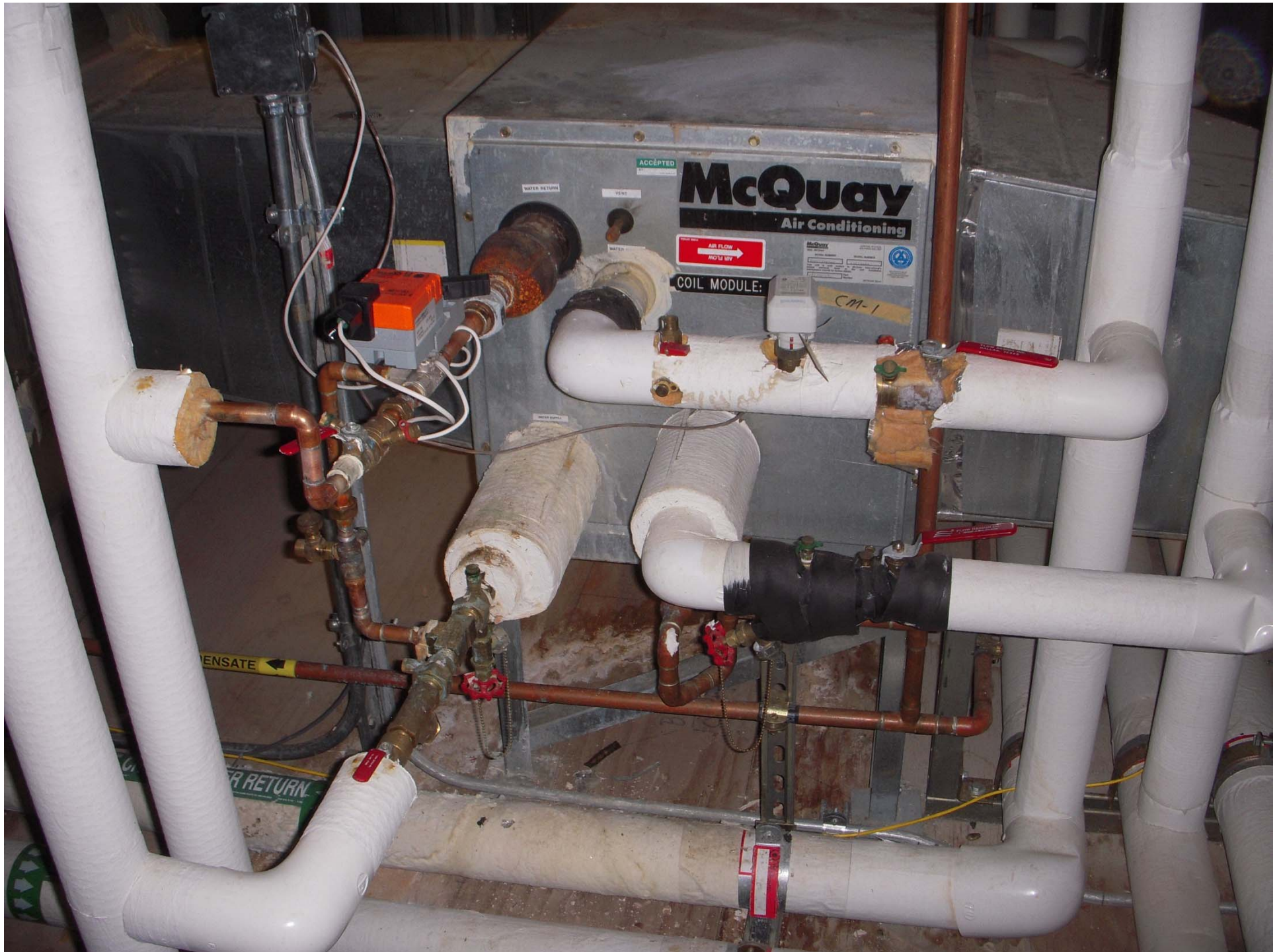
What is the Correct Set Point for the Economizer on This System?



WHEN AN ECONOMIZER WORKS AGAINST YOU

How About This System?





