

"If you are not measuring it, you cannot manage it"™

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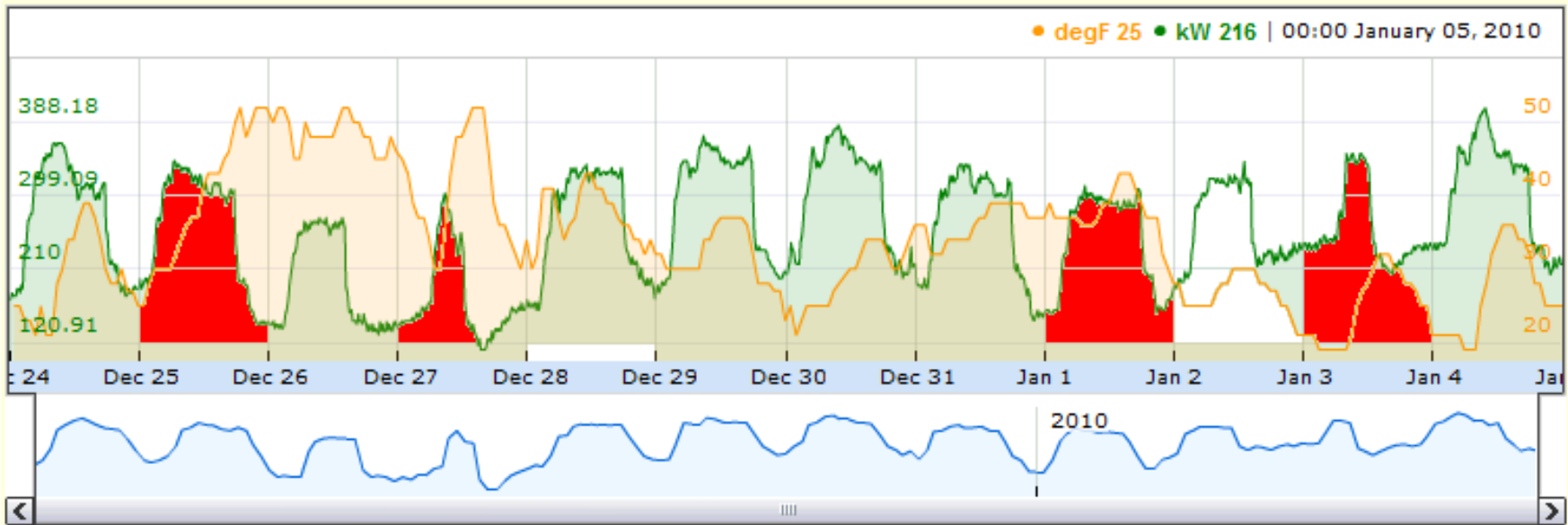


Table of Contents

- Understanding Building Design
 - Design At Day One
 - Based on ASHRAE Standards for locality
 - Based on Occupancy Design
 - How design is compromised
- Financial Performance: Largest Expenses
 - Principal and Interest
 - Utilities: Are they managing you?

