NHsaves®
Your Source for Energy Efficiency

Large Commercial and Industrial Program

Presenter: Matt O'Keefe, Unitil

Powered by: EVERSOURCE Liberty New Hampshire Electric Co-op Unitil

We look forward to hearing from you

Please put all your questions into the questions section with this icon.

NHSaves Essential Info

Primary Program Offerings

Incentives

Project funding that lowers the investment costs for higher efficiency equipment compared to baseline conditions.

Technical Assistance

Funding that supports the analysis of specific equipment or facility audits, intended to document key project parameters like incremental cost, energy savings, and measure life.

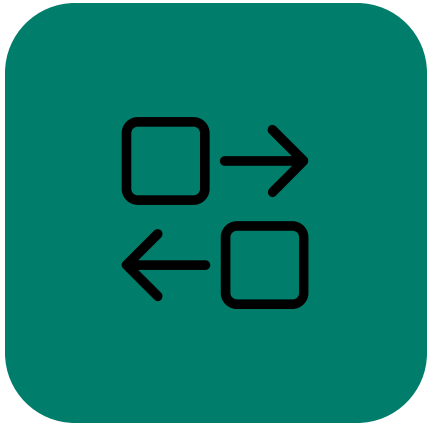
Incremental Cost: Investment in efficiency

Energy Savings: Energy or MMBtus saved, demand reduction

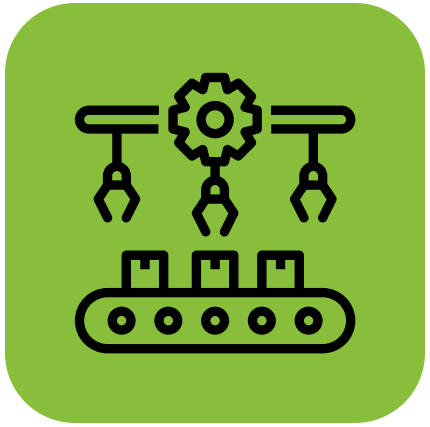
Measure Life: Claimable life (in years) for project economics

NHSaves Essential Info

Types of Efficiency Projects



RETROFIT



NEW EQUIPMENT

NEW CONSTRUCTION AND MAJOR RENOVATION

Benefit/Cost Ratio:

Key project evaluation criterion assessing the value of energy impacts against financial investment.

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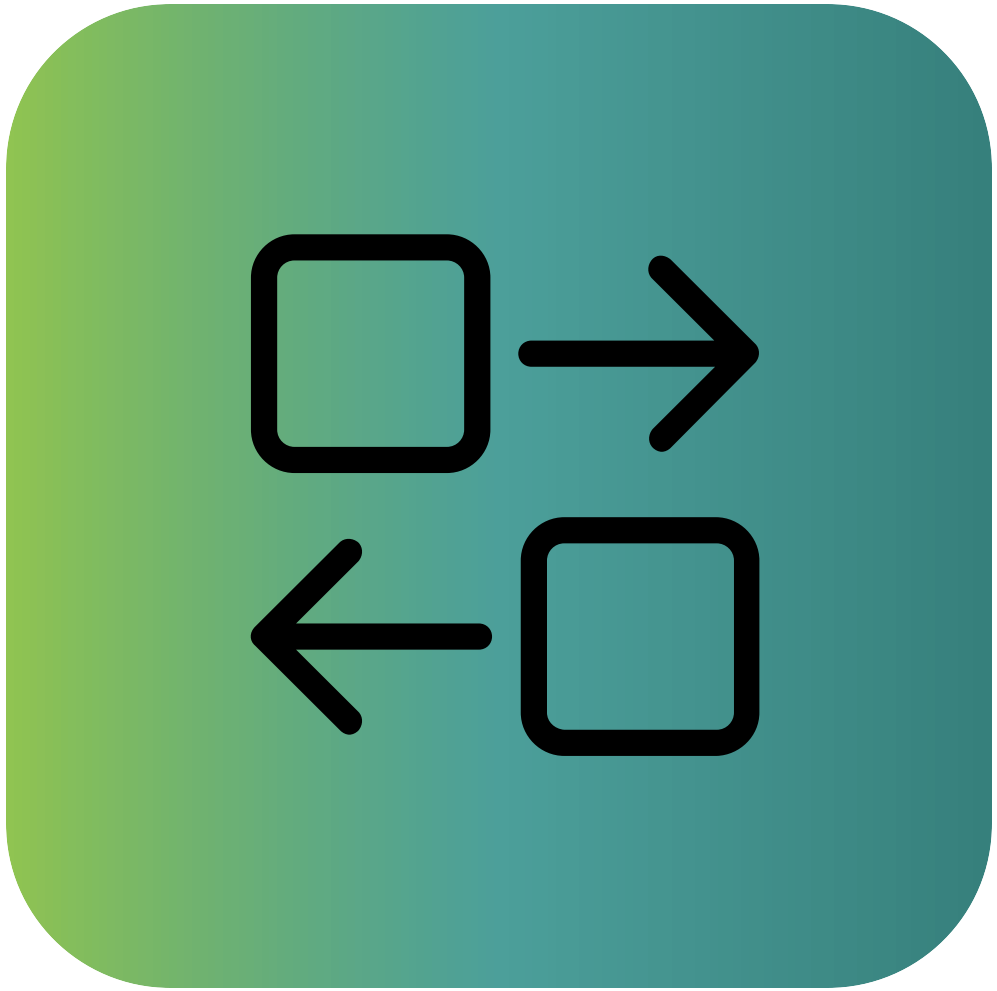
Retrofit