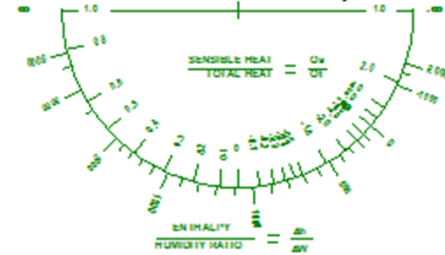
Sometimes an Economizer Works Against You



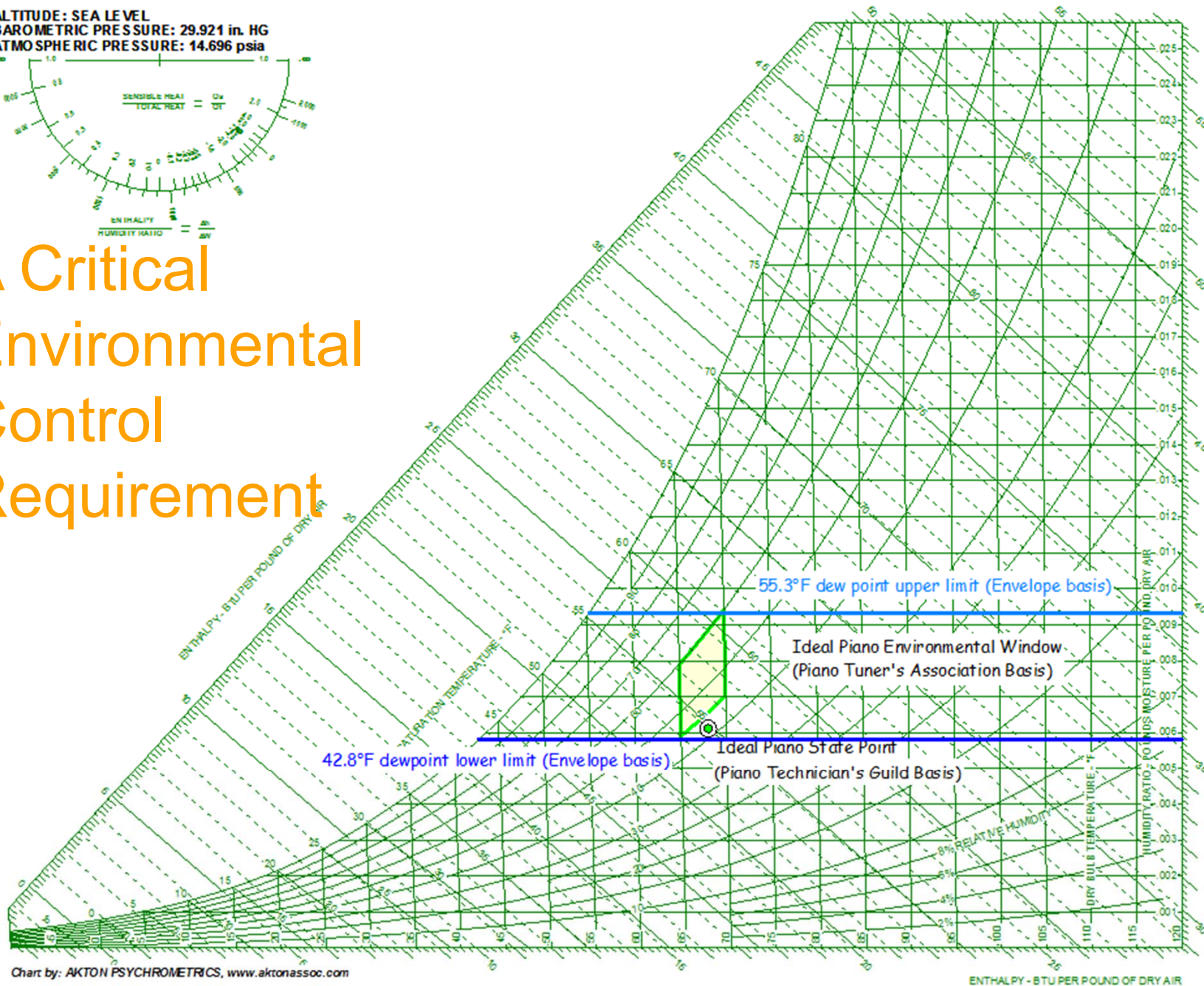
Image courtesy <http://www.clipartlord.com/>

