



Case No.: 12-2833-EL-EEC

Mercantile Customer: Southern Hills Career and Technical Center

Electric Utility: Duke Energy

**Program Title or
Description:** HVAC

Rule 4901:1-39-05(F), Ohio Administrative Code (O.A.C.), permits a mercantile customer to file, either individually or jointly with an electric utility, an application to commit the customer's existing demand reduction, demand response, and energy efficiency programs for integration with the electric utility's programs. The following application form is to be used by mercantile customers, either individually or jointly with their electric utility, to apply for commitment of such programs in accordance with the Commission's pilot program established in Case No. [10-834-EL-POR](#)

Completed applications requesting the cash rebate reasonable arrangement option (Option 1) in lieu of an exemption from the electric utility's energy efficiency and demand reduction (EEDR) rider will be automatically approved on the sixty-first calendar day after filing, unless the Commission, or an attorney examiner, suspends or denies the application prior to that time. Completed applications requesting the exemption from the EEDR rider (Option 2) will also qualify for the 60-day automatic approval so long as the exemption period does not exceed 24 months. Rider exemptions for periods of more than 24 months will be reviewed by the Commission Staff and are only approved up the issuance of a Commission order.

Complete a separate application for each customer program. Projects undertaken by a customer as a single program at a single location or at various locations within the same service territory should be submitted together as a single program filing, when possible. Check all boxes that are applicable to your program. For each box checked, be sure to complete all subparts of the question, and provide all requested additional information. Submittal of incomplete applications may result in a suspension of the automatic approval process or denial of the application.

Any confidential or trade secret information may be submitted to Staff on disc or via email at ee-pdr@puc.state.oh.us.

Section 1: Mercantile Customer Information

Name: **Southern Hills Career and Technical Center**

Principal address: **9193 Hamer Road Georgetown, Ohio 45121**

Address of facility for which this energy efficiency program applies:

9193 Hamer Road Georgetown, Ohio 45121

Name and telephone number for responses to questions:

Grady Reid Jr 513-287-1038

Electricity use by the customer (check the box(es) that apply):

- The customer uses more than seven hundred thousand kilowatt hours per year at the above facility. (**Refer to Appendix A for documentation.**)
- The customer is part of a national account involving multiple facilities in one or more states. (Please attach documentation.)

Section 2: Application Information

A) The customer is filing this application (choose which applies):

- Individually, without electric utility participation.
- Jointly with the electric utility.**

B) The electric utility is: **Duke Energy**

C) The customer is offering to commit (check any that apply):

- Energy savings from the customer's energy efficiency program. (Complete Sections 3, 5, 6, and 7.)
- Capacity savings from the customer's demand response/demand reduction program. (Complete Sections 4, 5, 6, and 7.)
- Both the energy savings and the capacity savings from the customer's energy efficiency program. (Complete all sections of the Application.)**

Section 3: Energy Efficiency Programs

A) The customer's energy efficiency program involves (check those that apply):

- Early replacement of fully functioning equipment with new equipment. (Provide the date on which the customer replaced fully functioning equipment, and the date on which the customer would have replaced such equipment if it had not been replaced early. Please include a brief explanation for how the customer determined this future replacement date (or, if not known, please explain why this is not known)).
- Installation of new equipment to replace equipment that needed to be replaced. The customer installed new equipment on the following date(s): _____.
- Installation of new equipment for new construction or facility expansion. The customer installed new equipment on the following date(s):

March 2010.
- Behavioral or operational improvement.

B) Energy savings achieved/to be achieved by the energy efficiency program:

- 1) If you checked the box indicating that the project involves the early replacement of fully functioning equipment replaced with new equipment, then calculate the annual savings [(kWh used by the original equipment) - (kWh used by new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: _____kWh

- 2) If you checked the box indicating that the customer installed new equipment to replace equipment that needed to be replaced, then calculate the annual savings [(kWh used by less efficient new equipment) - (kWh used by the higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: _____kWh

Please describe any less efficient new equipment that was rejected in favor of the more efficient new equipment.