Improve existing facility efficiency through upgrading of existing systems, installing equipment and operator controls, increasing insulation, etc.

Incentive

Incentives are generally provided against ‘total cost.’

Energy Savings

Energy Savings are calculated with existing equipment as the baseline.

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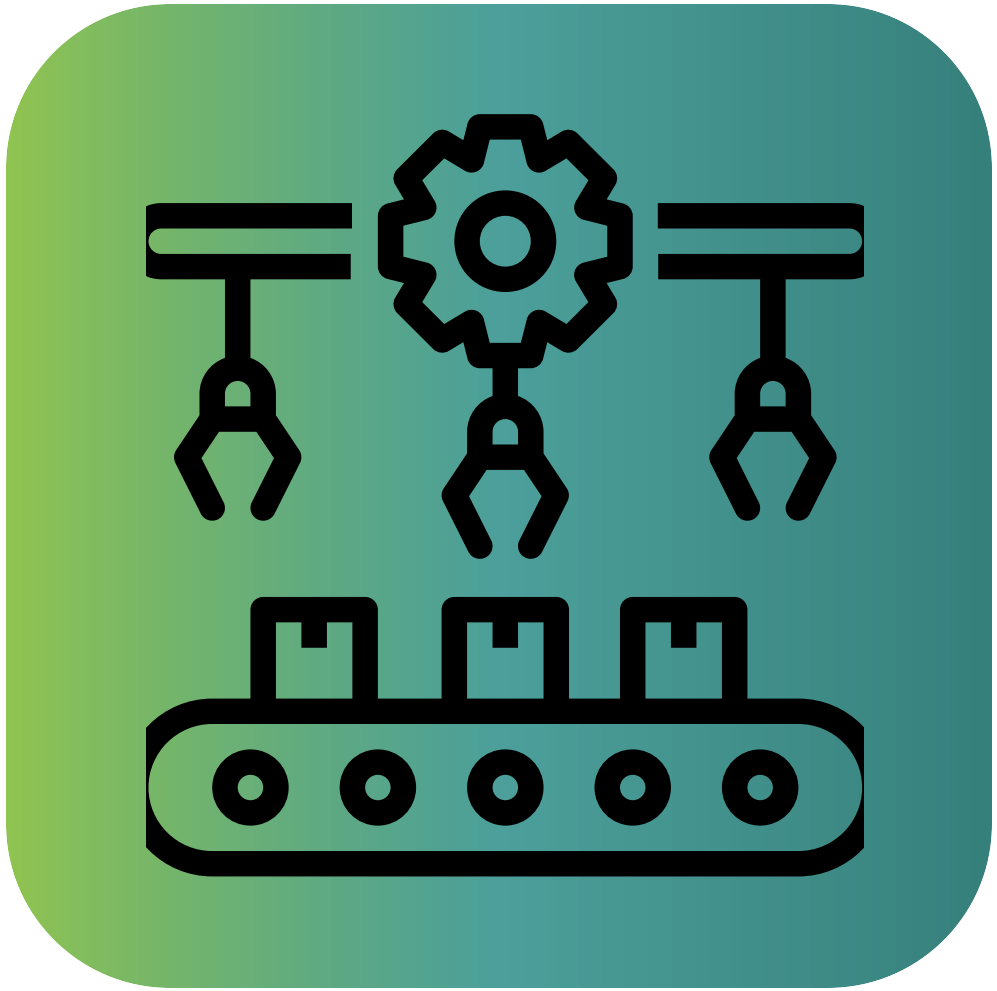
New Equipment



Investment in new ‘capital’ equipment including HVAC, Major Appliances, Process Systems, etc.