Building HVAC Design

Indoor Ambient Conditions

73 Degrees

Happy Tenants

70 Degrees

76 Degrees

60 Degrees

80 Degrees

Tenant Discomfort

Tenant Discomfort

Outdoor Ambient Conditions

Winter Conditions

15 Degrees

Summer conditions

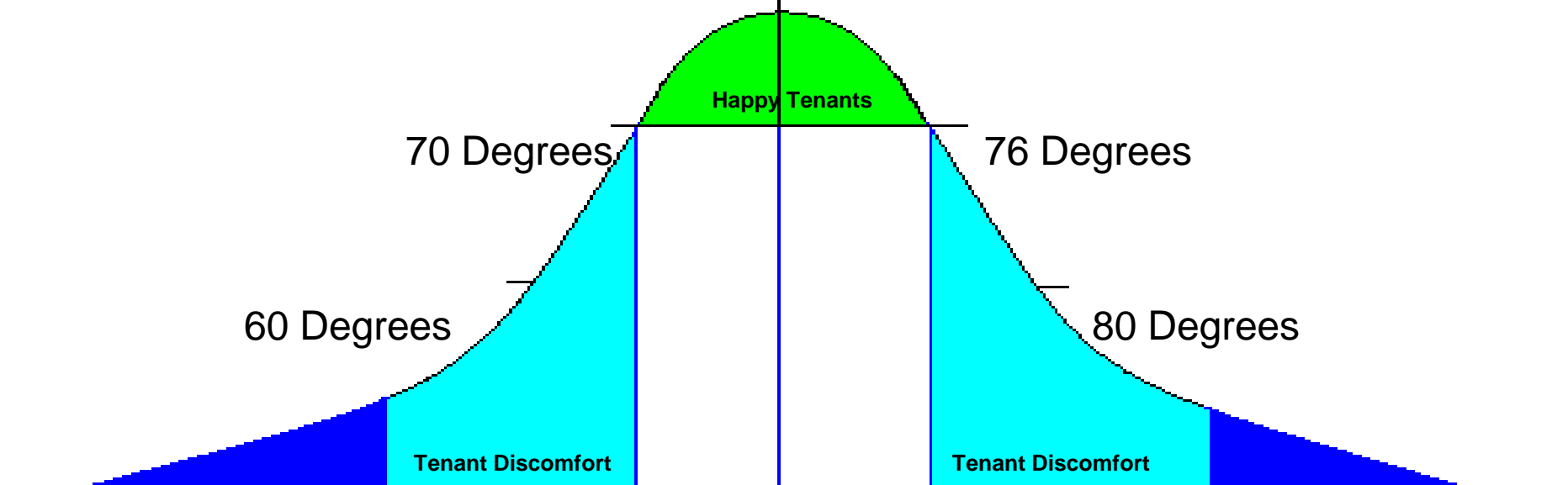
95 Degrees

78% Relative Humidity

6.2 MPH Wind

Engineered Design

Copyright NMI 2008



Building HVAC Design

Indoor Ambient Conditions

73 Degrees

Happy Tenants

67 Degrees

79 Degrees

60 Degrees

80 Degrees

Tenant Discomfort

Tenant Discomfort

Outdoor Ambient Conditions

Compromised Design due to Building
Operations/Leasing/Age

**Compromised Winter
Conditions**

25 Degrees

Engineered Design

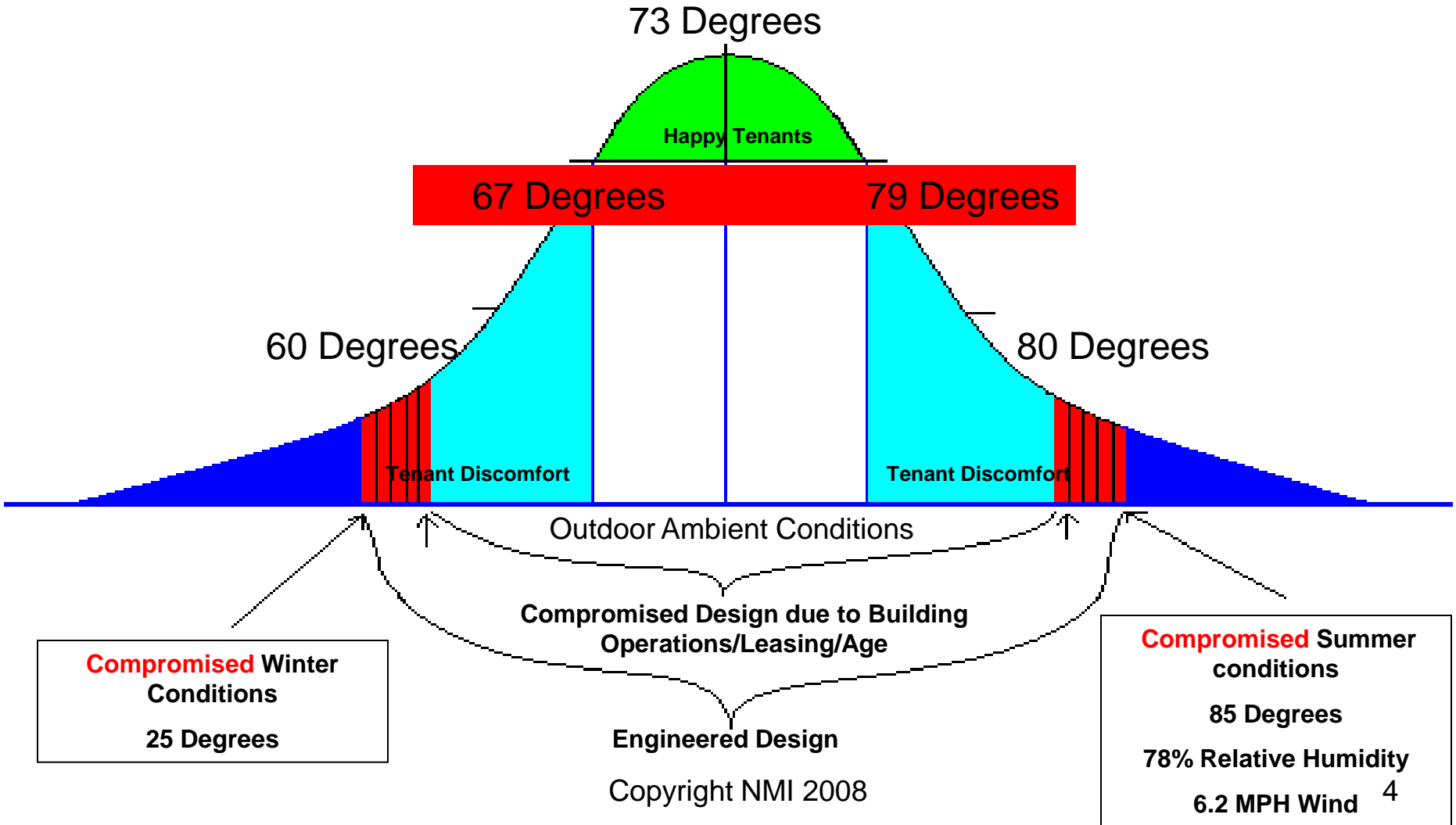
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**Compromised Summer
conditions**