- 3) If you checked the box indicating that the project involves equipment for new construction or facility expansion, then calculate the annual savings [(kWh used by less efficient new equipment) - (kWh used by higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: **35,832 kWh savings**
(Refer to Appendix B for calculations and supporting documents).

Please describe the less efficient new equipment that was rejected in favor of the more efficient new equipment.

- 4) If you checked the box indicating that the project involves behavioral or operational improvements, provide a description of how the annual savings were determined.
-

Section 4: Demand Reduction/Demand Response Programs

- A) The customer's program involves (check the one that applies):
- Coincident peak-demand savings from the customer's energy efficiency program.**
 - Actual peak-demand reduction. (Attach a description and documentation of the peak-demand reduction.)
 - Potential peak-demand reduction (check the one that applies):
 - The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a tariff of a regional transmission organization (RTO) approved by the Federal Energy Regulatory Commission.
 - The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a program that is equivalent to an RTO program, which has been approved by the Public Utilities Commission of Ohio.

- B) On what date did the customer initiate its demand reduction program?

March 2010

- C) What is the peak demand reduction achieved or capable of being achieved (show calculations through which this was determined):

18.5 kW Refer to Appendix B for calculations and supporting documentation

Section 5: Request for Cash Rebate Reasonable Arrangement (Option 1) or Exemption from Rider (Option 2)

Under this section, check the box that applies and fill in all blanks relating to that choice.

Note: If Option 2 is selected, the application will not qualify for the 60-day automatic approval. All applications, however, will be considered on a timely basis by the Commission.

A) The customer is applying for:

Option 1: A cash rebate reasonable arrangement.

OR

Option 2: An exemption from the energy efficiency cost recovery mechanism implemented by the electric utility.

OR

Commitment payment

B) The value of the option that the customer is seeking is:

Option 1: A cash rebate reasonable arrangement, which is the lesser of (show both amounts):

A cash rebate of **\$2000. Refer to Appendix C**

Option 2: An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider.

An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for ____ months (not to exceed 24 months). (Attach calculations showing how this time period was determined.)

OR

A commitment payment valued at no more than \$_____. (Attach documentation and

calculations showing how this payment amount was determined.)

OR

- Ongoing exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for an initial period of 24 months because this program is part of the customer's ongoing efficiency program. (Attach documentation that establishes the ongoing nature of the program.) In order to continue the exemption beyond the initial 24 month period, the customer will need to provide a future application establishing additional energy savings and the continuance of the organization's energy efficiency program.)

Section 6: Cost Effectiveness

The program is cost effective because it has a benefit/cost ratio greater than 1 using the (choose which applies):

- Total Resource Cost (TRC) Test. The calculated TRC value is: _____ (Continue to Subsection 1, then skip Subsection 2)
- ✓ Utility Cost Test (UCT). The calculated UCT value is **12.95** (Skip to Subsection 2.) **Refer to Appendix D for calculations and supporting documents.**

Subsection 1: TRC Test Used (please fill in all blanks).

The TRC value of the program is calculated by dividing the value of our avoided supply costs (generation capacity, energy, and any transmission or distribution) by the sum of our program overhead and installation costs and any incremental measure costs paid by either the customer or the electric utility.

The electric utility's avoided supply costs were _____.

Our program costs were _____.

The incremental measure costs were _____.

Subsection 2: UCT Used (please fill in all blanks).

We calculated the UCT value of our program by dividing the value of our avoided supply costs (capacity and energy) by the costs to our electric utility (including administrative costs and incentives paid or rider exemption costs) to obtain our commitment.

Our avoided supply costs were **\$40,281**.

The utility's program costs were **\$1,110**.

The utility's incentive costs/rebate costs were **\$2000**.

Refer to Appendix D for calculations and supporting documents.

Section 7: Additional Information

Please attach the following supporting documentation to this application:

Narrative description of the program including, but not limited to, make, model, and year of any installed and replaced equipment.