WHEN AN ECONOMIZER WORKS AGAINST YOU

ALTITUDE: SEA LEVEL
 BAROMETRIC PRESSURE: 29.921 in. HG
 ATMOSPHERIC PRESSURE: 14.696 psia

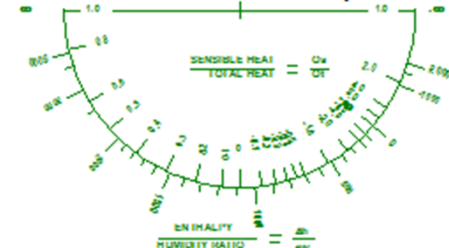


A Critical Environmental Control Requirement



WHEN AN ECONOMIZER WORKS AGAINST YOU

ALTITUDE: 6 FEET
 BAROMETRIC PRESSURE: 29.915 in. HG
 ATMOSPHERIC PRESSURE: 14.693 psia



The Outdoor Environment

Weather Data Location:
 CLIMATEZONE03, CALIFORNIA, USA

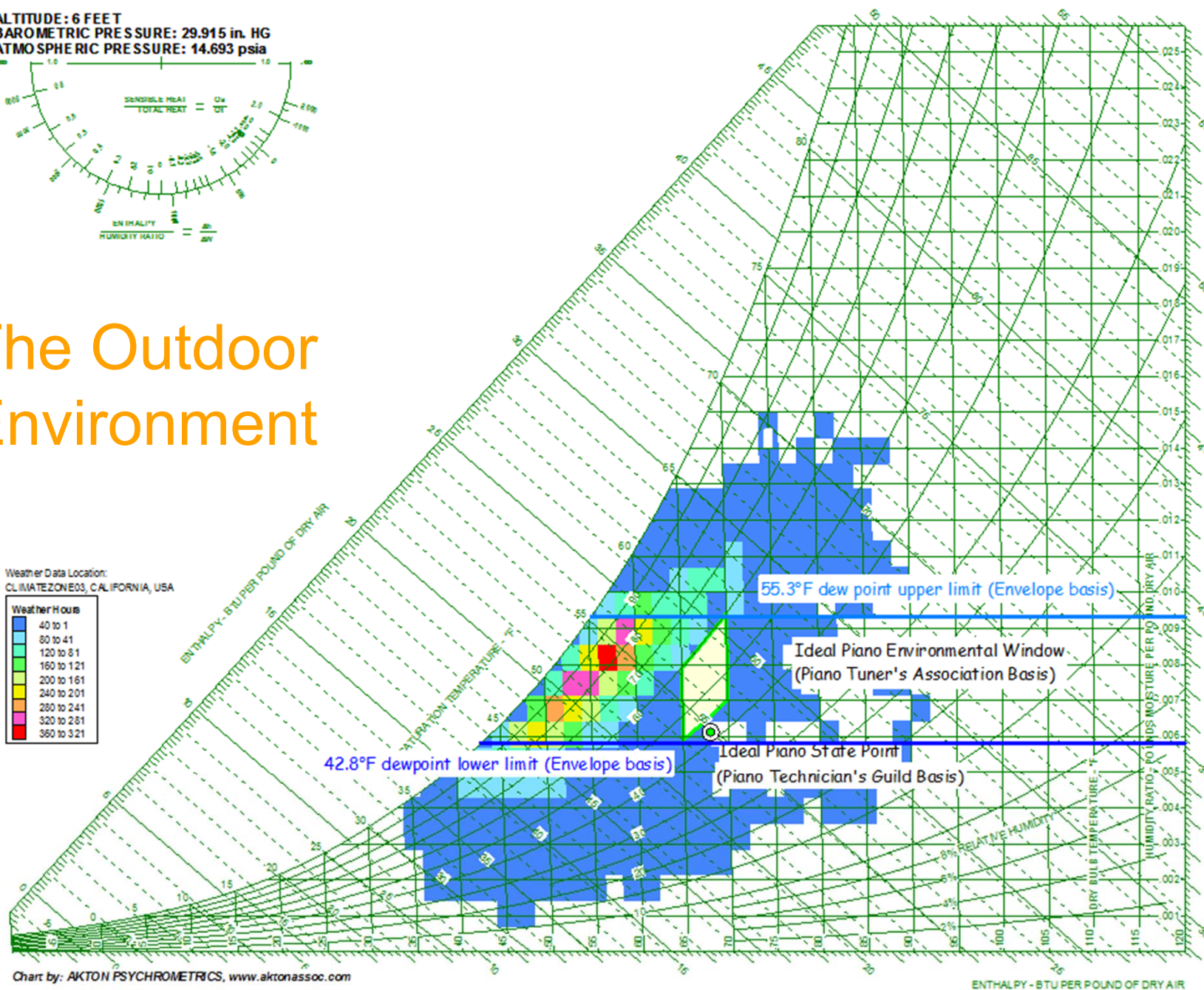
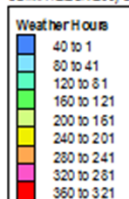
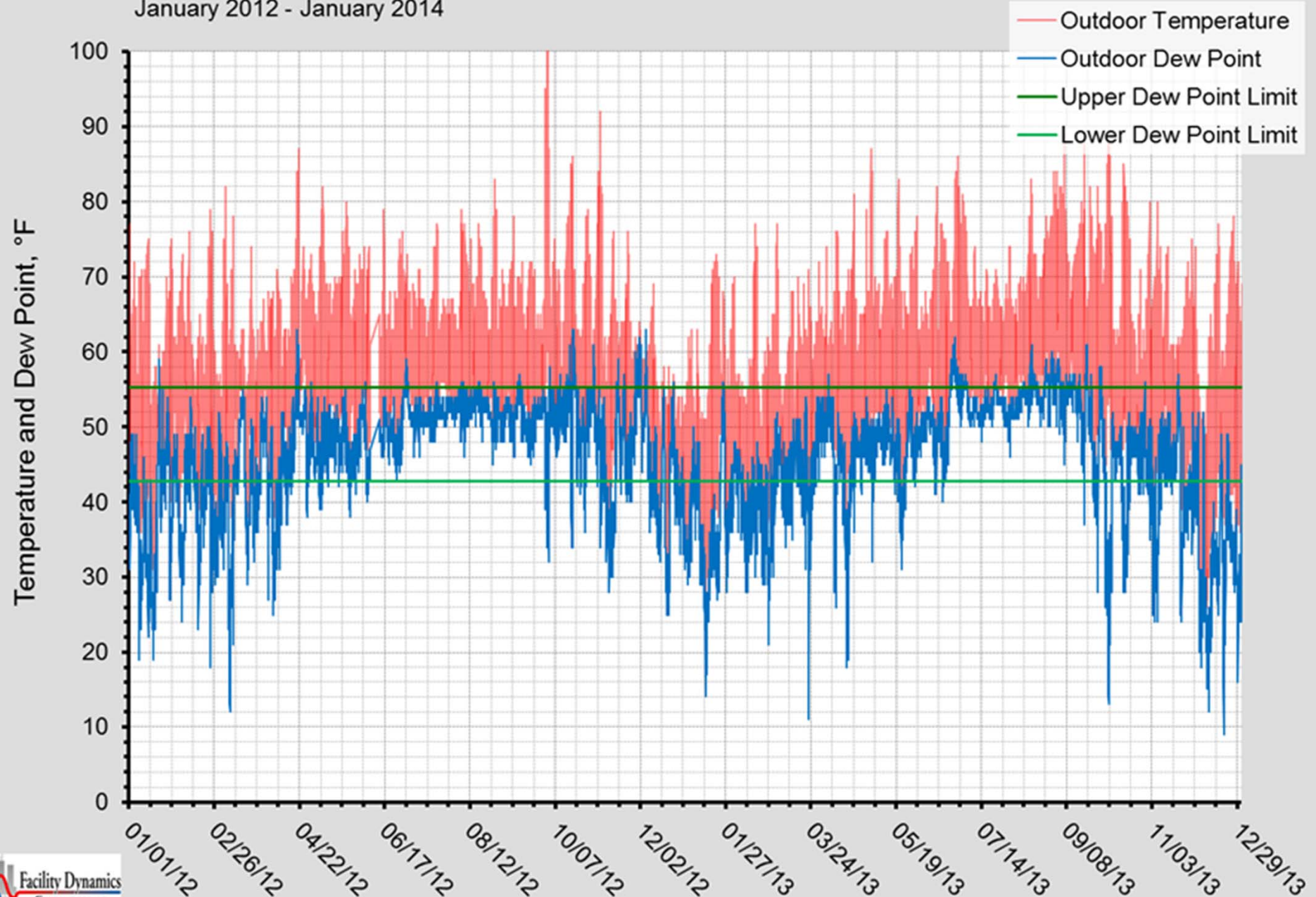