85 Degrees

78% Relative Humidity

6.2 MPH Wind ⁴



How we compromise our best Designs

Activities

- Non standard building loads “just drop a diffuser in we can’t afford a real computer room unit”
- There is \$12,000.00 difference in bids the guys who are high are making a killing – trust me you don’t need a real air balance
- I’ll take the space “as – is”
- I just changed the rooftops
- Adding a couple of space heaters won’t affect anything “I am always cold”
- We have no prints or as-builts
- Phantom Loads
- Adding tenant equipment to building electrical distribution

Result

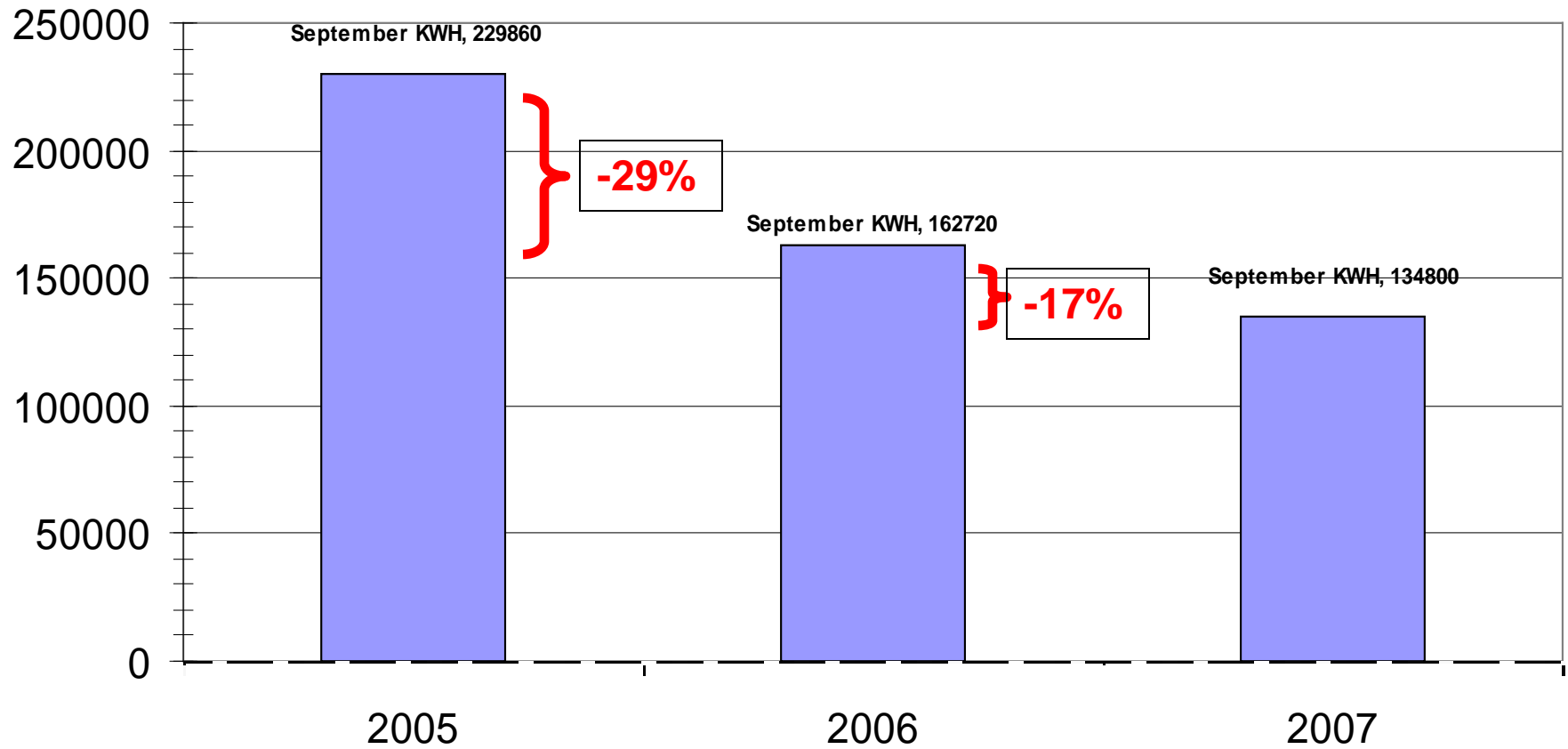
- As a result of one or more of these activities over time the facility increases energy consumption and financial performance is compromised.
- Example: Class A Office Building optimized over three years.
 - HVAC Schedule matches Occupancy Schedule – audited and confirmed
 - Optimal morning start is proven
 - Tenant Loads are billed back under lease agreement
 - Equipment is grouped based on kW demand
 - Holiday Schedules proven

