

IDEA

TECHNOLOGY DEMONSTRATION OVERVIEW

COMPANY
 Intellidyne
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TECHNOLOGY
 IntelliCon –
 Commercial AirConditioning
 energy economizer (CAC)

DEMONSTRATION SITE(S)
 DPR Brownsville Recreation Center –
 1555 Linden Blvd, Brooklyn, NY
 FDNY Engine Company 50 –
 1155 Washington Avenue, Bronx, NY

DEMONSTRATION PERIOD
 July 2014 – July 2015
 July 2014 – July 2015



SYSTEM(S) INVOLVED
COOLING



TYPE OF SAVINGS
 GENERATED
ELECTRICITY
(Reduction in compressor run time)

VENDOR'S POTENTIAL
 FOR SAVINGS

10%-20%
 in air conditioning electric
 consumption

SAVINGS ACHIEVED
 IN THIS DEMONSTRATION

7%-20%



SAVINGS

Technology Description

The IntelliCon - CAC is a patented microprocessor-based energy-saving control for commercial air conditioning systems. The control reduces electric consumption and lowers compressor run-time by actively managing the compressor cycling pattern, in conjunction with the existing compressor controls. The controller also enhances compressor protection by eliminating short-cycling. Remote system monitoring is available with Intellidyne controls. Intellidyne controls guarantee a 10% reduction in fuel or electric consumption. Vendor's potential for savings is equivalent to 10%-20% in air conditioning electric consumption.

Optimum Facility Characteristics

- Commercial air conditioning units with cooling capacity greater than 5 Tons
- Engaged building operator and maintenance staff

Demonstration Results




IntelliCon Commercial Air Conditioning control units were installed on 2 sites, totaling 6 units. Savings ranged from around 7% to 20% in run-time reductions. A minor adjustment to the Cooling Degree Day savings calculation worksheet for the FDNY Engine Co. 50 decreased the total savings initially estimated by the vendor. Lower saving numbers were observed in locations where equipment was serviced and or the IntelliCon controllers were placed in bypass mode.

Recommendations for Implementation

- No major challenges during the installation phase or improper functioning of the technology during both demonstration periods were reported.
- Baseline calculations can be determined by switching system to standby mode for a requisite period.

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IDEA **TECHNOLOGY DEMONSTRATION OVERVIEW**

<p>COMPANY Intellidyne</p> <p>TECHNOLOGY IntelliCon – FA (Forced-Air Heating System Economizer)</p> <p>DEMONSTRATION SITE(S) DPR Brownsville Recreation Center – 1555 Linden Blvd, Brooklyn, NY</p> <p>DEMONSTRATION PERIOD July 2014 – July 2015</p>	<p> SYSTEM(S) INVOLVED HVAC/HEATING</p> <hr/> <p> TYPE OF SAVINGS GENERATED NATURAL GAS <i>(Reduction in burner run time)</i></p>	<p>VENDOR'S POTENTIAL FOR SAVINGS</p> <p>10%-20% in fuel consumption</p> <p>SAVINGS ACHIEVED IN THIS DEMONSTRATION</p> <p>8%-18%</p> <p>SAVINGS</p> 
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Technology Description

The IntelliCon – FA is a patented microprocessor-based fuel-saving device for forced-air (warm-air) heating systems. The controller reduces fuel consumption and burner emissions by actively managing the burner, in conjunction with the thermostat, to operate the furnace in a more energy efficient manner. This controller indicates actual savings on a burner as average savings of the cycles since installation.

Optimum Facility Characteristics

- Rooftop Units are present (<10 units per buildings)
- Engaged building operator and maintenance staff

Demonstration Results

The IntelliCon Forced-Air Heating System Economizer was installed at one facility with 6 units. Savings ranged from 8% to 18% in run-time reductions. Two units were being repaired and accurate savings calculations could not be determined during the demonstration period.

Recommendations for Implementation

- No major challenges during the installation phase or improper functioning of the technology during this demonstration period were reported.
- Baseline calculations can be determined by switching system to standby mode for a requisite period.