Incentive

Incentives provided against ‘incremental cost’ (Efficient minus Baseline)

Energy Savings

Energy Savings calculated as ‘efficient case’ over ‘baseline case’

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New Construction and Major Renovation

Brand new facilities or a gut rehab of an existing building with significant project costs

Incentive

Incentives provided against ‘incremental cost’ (Efficient minus Baseline)

Energy Savings

Energy Savings calculated as ‘efficient case’ over ‘baseline case’

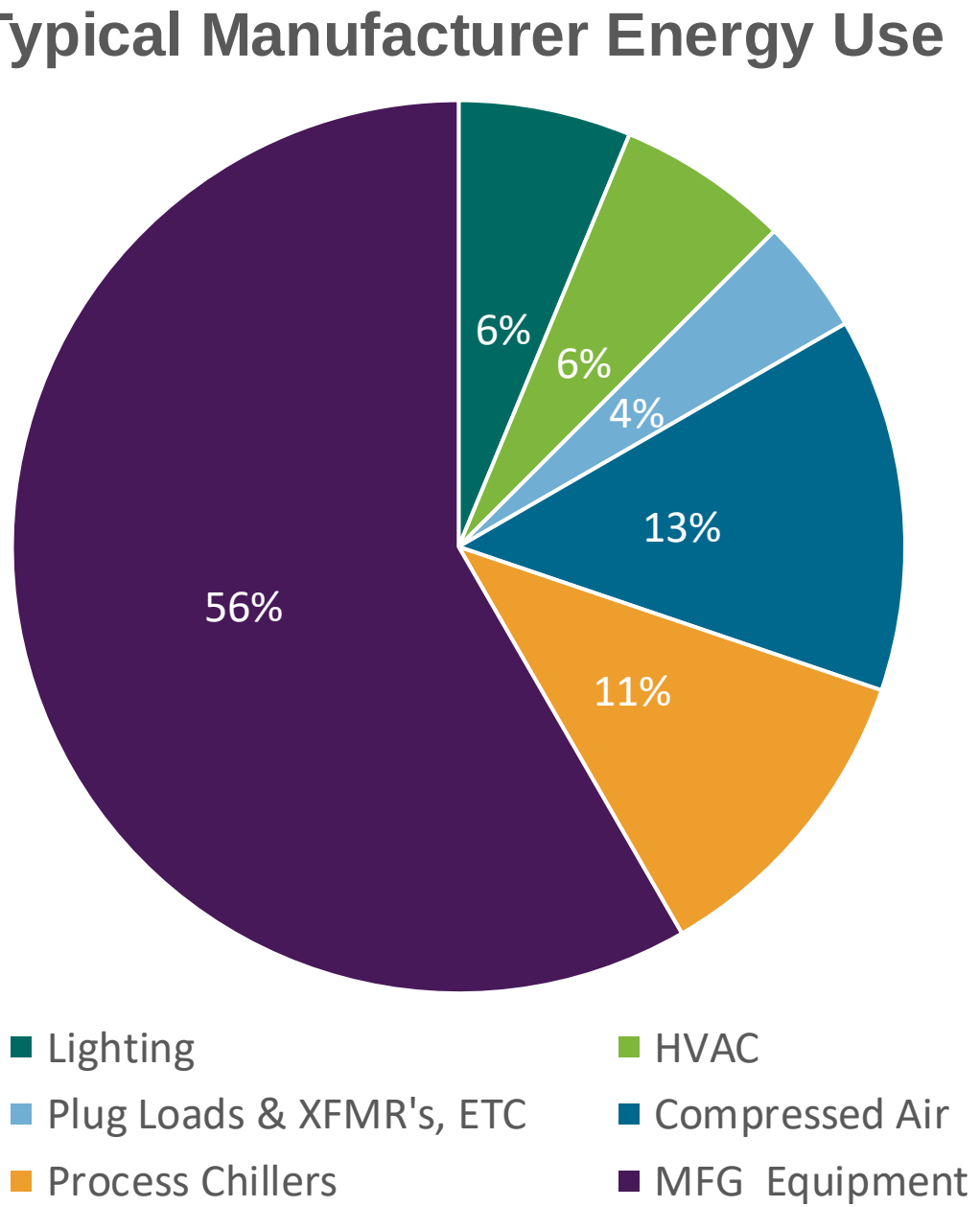
Energy efficiency is often a question of when