A copy of the formal declaration or agreement that commits the program or measure to the electric utility, including:

- 1) any confidentiality requirements associated with the agreement;
- 2) a description of any consequences of noncompliance with the terms of the commitment;
- 3) a description of coordination requirements between the customer and the electric utility with regard to peak demand reduction;
- 4) permission by the customer to the electric utility and Commission staff and consultants to measure and verify energy savings and/or peak-demand reductions resulting from your program; and,
- 5) a commitment by the customer to provide an annual report on your energy savings and electric utility peak-demand reductions achieved.

Refer to Offer Letter following this application

A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results. Additionally, identify and explain all deviations from any program measurement and verification guidelines that may be published by the Commission.



DUKE ENERGY
Mercantile Self Direct Program
139 East Fourth Street
Cincinnati, OH 45202
513 629 5572 fax

August 28, 2012

Mr. Kevin Kratzer
Southern Hills Career and Technical Center
9193 Hamer Road
Georgetown, Ohio 45121

Subject: Your **(CUSTOM)** Application for a Duke Energy Mercantile Self-Direct Rebate

Dear Mr. Kratzer:

Thank you for your Duke Energy Mercantile Self Direct rebate application. As noted in the Energy Conservation Measure (ECM) chart on page two, a total rebate of \$2000.00 has been proposed for your HVAC project completed in the 2010 calendar year. **All Self Direct Rebates are contingent upon approval by the Public Utilities Commission of Ohio (PUCO).**

At your earliest convenience, please indicate if you accept this rebate by

- providing your signature on page two
- completing the PUCO-required affidavit on page three.

Please return the documents to my attention via fax at 513-629-5572 or e-mail to SelfDirect@Duke-Energy.com. Upon receipt, Duke Energy will submit the necessary documentation to PUCO. Following PUCO's approval, Duke Energy will remit payment.

At Duke Energy, we value your business and look forward to working with you on this and future energy efficiency projects. We hope you will consider our Smart Saver® incentives, when applicable. Please contact me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Grady Reid, Jr.".

Grady Reid, Jr
Product Manager
Mercantile Self Direct Rebates

cc: Warren Walker, Duke Energy
Rob Jung, WECC
Lucas Dixon, PlugSmart

Please indicate your response to this rebate offer within 30 days of receipt.

Rebate is accepted.

Rebate is declined.

By accepting this rebate, Southern Hills Career and Technical Center affirms its intention to commit and integrate the energy efficiency projects listed on the following pages into Duke Energy's peak demand reduction, demand response and/or energy efficiency programs.

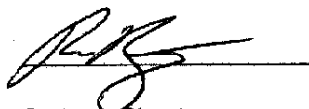
Additionally, Southern Hills Career and Technical Center also agrees to serve as joint applicant in any future filings necessary to secure approval of this arrangement as required by PUCO and to comply with any information and reporting requirements imposed by rule or as part of that approval.

Finally, Southern Hills Career and Technical Center affirms that all application information submitted to Duke Energy pursuant to this rebate offer is true and accurate. Information in question would include, but not be limited to, project scope, equipment specifications, equipment operational details, project costs, project completion dates, and the quantity of energy conservation measures installed.

If rebate is accepted, will you use the monies to fund future energy efficiency and/or demand reduction projects?

YES NO

If rebate is declined, please indicate reason (optional):



Customer Signature

Kevin Kratzer

Printed Name

10-22-12

Date

Proposed Rebate Amounts

Measure ID	Energy Conservation Measure (ECM)	Proposed Rebate Amount
ECM-1	Energy Recovery Ventilator (Qty - 1)	\$2000.00
Total		\$2000.00

Ohio Public Utilities Commission

Application to Commit Energy Efficiency/Peak Demand Reduction Programs (Mercantile Customers Only)

Case No.: _____ -EL-EEC

State of Ohio :

Kevin Kratzer, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

Southern Hills Career + Technical Center
[insert customer or EDU company name and any applicable name(s) doing business as]

2. I have personally examined all the information contained in the foregoing application, including any exhibits and attachments. Based upon my examination and inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete.

3. I am aware of fines and penalties which may be imposed under Ohio Revised Code Sections 2921.11, 2921.31, 4903.02, 4903.03, and 4903.99 for submitting false information.

