



INTEROFFICE COMMUNICATION

District 4

DATE: September 20, 2010

TO: Keith Fletcher, B&HR Administrator

FROM: Paul Oberdorfer, Facility Manager

PO 09/20/10

SUBJECT: MaxR HVAC Test at Distric 4 Headquarters Office Building

Keith,

Attached is the final report of the MaxR100 test that was conducted on several heat pumps in Building C. The Limbach Company was kind enough to participate in the test and evaluation of the product. Their final conclusion was that an acceptable return on investment (ROI) of the MaxR100 product should be between 10 and 15 percent increase in efficiency. Using an average of 12.5 percent increase in efficiency as a conservative estimate, the ROI would be as follows:

End Date	Energy Use	Cost - US Dollars	Cost/kWh
12/11/2009	110,880.00	\$9,957.18	\$0.0898
11/11/2009	114,800.00	\$10,333.41	\$0.0900
10/11/2009	111,040.00	\$10,170.32	\$0.0916
9/11/2009	129,680.00	\$12,925.06	\$0.0997
8/11/2009	112,240.00	\$11,670.33	\$0.1040
7/11/2009	110,480.00	\$11,462.92	\$0.1038
6/11/2009	115,840.00	\$10,538.44	\$0.0910
5/11/2009	98,880.00	\$9,370.91	\$0.0948
4/11/2009	116,800.00	\$9,698.73	\$0.0830
3/11/2009	108,880.00	\$9,428.09	\$0.0866
2/11/2009	148,480.00	\$11,336.05	\$0.0763
1/11/2009	134,160.00	\$10,612.04	\$0.0791

1,412,160.00 \$127,503.48

176,520.00 \$15,937.94

\$30,000

Annual Consumption

12.5% Reduction

Estimated Cost of Installation

at District HQ Office

\$30,000/\$15,937=

1.88

YEAR PAYBACK

The Limbach Company requested that a second phase of the test be conducted to allow for increased statistical analysis. On August 24, Phase II of the test was initiated and will be completed on September 24, 2010. Limbach will be provided a full set of the data for continued evaluation.

Given the extremely short payback of the product based on a conservative 12.5 percent increase in efficiency, I would recommend moving forward with the purchase and installation of the product. The potential energy savings and reduction in carbon footprint across ODOT could equate to as much as 3 to 5 percent of the total mandated 15 percent in energy reductions required under Executive Order 2007-2S.