Chart by: AKTON PSYCHROMETRICS, www.aktonassoc.com

WHEN AN ECONOMIZER WORKS AGAINST YOU

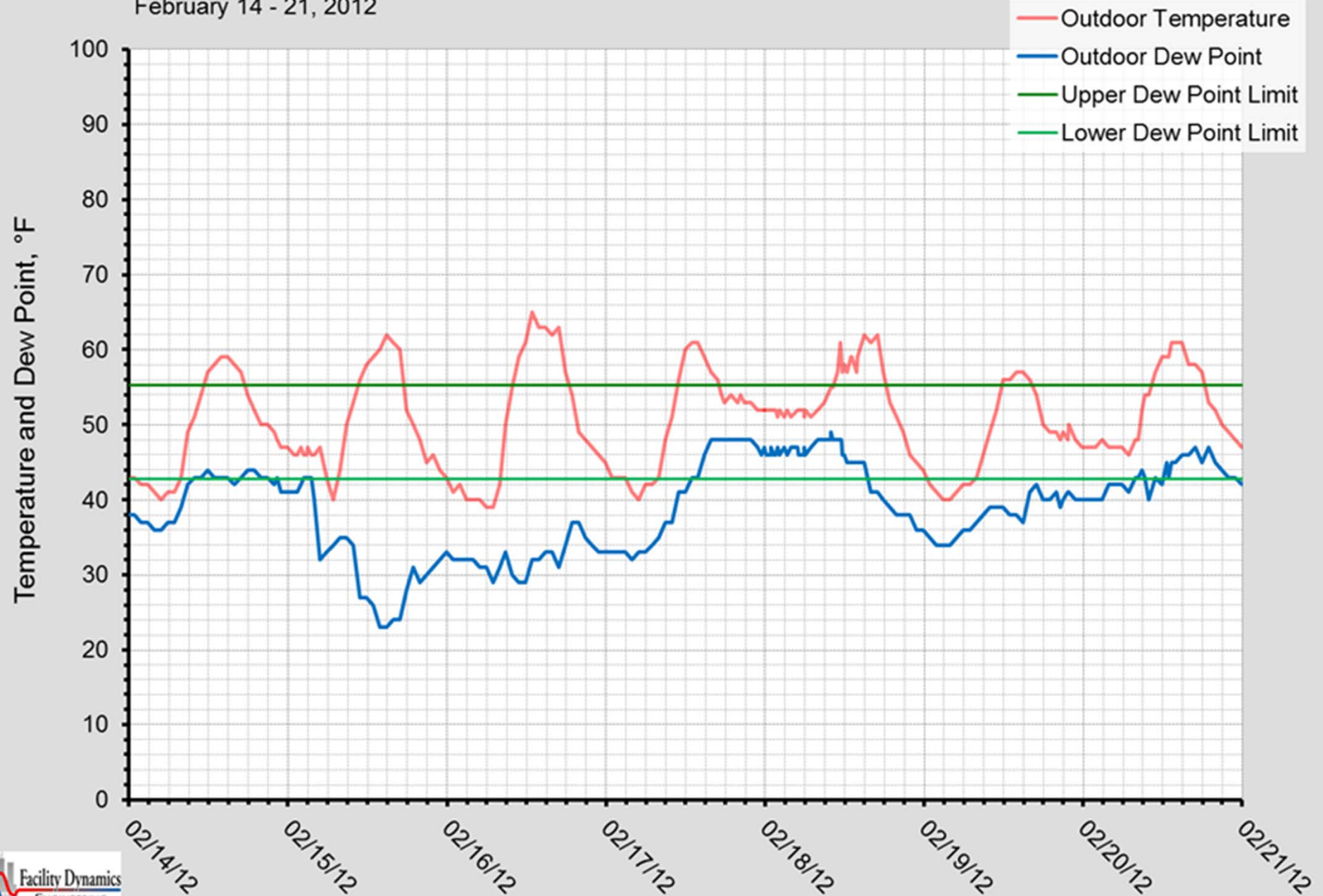
Temperature and Dewpoint for Watsonville, CA; WBAN 23277