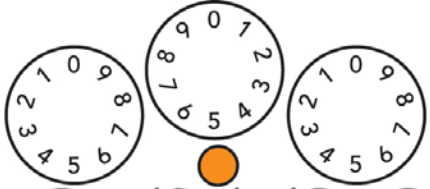
Note, the Facility had all the tools to achieve these results i.e. no capital outlay

Optimization: a Three Year Comparison

case study Richmond Va

Rowe Plaza





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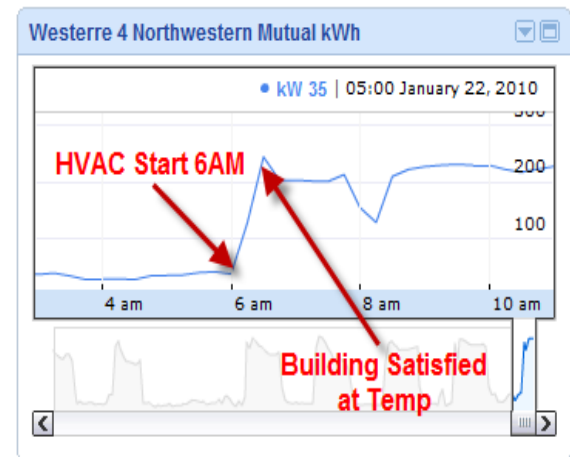
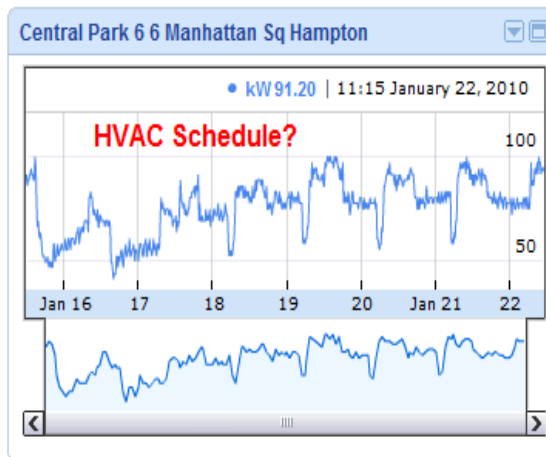
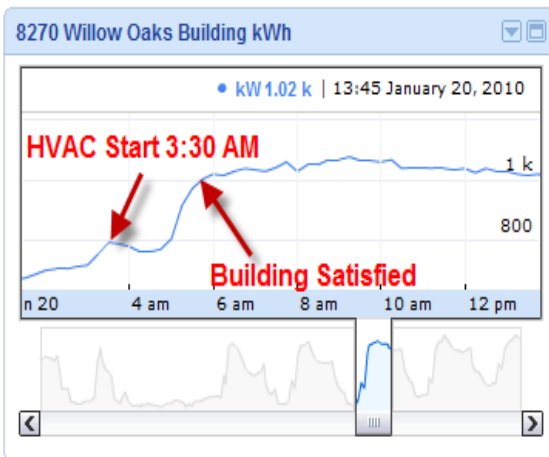
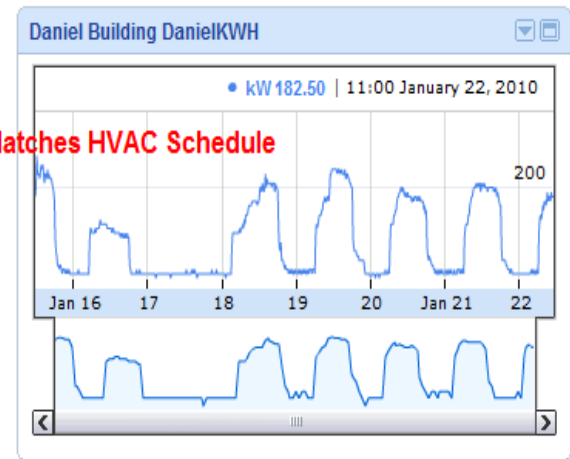
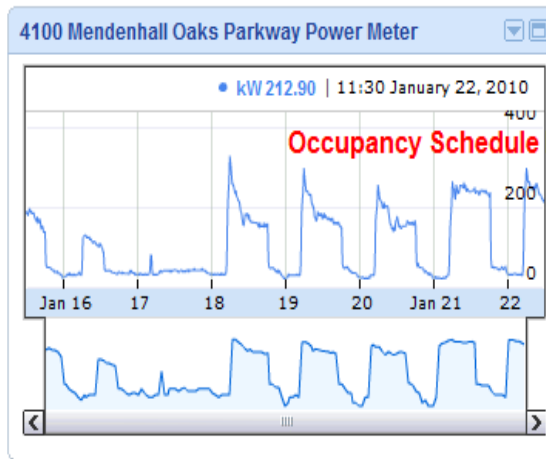
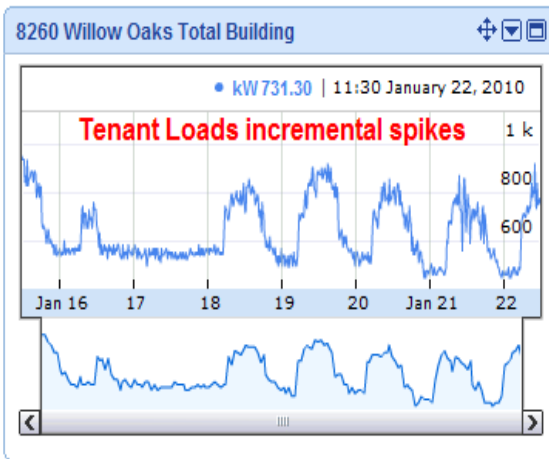
NMI Toolbox©

- Push Technology: NMI uses igoogole charts to push the building energy use to any stakeholder.
 - See slide #9, igoogole provides a quick snapshot of a facilities consumption.
- NMI Website: provides a login to facilitate a platform to view building energy intensity, analyze the data and direct results.
 - Mynmi Slide #10, provides a portal to view critical data set automated energy alarms, manage sub meter invoicing and detailed energy analysis.

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igoogle NMI Toolbox©

Push Technology



NMI - mynmi

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Welcome Mike Daniel Building Add a 7-day chart to your iGoogle page