[Signature] Superintendent, SHJVSD
Signature of Affiant & Title

Sworn and subscribed before me this 22nd day of October,
2012 Month/Year

Anita Carmen Arn
Signature of official administering oath

Anita Carmen Arn
Print Name and Title

My commission expires on 2/19/2013

Anita Carmen Arn
Notary Public, State of Ohio
My Commission Expires
February 19, 2013



14800791 01	Meter # 11640174
SOUTHERN HILLS JOINT	
9193 HAMER RD	
GEORGETOWN, OH 45121	
Date	Actual KWH
7/20/2012	86,770
6/20/2012	83,073
5/21/2012	32,130
4/20/2012	27,340
3/21/2012	26,818
2/21/2012	27,464
1/23/2012	31,669
12/20/2011	28,262
11/18/2011	24,897
10/20/2011	26,147
9/21/2011	101,046
8/22/2011	85,888
Total	581,504

14800791 01	Meter # 106032659
SOUTHERN HILLS JOINT	
9193 HAMER RD	
GEORGETOWN, OH 45121	
Date	Actual KWH
7/20/2012	86,770
6/20/2012	83,073
5/21/2012	61,409
4/20/2012	61,485
3/21/2012	61,247
2/21/2012	60,006
1/23/2012	62,016
12/20/2011	63,788
11/18/2011	58,975
10/20/2011	54,958
9/21/2011	101,046
8/22/2011	85,888
Total	840,661

DETAILED CALCULATIONS

JAN 2012 V2.0

Salesforce Opportunity Name **Southern Hills Career and Technical Center - Heating & Cooling** Application # **12-478 MSD** Rev. **0**
 Project Name **Southern Hills Career and Technical Center - Heating and Cooling** State **OH**
 ECM **1** Southern Hills Career and Technical Center - Heating and Cooling - Energy Recovery Wheel

Note: all data from "Duke.SouthernHillCC.HRW.Calcs.xlsx", except as otherwise noted

USA_OH_Cincinnati.Muni.AP-Lunken.Field.724297_TMY3.bin
 HEAT RECOVERY WHEEL SAVINGS AHU-1

Minimum Fraction Outdoor Air: 54.54%
 Heat Recover Effectiveness: 71.0%
 Set Point Temperature: 74 F
 Set Point Enthalpy: 29.497 Btu/lba
 Supply Air Temperature: 48.3 F
 Supply Air Enthalpy: 19.597 Btu/lba
 Supply Air Volume: 55,390 cfm
 Supply Air Density: 0.075 lb/ft^3

StrTemp (F)	EndTemp (F)	Toa (F)	hoa (Btu/lba)	hrs	foa	Tma (F)	hma (Btu/lba)	Savings Q (mmBTU)	Baseline Q (mmBTU)	Proposed Q (mmBTU)
105	109	107.0	0	0	55%	92.0	13.41	0.00	0.00	0.00
100	104	102.0	0	0	55%	89.3	13.41	0.00	0.00	0.00
95	99	96.1	42.6	12	55%	86.1	36.64	15.18	21.38	6.20
90	94	92.2	39.6	41	55%	83.9	35.01	39.98	56.31	16.33
85	89	87.6	37.7	142	55%	81.4	33.97	112.43	158.35	45.92
80	84	82.4	35.0	250	55%	78.6	32.50	132.79	187.02	54.24
75	79	77.2	33.4	287	55%	75.7	31.63	108.12	152.28	44.16
70	74	72.5	31.9	241	100%	72.5	31.90	102.49	144.35	41.86
65	69	68.0	29.1	252	100%	68.0	29.10	0.00	0.00	0.00
60	64	62.6	24.8	322	100%	62.6	24.80	0.00	0.00	0.00
55	59	57.1	21.9	222	100%	57.1	21.90	0.00	0.00	0.00
50	54	52.0	19.2	226	100%	52.0	19.20	0.00	0.00	0.00
45	49	47.5	17.3	151	97%	48.3	17.67	0.00	0.00	0.00
40	44	43.1	15.2	211	83%	48.3	17.61	0.00	0.00	0.00
35	39	37.6	12.9	206	71%	48.3	17.78	0.00	0.00	0.00
30	34	32.4	10.8	135	62%	48.3	17.95	0.00	0.00	0.00
25	29	27.7	9.0	99	56%	48.3	18.12	0.00	0.00	0.00
20	24	23.3	7.5	66	55%	46.3	17.50	0.00	0.00	0.00
15	19	18.3	5.9	36	55%	43.6	16.63	0.00	0.00	0.00
10	14	12.5	4.1	16	55%	40.5	15.65	0.00	0.00	0.00
5	9	7.5	2.7	5	55%	37.7	14.88	0.00	0.00	0.00
0	4	3.0	1.4	0	55%	35.3	14.17	0.00	0.00	0.00
Annual Total mmBTU:								510.98	719.69	208.71