January 2012 - January 2014



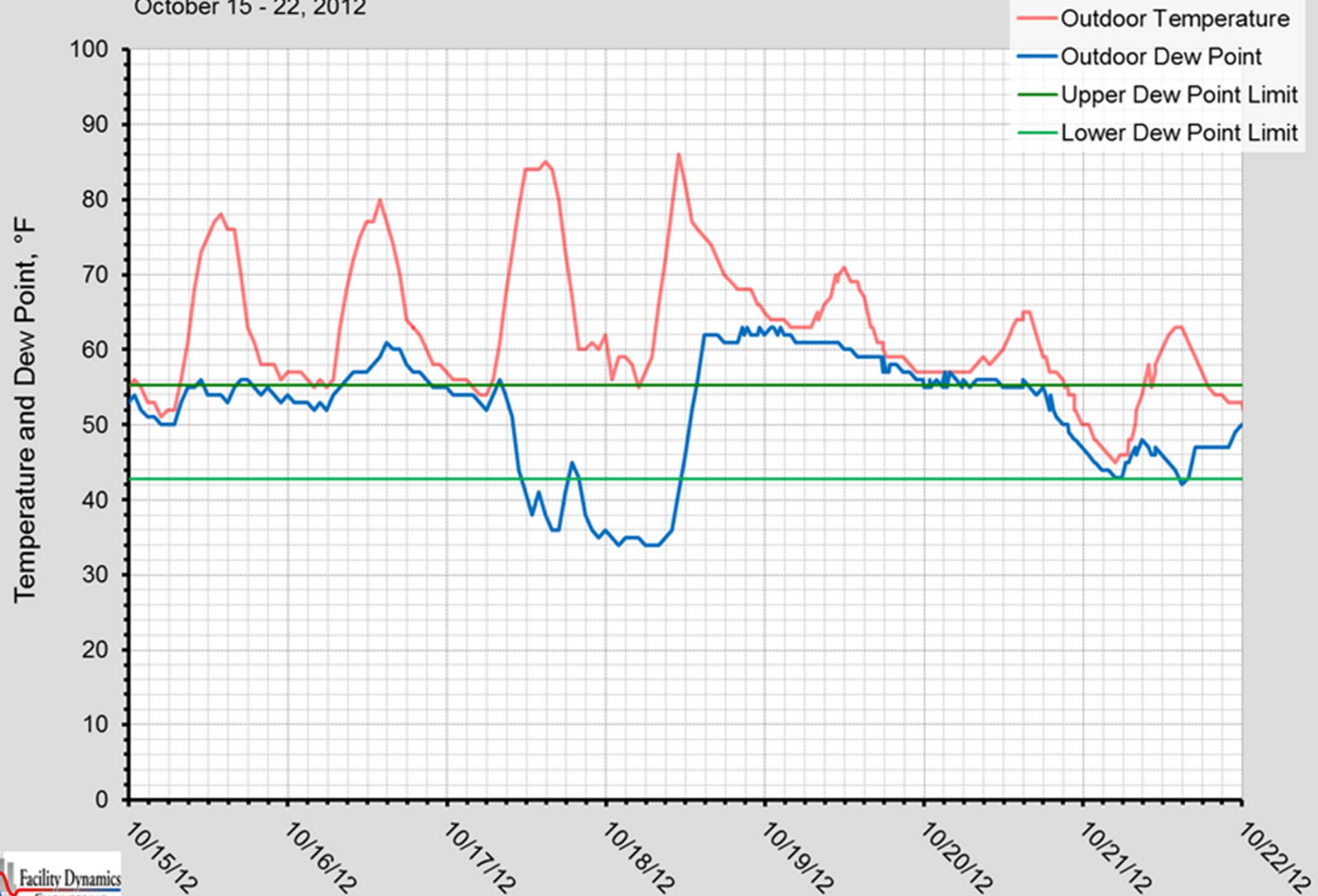
Temperature and Dewpoint for Watsonville, CA; WBAN 23277