- Equipment failure or end of life
- Facility expansion or new construction
- Undersized equipment upgrades
- Manufacturing line change
- O&M type work

Incentives and engineering resources are available to support these efforts

Go where the energy takes you

From building infrastructure to process equipment; if it saves energy, we are interested.



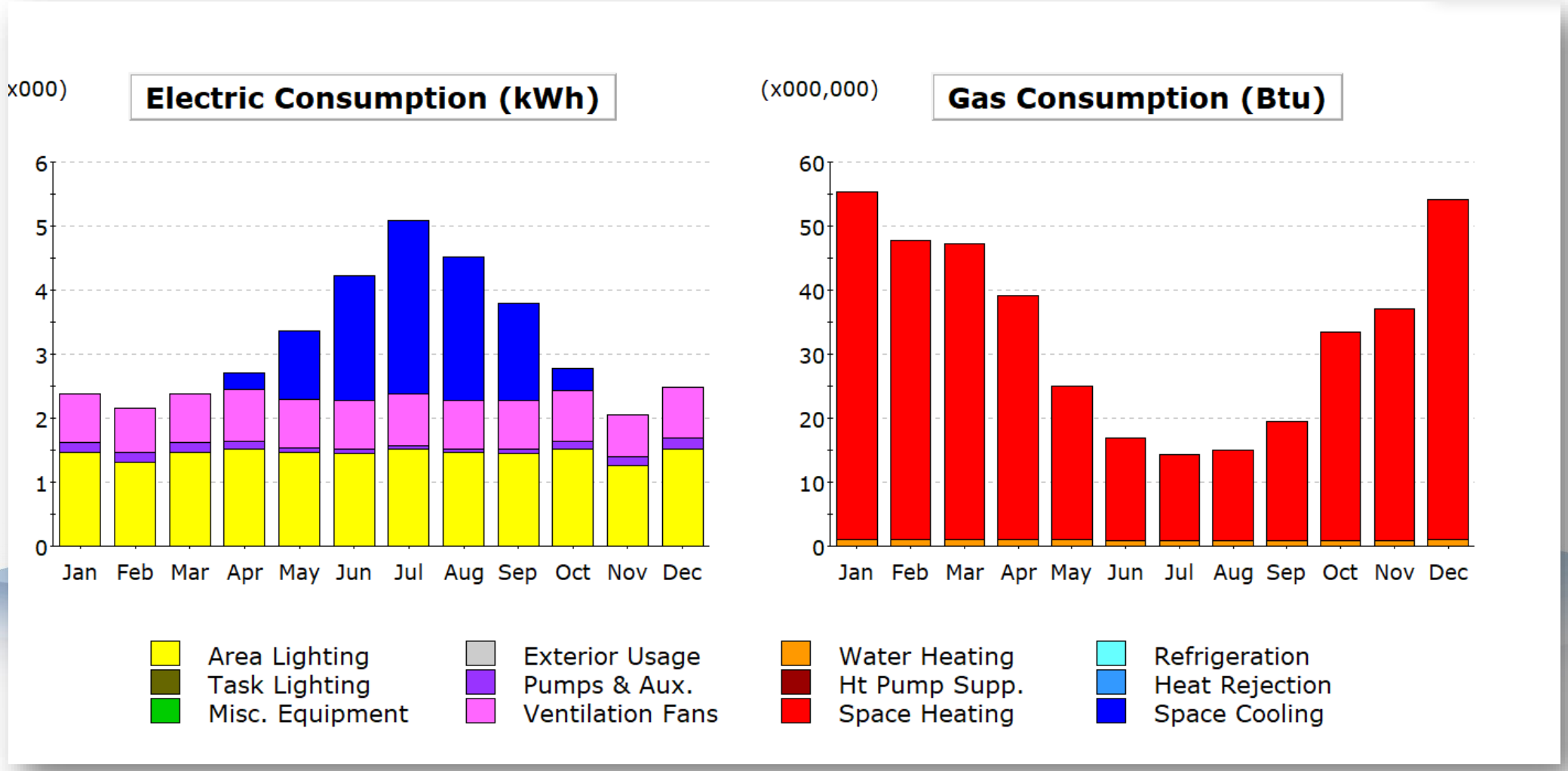
“Outside of the box” projects are our specialty at industrial sites