Energy recovery wheel motor	
Motor Size hp:	1.0
Load Factor:	0.85
Motor Efficiency:	82.5%
hp to kW conversion:	0.7456
Motor kW:	0.768
Motor kWh:	941

Annual Ton-hours:	42,582	59,974	17,392
Chiller IPLV:	14.9	14.9	14.9
Chiller kW/Ton:	0.805	0.805	0.805
Cooling kWh:	34,294	48,301	14,007
Heat Recovery Hours of Operation:	1,225	1,225	1,225
Cooling kW:	28.00	39.43	11.43

Allocation of annual savings by month (Added During Tech Review)

Trade ally only provided annual savings numbers. Use % of cooling degree days by month to distribute annual savings appropriately.

Cooling Degree Day Source: <http://www.climate-zone.com/climate/united-states/ohio/greater-cincinnati-airport/>

	Jan	Feb	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Annual
CDD by Month	0.0	0.0	0.0	0.0	86.0	191.0	313.0	266.0	120.0	20.0	0.0	0.0	996.0
Degree Days % of Annual	0.0%	0.0%	0.0%	0.0%	8.6%	19.2%	31.4%	26.7%	12.0%	2.0%	0.0%	0.0%	100%
Degree Days % of Maximum	0.0%	0.0%	0.0%	0.0%	27.5%	61.0%	100.0%	85.0%	38.3%	6.4%	0.0%	0.0%	
Baseline kWh	0	0	0	0	4,171	9,263	15,179	12,900	5,819	970	0	0	48,301
Proposed kWh	0	0	0	0	1,291	2,867	4,698	3,992	1,801	300	0	0	14,948
kWh Savings	0	0	0	0	2,880	6,396	10,481	8,908	4,018	670	0	0	33,353
Baseline kW	0.00	0.00	0.00	0.00	10.83	24.06	39.43	33.51	15.12	2.52	0.00	0.00	39.43
Proposed kW	0.00	0.00	0.00	0.00	3.35	7.45	12.20	10.37	4.68	0.78	0.00	0.00	12.20
kW Savings	0.00	0.00	0.00	0.00	7.48	16.61	27.23	23.14	10.44	1.74	0.00	0.00	27.23

Appendix C -Cash Rebate Calculation

Southern Hills Career Technical Center

Measure	Quantity	Cash Rebate Rate	Cash Rebate
Heat recovery unit added AHU 1	1	50% of incentive that would be offered by the Smart \$aver Custom program	\$2,000
			\$2,000

Appendix D -UCT Value

Southern Hills Career Technical Center

Measure	Total Avoided Cost	Program Cost	Incentive	Quantity	Measure UCT
Heat Recovery Unit added to AHU 1	\$40,281	\$1,110	\$2,000	1	12.95
Totals	\$40,281	\$1,110	\$2,000	1	

Total Avoided Supply Costs	\$40,281		<i>Aggregate Application UCT</i>	12.95
Total Program Costs	\$1,110			
Total Incentive	\$2,000			

Ohio Mercantile Self Direct Program

Application Guide & Cover Sheet

Questions? Call 1-866-380-9580 or visit www.duke-energy.com.