February 14 - 21, 2012



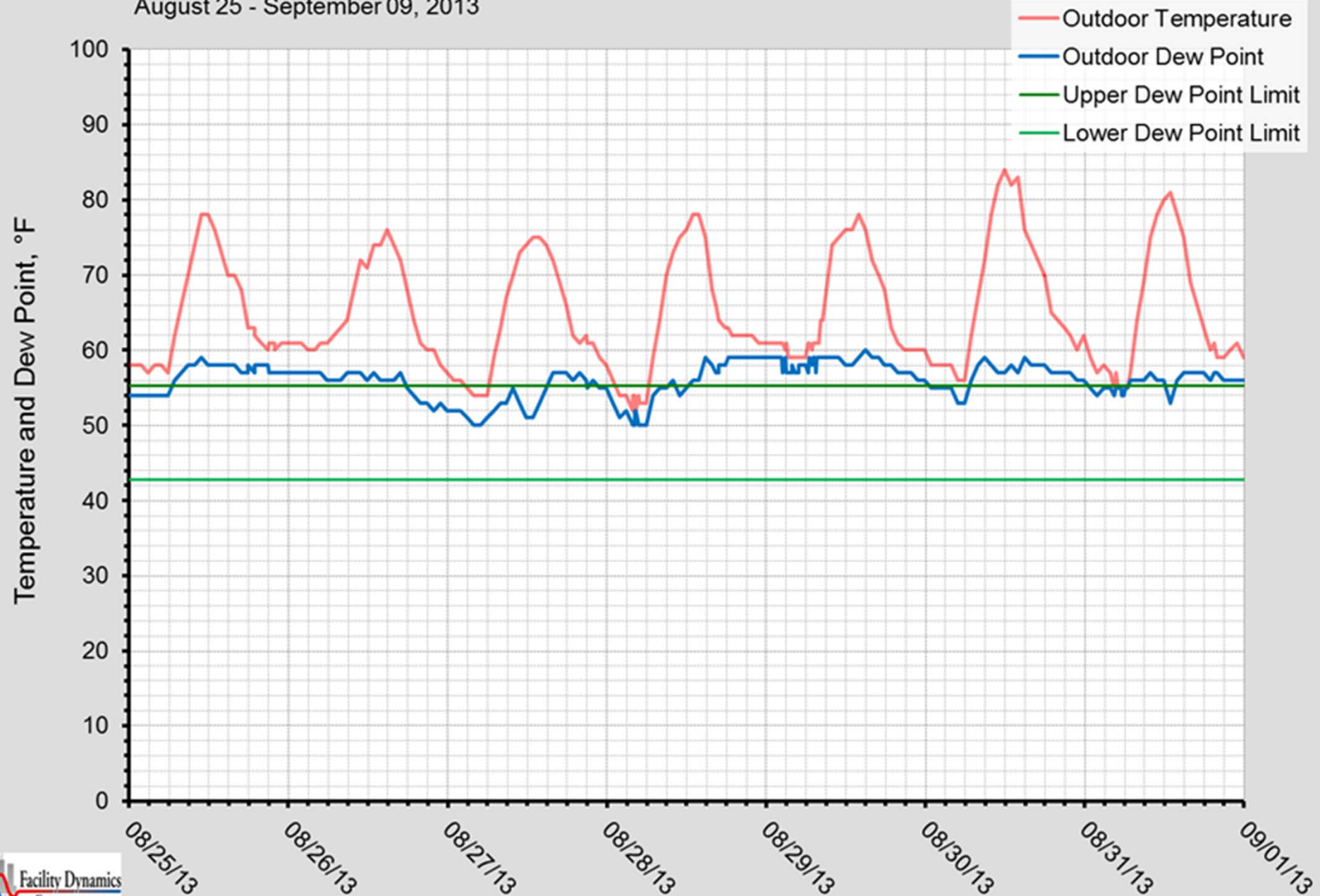
Temperature and Dewpoint for Watsonville, CA; WBAN 23277