Industrial energy efficiency projects usually come from the largest interconnected systems within the facility:

- Compressed Air
- Process Cooling
- Clean Room Ventilation
- Process Steam
- IMM & Resin Drying
- Vacuum
- Thermal Oxidizers
- Heat Recovery

Understanding Where Energy is Used

Typical Commercial Facility Energy Use



Facility Operations	Building Type - Square Footage - Hours of Operation
Envelope/Shell	Insulation - Air Sealing
HVAC	System Type - Age - Fuels - Controls - EMS/BMS
Refrigeration	Controls - Motors
Hot Water	Low-flow Fixtures - Pipe Insulation
Process	Compressed Air - Motors/Drives/Pumps
Lighting	Systems - Controls

Existing Building Commissioning (EBCx)

HVAC Systems

Comparing current operations with building design documents and current operational intent.

Building Control Systems

Functional Checks: Verifying operation and conditions of mechanical equipment: heating/cooling valves, dampers, filter conditions, etc.

Sensor tests: Readings are taken at control points to compare actual readings to those shown on Building Management System screens.

Control Sequence Review: Comparing intended building control sequences to actual operation to see if modifications have been made that are adversely affecting energy systems.

Why is EBCx needed?

Reasons to look at existing HVAC systems:

Things Break: Common issues include valves and dampers that are stuck.

Space Use Changes: The original design was 60 years old.

Quick Fixes: These often lead to long-term energy waste. Hot/cold calls require a quick remedy, but the fix is rarely the long-term solution.

Opportunities for Savings: Older codes used in the design can be updated to realize energy savings potential.

Air Dampers	Dampers/Actuator Operations – Minimum OA Setpoints
Heating/Cooling Valves	Valve Operations – All season conditions
Coils/Filters	Signs of Dirty Conditions – Heat Exchange
Duct Systems	Leakage – Static Pressure Setpoints
Schedules	Temp Setbacks – Unoccupied Hours – Optimal Start/Off
CV vs VAV	Higher Air Volumes than needed
Sequences	Supply Air/Static Pressure Resets – DCV – ASHRAE 62.1

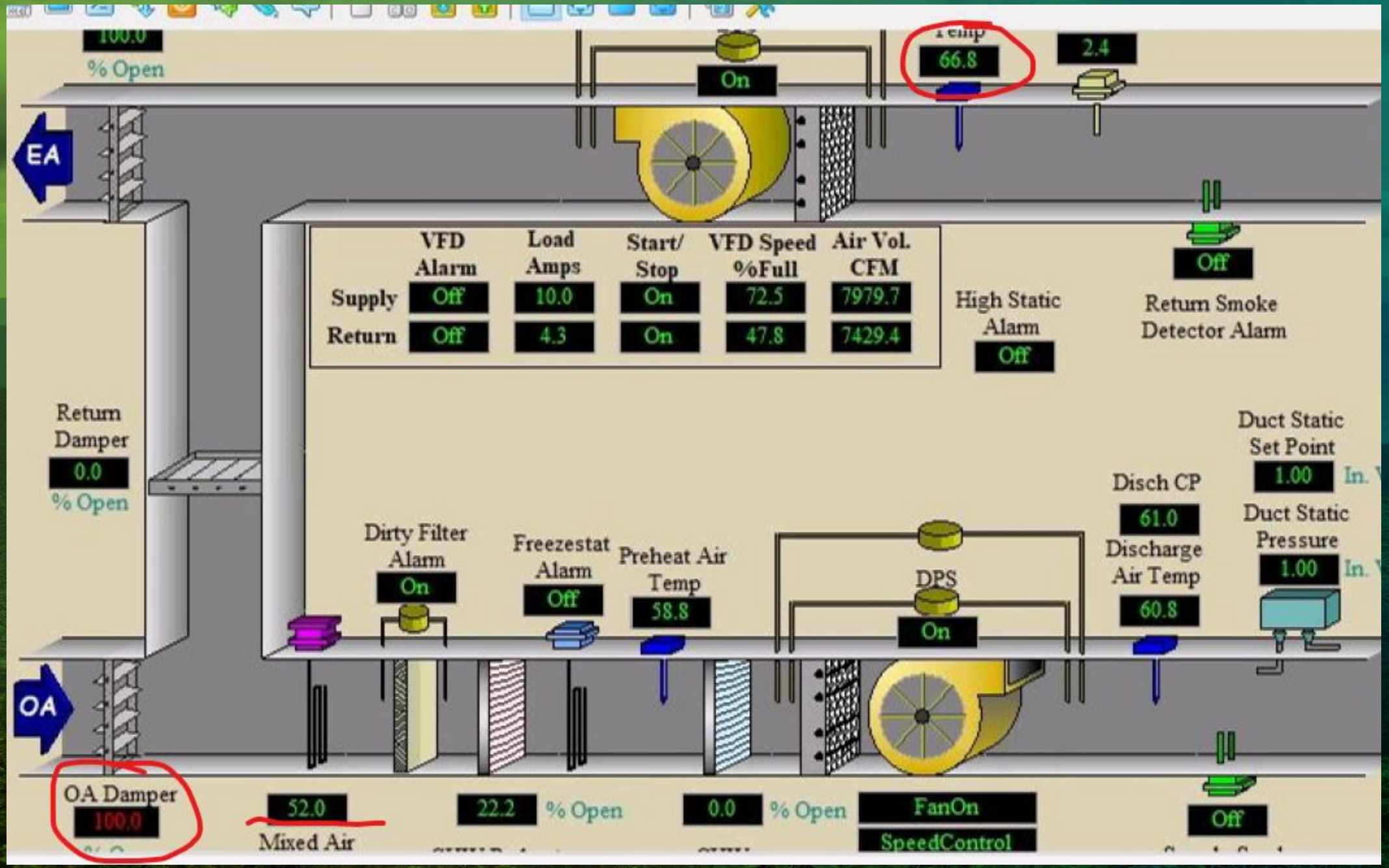
Point Verification Examples:

BUILDING SYSTEMS TO BE TESTED	Sequence of operation available on BAS?	Sequence of operation available other? List where sequence obtained from:
AHU-F2	No	Operations Manual

ANALOG SENSORS	Point Name	BAS Reading	Measured Reading	Calibration Required	Final BAS Reading	Date
Return Air Temperature	Return Temp	72	72.3	No	72	12/7/23
Return Air CO2	Return CO2	1993	593	Yes	1993	12/7/23
Mixed Air Temperature	Mixed Temp	69	71	No	69	12/7/23
Hot Deck Temperature	Hot Deck Temp	77	76	No	77	12/7/23
Cold Deck Temperature	Cold Deck Temp	69	68	No	69	12/7/23

ANALOG OUTPUTS	Point Verified	Comments
Heating Valve	Yes	
Cooling Valve	Yes	Won't close past 50%
OA Damper	Yes	
RM 130 F4-1 Hot Deck	Yes	
RM 130 F4-1 Econo Deck	Yes	

ANALOG OUTPUTS	Point Verified	Comments
OA Damper Modulation	Yes	BAS=50% Measured=10%
Return Damper Modulation	Yes	BAS=10
Heating Valve Modulation	Yes	Unable to test due to weather conditions
DX Cooling	NA	Unable to test due to weather conditions
Face Bypass Damper Modulation	Yes	Not working correctly


100.0
% Open
On
Temp
66.8
2.4
EA
VFD Alarm
Load Amps
Start/ Stop
VFD Speed %Full
Air Vol. CFM
Supply
Off
10.0
On
72.5
7979.7
Return
Off
4.3
On
47.8
7429.4
High Static Alarm
Off
Off
Return Smoke Detector Alarm
Return Damper
0.0
% Open
Duct Static Set Point
1.00
In. W
Disch CP
61.0
Discharge Air Temp
60.8
Duct Static Pressure
1.00
In. W
Dirty Filter Alarm
On
Freezestat Alarm
Off
Preheat Air Temp
58.8
DPS
On
OA
OA Damper
100.0
52.0
Mixed Air
22.2
% Open
0.0
% Open
FanOn
SpeedControl
Off

Incentive process

Coordinate with your utility early in the process

Send us the scope of work with:

- Detail existing conditions
- Proposed changes
- Cost estimate

We will develop an energy savings analysis Incentive offer commitment

After you receive the PO is too late

NHsaves®
Your Source for Energy Efficiency

Thanks for listening.

Matt O'Keefe
okeefe@unitil.com

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