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IDEA

TECHNOLOGY DEMONSTRATION OVERVIEW

COMPANY
Intellidyne

TECHNOLOGY
IntelliCon – CHW
(Commercial Hydronic heating system economizer)

DEMONSTRATION SITE(S)
DPR Brownsville Recreation Center –
1555 Linden Blvd, Brooklyn, NY

DEMONSTRATION PERIOD
July 2014 – July 2015



SYSTEM(S) INVOLVED
HEATING



TYPE OF SAVINGS GENERATED
NATURAL GAS
(Reduction in burner run time)

VENDOR'S POTENTIAL FOR SAVINGS

10%-20%
in fuel consumption

SAVINGS ACHIEVED IN THIS DEMONSTRATION

18%-23%
in unit run-time reduction



SAVINGS

Technology Description

The IntelliCon – CHW is a patented microprocessor-based fuel-saving controller for hydronic heating systems 2.5MM BTUs and above. It reduces fuel consumption, wear on boiler parts and burner emissions by actively managing the burner, in conjunction with the boiler operating control, to properly match the boiler output to the required load. This controller indicates actual savings on a burner as average savings of the cycles since installation. Remote system monitoring is available with Intellidyne controls. Intellidyne controls guarantee a 10% reduction in fuel or electric consumption.

Optimum Facility Characteristics

- Non-modulating boilers with heating capacity greater than 2.5 MM BTUs
- Engaged building operator and maintenance staff

Demonstration Results




IntelliCon Commercial Hydronic Heating System Economizers were installed on two boilers at one site— one for space heating and one for DHW and pool use. Savings were impressive for these sites, reducing boiler runtimes by 18% and 23% respectively. Boiler cycling was reduced by 39% overall.

Recommendations for Implementation

- No major challenges during the installation phase or improper functioning of the technology during this demonstration period were reported.
- Baseline calculations can be determined by switching system to standby mode for a requisite period.

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IDEA **TECHNOLOGY DEMONSTRATION OVERVIEW**

<p>COMPANY Intellidyne</p> <p>TECHNOLOGY IntelliCon – LCH (Hot-Water Heating system economizer)</p> <p>DEMONSTRATION SITE(S) DPR Brownsville Recreation Center – 1555 Linden Blvd, Brooklyn, NY FDNY Engine Company 50 – 1155 Washington Avenue, Bronx, NY NYPD 112th Precinct – 68-40 Austin Street, Forest Hills, NY</p> <p>DEMONSTRATION PERIOD July 2014 – July 2015 July 2014 – July 2015 November 2014 – November 2015</p>	 <p>SYSTEM(S) INVOLVED HEATING</p> <hr/>  <p>TYPE OF SAVINGS GENERATED NATURAL GAS <i>(Reduction in burner run time)</i></p>	<p>VENDOR'S POTENTIAL FOR SAVINGS</p> <p>10%-20% <i>in fuel consumption</i></p> <p>SAVINGS ACHIEVED IN THIS DEMONSTRATION</p> <p>12%-17%</p>  <p>SAVINGS</p>
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Technology Description

The IntelliCon – LCH is a patented microprocessor-based fuel-saving controller for hydronic heating systems up to 2.5MM BTUs. It reduces fuel consumption, wear on boiler parts and burner emissions by actively managing the burner, in conjunction with the boiler operating-control, to properly match the boiler output to the required load. This controller indicates average savings on a continuous basis since installation (or the last time the counters/accumulators were reset). Remote system monitoring is available with Intellidyne controls. Intellidyne controls guarantee a 10% reduction in fuel or electric consumption.

Optimum Facility Characteristics

- Non-modulating boilers with heating capacity lower than 2.5 MMBTU
- Engaged building operator and maintenance staff

Demonstration Results

IntelliCon Light Commercial Hot Water Heating System economizer was installed at all 3 sites, with savings ranging from 12% to 17%. At the NYPD's 112th Precinct, major leaking in the DHW system prevented accurate savings calculations from a second boiler during the demonstration period. The domestic hot water heater and ancillary piping have since been replaced.

Recommendations for Implementation

- Building operators should be aware of the presence and functionality of such units, to prevent them from being removed or put into standby mode.
- When normalizing by gallons of water, as is typical for domestic hot water systems, the water system should be inspected to insure there are no leaks, which may impact savings calculations.

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