October 15 - 22, 2012

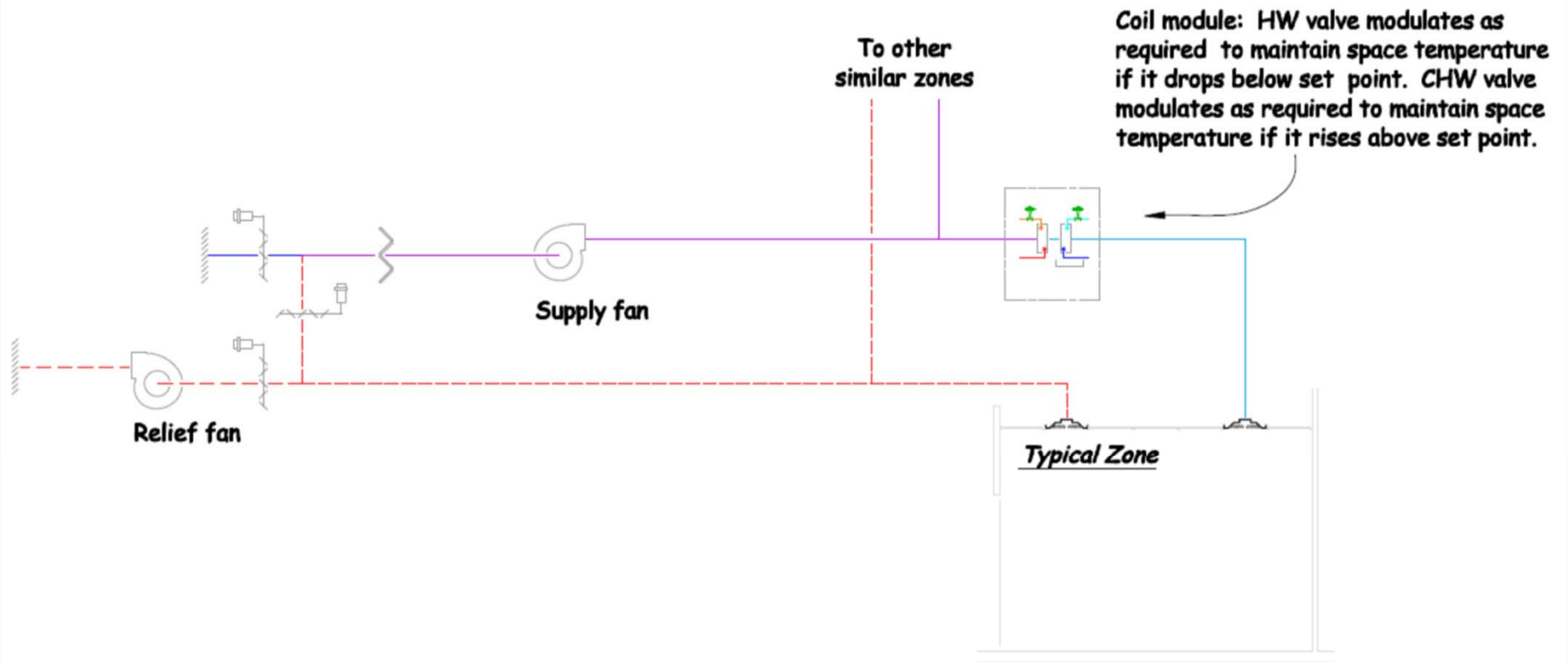


Temperature and Dewpoint for Watsonville, CA; WBAN 23277

August 25 - September 09, 2013



The HVAC System



Solving The Problem



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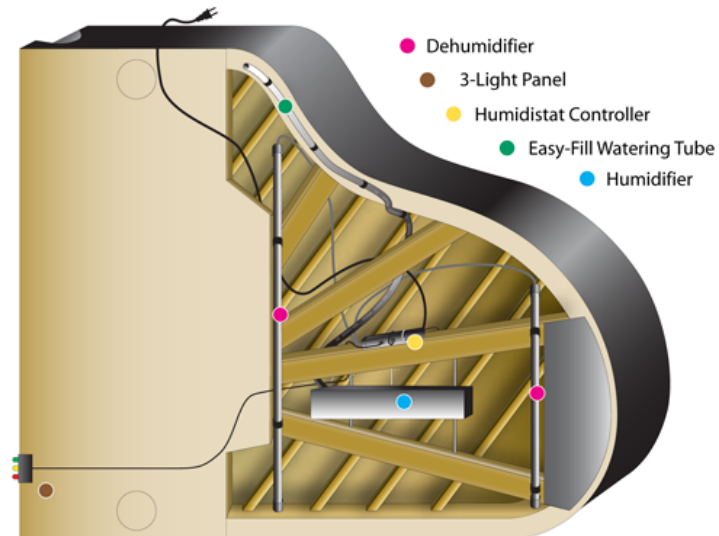
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THE GRAND PIANO HUMIDITY CONTROL SYSTEM

The Piano Life Saver System is completely silent and installed on the underside of your piano.

Grand Piano Installation



The Piano Life Saver System as seen from beneath a Grand Piano.