HARVARD DINING

WHAT THEY NEEDED:

In 2008, in conjunction with Harvard University's wider Campus Green initiative, Harvard Dining Services began their search for energy efficiency solutions for their foodservice facilities. On the whole, the Dining Services encompasses over 35 temperature-controlled environments across 11 locations throughout the campus. While they started with obvious upgrades like LED lighting, and heating & air conditioning, they were unaware that their refrigeration could be improved as well until they discovered NRM. They also didn't know that the refrigeration upgrades fell under the energy efficiency incentives programs offered by Eversource, their local utility provider.

If possible, they were also looking for a solution that could help them better manage each of those cold environments. Initially, the market offered basic temperature monitoring tools, devoid of features beyond an ability to see what the space temperature was at that time. Bob Leandro, the Director of Facilities for the Dining Services, wanted more—he wanted the ability to actively manage and monitor his equipment, because they couldn't afford to lose any more equipment.

WHAT NRM PROVIDED:

On the energy efficiency side, NRM upgraded their refrigeration equipment with high-efficiency retrofits. These upgrades included EC motors, evaporator fan controls, a timed system shutdown button, anti-sweat door heater controls, and on-demand defrost. Overall, these improvements recoup about 216,000 kWh (or roughly $35,000) annually from their utility costs. And due to the incentives and the impressive savings, their payback period was quicker than expected.

NRM in-house electricians performed all of the retrofits with no disruption to the Dining Services' normal schedules.

As for Mr. Leandro's desire to improve the oversight of all of his cold environments, Remote Site Manager fit the exact bill. For over five years, Mr. Leandro has been using RSM to remotely monitor his refrigeration equipment and not just his space temperatures. RSM provides him instant email or mobile notification if a mechanical issue is detected, allows him to alter settings or initiate defrosts on-the-fly, automatically tracks and records all of the temperature data, and has visual real-time operating trends to quickly and exactly pinpoint an issue.

SOLUTION SNAPSHOT

Industry:
Higher Ed. Dining Services

Locations:
11

Cold Rooms: 35
Walk-in Coolers
Walk-in Freezers
Novelty Beverage Coolers
Display Cases

Implemented Measures:
Remote Site Manager
CoolTrol (on-site smart controls)
EC Motor Upgrades
Anti-Sweat Door Heater Controls

Annual Energy Savings:
216,000 kWh

Annual $ Savings:
$35,000

CONVENIENT REAL-TIME SUMMARIES

NRM CoolTrol MC Series 4			Temperature °F						Status					Amps	Starts 24 Hr.			% Run 24 Hr.			% Run 7 Days		
Description	Notes	Status	Space	Evap	3rd	Dif	SP	24hr	Mode	Dfrst	Sol	Fan	Door	Comp	Sol	Comp	Fan	Sol	Comp	Fan	Sol	Comp	Fan
A-F4	Walk In Freezer	✈	16	70	73	4	-5	1.1	Run	On	Off	Off	Closed	0.7	12	14	13	78.4	80.8	79.2	78.8	79.9	79.3
A-R1	Dairy Box	✈	36	32		3	35	36.3	Run	Off	Off	Off	Closed	0.8	43	34	101	24.4	20.4	48.2	31.4	27.1	54.1
A-R13	Pantry Walk In	✈	34	33		3	34	35.8	Run	Off	Off	Off	Open	-0.2	44	7	79	35	0.1	62.1	35.5	0.1	63
A-R3	CSG Production Box	✈	35	35		3	34	35.5	Run	Off	Off	On	Closed	1.1	36	9	2	34.8	0.1	99.4	38.1	0.1	99.9
A-R5	Produce Box	✈	39	35	37	3	37	38.5	Run	Off	Off	Off	Closed	0.3	21	10	147	22.6	2.3	60.8	26	6.5	63
A-R6	Meat Box	✈	39	36		3	37	38.6	Run	Off	Off	Off	Closed	-0.3	44	22	107	14.5	6.7	42.1	17.6	11.7	44
QHD-F14	Queenshead Freezer	✈	-4	-7		4	-5	-1.5	Run	Off	On	On	Closed	6.2	73	73	75	39.6	40.4	51.6	42.5	43.3	53.7
QHD-Keg Cooler	Queenshead Keg Cooler	✈	35	32		3	35	36.4	Run	Off	Off	Off	Closed	0.9	50	50	97	28.2	30	52.1	27.3	28.9	51.2
QHD-R15	Queenshead Walk In	✈	36	35		3	36	37.2	Run	Off	Off	Off	Closed	-0.1	32	6	113	15.1	0	41.2	15.3	0.1	41

Remote Site Manager provides a comprehensive real-time summary on your dashboard. Quickly assess 24-hour and 7-day operational metrics such as the number of compressor starts, solenoid, compressor, and evaporator fan runtime percents, the space and evaporator coil temperatures, and more. Also quickly see if any of your cold rooms have active alerts that need to be addressed. Whether on-site or on-the-go, stay tuned to your critical cooling's health status.

OPTIMIZATION BENEFITS

SMART CONTROLS
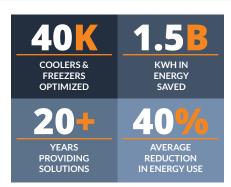
24/7 MONITORING PLATFORM

PREDICTIVE DIAGNOSTICS

IMPROVED EFFICIENCY

ENERGY SAVINGS

EQUIPMENT ALARMS

40K COOLERS & FREEZERS OPTIMIZED

1.5B KWH IN ENERGY SAVED

20+ YEARS PROVIDING SOLUTIONS

40% AVERAGE REDUCTION IN ENERGY USE

WHAT SETS NRM APART? Our small-business approach to big-business problems. Each of our sales, support, and installation teams are comprised of in-house, licensed NRM employees. Our hardware and software are designed, tested, manufactured in, and shipped from our Canton, MA-based facility.

The implementation of NRM's solution is a true turnkey process and requires "zero finger lift" from you. With transparency and courteousness, we manage the project from idea to install. First, an Energy Advisor comes on-site to identify the areas to benefit from optimization, and then our team of engineers develops a custom outcome for your business. We also look for any utility-sponsored incentives to reduce the upfront cost of the project. The physical installation can be performed without interrupting your normal business operations, and all of our installers are factory-trained technicians. NRM is always here for training and support, with a 24/7 technical help line.