• Outdoor Temperature : F 37
• Indoor Temperature : F 70
• Total Power 022 : kW 174 | 08:30 January 21, 2010

60
 40
 20
 0

73.33
 48.89
 24.44
 0

237.14
 158.10
 79.05
 0

16 Sun Jan 17 Mon Jan 18 Tue Jan 19 Wed Jan 20 Thu Jan 21 Fri Jan 21

Select Start Date: Select End Date:

Select Primary Parameter: Select Secondary Parameter: Select Tertiary Parameter:

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Calculations are functions of Total Power 022 for the visible graph range.

Indicator	Value	Units	Indicator	Value	Units	Time	Date
Power Ratio@	3.3	Occ Kw/Unocc	Rate of Change Minimum	-5.0	kW/Min	18:15	19-Jan-2010
Unoccupied Load	51	kW	Rate of Change Maximum	4.4	kW/Min	5:15	16-Jan-2010
Load Factor	0.4	avg/peak	Demand Minimum	39	kW	0:00	20-Jan-2010
Utility Usage	15351	kWh	Demand Maximum	236	kW	14:15	15-Jan-2010
Utility Cost	0.084	kWh	Peak W/ft2	4.3	Peak W/ft2	12:15	15-Jan-2010
Cost for Graph	1289	\$					



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Net Metering Inc

Michael Scelzi - President

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