Email this form along with completed Mercantile Self Direct Prescriptive or Custom applications, proof of payment, energy savings calculations and spec sheets to SelfDirect@Duke-Energy.com. You may also fax to 1-513-419-5572.

Mercantile customers, defined as using at least 700,000 kWh annually are eligible for the Mercantile Self Direct program. Please indicate mercantile qualification:

- a single Duke Energy Ohio account
 multiple accounts in Ohio (energy usage with other utilities may be counted toward the total)

Please list Duke Energy account numbers below (attach listing of multiple accounts an/or billing history for other utilities as required):

Account Number	Annual Usage	Account Number	Annual Usage
1480-0791-01-5			
2760-3679-01-0			
5570-3625-01-0			
6440-2221-01-0			

Self Direct rebates are available for completed Custom projects that have not previously received a Duke Energy Smart \$aver® Custom Incentive. Self Direct incentives are applicable to Prescriptive measures that were installed more than 90 days prior to submission to Duke Energy and have not previously received a Duke Energy Prescriptive rebate.

Self Direct Program requirements dictate that certain projects that may be Prescriptive in nature under the Smart \$aver program must be evaluated using the Custom process. Use the table on page two as a guide to determine which Self Direct program fits your project(s). Apply for Self Direct projects using the appropriate application forms in conjunction with this cover sheet. Where Mercantile Self Direct Prescriptive applications are listed, please refer to the measure list on that application. If your measure is not listed, you may be eligible for a Self Direct Custom rebate. Self Direct Custom applications, like Smart \$aver Custom applications, should include detailed analysis of pre-project and post-project energy usage and project costs. Please indicate which type of rebate applications are included in the table provided on page two.

Please check each box to indicate completion of the following program requirements:

<input checked="" type="checkbox"/> All sections of appropriate application(s) are completed	<input checked="" type="checkbox"/> Proof of payment.*	<input checked="" type="checkbox"/> Manufacturer's Spec sheets	<input checked="" type="checkbox"/> Energy model/calculations and detailed inputs for Custom applications
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* If a single payment record is intended to demonstrate the costs of both Prescriptive & Custom projects, please include an additional document with an estimated breakout of costs for each Prescriptive and Custom energy conservation measure.

Application Type	Replaced equipment at end of lifetime or because equipment failed**	Replaced fully operational equipment to improve efficiency***	New Construction
Lighting	MSD Custom Part 1 <input type="checkbox"/> Custom Lighting Worksheet <input type="checkbox"/>	MSD Prescriptive Lighting <input type="checkbox"/>	MSD Prescriptive Lighting <input type="checkbox"/>
		MSD Custom Part 1 <input type="checkbox"/> Custom Lighting Worksheet <input type="checkbox"/>	MSD Custom Part 1 <input type="checkbox"/> Custom Lighting Worksheet <input type="checkbox"/>
Heating & Cooling	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>	MSD Prescriptive Heating & Cooling <input type="checkbox"/>
			MSD Custom Part 1 <input checked="" type="checkbox"/> MSD Custom General Worksheet <input checked="" type="checkbox"/>
Window Films, Programmable Thermostats, & Guest Room Energy Management Systems	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General and/or EMS Worksheet(s) <input type="checkbox"/>	MSD Prescriptive Heating & Cooling <input type="checkbox"/>	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General and/or EMS Worksheet(s) <input type="checkbox"/>
Chillers & Thermal Storage	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>	MSD Prescriptive Chillers & Thermal Storage <input type="checkbox"/>
			MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>
Motors & Pumps	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>	MSD Prescriptive Motors, Pumps & Drives <input type="checkbox"/>
			MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>
VFDs	Not Applicable	MSD Prescriptive Motors, Pumps & Drives <input type="checkbox"/>	MSD Custom Part 1 <input type="checkbox"/> MSD Custom VFD Worksheet <input type="checkbox"/>
		MSD Custom Part 1 <input type="checkbox"/> MSD Custom VFD Worksheet <input type="checkbox"/>	
Food Service	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>	MSD Prescriptive Food Service <input type="checkbox"/>
			MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>
Process	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>	MSD Prescriptive Process <input type="checkbox"/>	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>
		MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>	
Energy Management Systems	MSD Custom Part 1 <input type="checkbox"/> MSD Custom EMS Worksheet <input type="checkbox"/>	MSD Custom Part 1 <input type="checkbox"/> MSD Custom EMS Worksheet <input type="checkbox"/>	MSD Custom Part 1 <input type="checkbox"/> MSD Custom EMS Worksheet <input type="checkbox"/>
Behavioral*** & No/Low Cost	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>		

** Under the Self Direct program, failed equipment and equipment at the end of its useful life are evaluated differently than early replacement of fully functioning equipment. **All equipment replacements due to failure or old age will be evaluated via the Custom program.**

*** Please ensure that you include the age of the replaced equipment for measures classified as "Early Replacement" in your application as well as the estimated date that you would have otherwise replaced the existing equipment if you had not chosen a more energy efficient option.

**** Behavioral energy efficiency and demand reduction projects must be both measurable and verifiable. Provide justification with your application.

Mercantile Self Direct Nonresidential Custom Rebate Application PART 1



Proposed energy efficiency measures may be eligible for Self-Direct Custom rebates if they clearly reduce electrical consumption and/or demand as compared to the appropriate baseline.

Before you complete this application, please note the following important criteria:

- Submitting this application does not guarantee a rebate will be approved.
- Rebates are based on electricity conservation only.
- Electric demand and/or energy reductions must be well documented with auditable calculations.
- Incomplete applications cannot be reviewed; all fields are required.

Refer to the complete list of Instructions and Disclaimers, beginning on page 6.

Notes on the Application Process

If you have any questions concerning how to complete any portion of the application or what supplementary information is required, please contact your Duke Energy Ohio, Inc account manager or the Duke Energy Smart Saver® team at 1-866-380-9580.

Every application must include calculations of the baseline electrical usage and the electrical usage of the proposed high-efficiency equipment/system. Monthly calculations are best. You, the Duke Energy Ohio customer, or your equipment vendor / engineer should perform these calculations and submit them to Duke Energy for review. *We strongly encourage the use of modeling software (such as eQuest or comparable) for complex projects.*

Upon receipt of your application, an acknowledgement email will be sent to you with an estimated response time based on an initial assessment of your application. The application review may include some communication to resolve any questions about the project or to request additional information. Applications that are received complete without missing information have a faster review time.

There are two ways to submit your completed application.

Email your scanned form to: SelfDirect@duke-energy.com

Or, fax your form to 513-419-5572

**Mercantile Self Direct
Nonresidential Custom Rebate Application
PART 1**



1. Contact Information (Required)

Duke Energy Customer Contact Information					
Company Name	Southern Hill Career and Tech Center				
Address	9193 Hamer Rd				
Project Contact	Kevin Kratzer				
City	Georgetown	State	Ohio	Zip Code	45121
Title	Superintendent				
Office Phone	937-378-6131 x303	Mobile Phone		Fax	
E-mail Address	kevin.kratzer@shctc.k12.oh.us				

Equipment Vendor / Contractor / Architect / Engineer Contact Information					
Company Name	Plug Smart				
Address	1275 Kinnear Road Suite 229				
City	Columbus	State	OH	Zip Code	43212
Project Contact	Lucas Dixon				
Title	Operations Manager				
Office Phone	614-580-3352	Mobile Phone		Fax	1-800-518-5576
E-mail Address	lucas.dixon@plugsmart.com				
Describe Role	Ensures rebate is correctly applied for				

Payment Information					
Payee Legal Company Name (as shown on Federal income tax return):	Souther Hill Career and Tech Center				
Mailing Address	9193 Hamer Rd				
City	Georgetown	State	Ohio	Zip Code	45121
Type of organization (check one) <input type="checkbox"/> Individual/Sole Proprietor <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Unit of Government <input type="checkbox"/> Non-Profit (non-corporation)					
Payee Federal Tax ID # of Legal Company Name Above:	31-0793753				
Who should receive incentive payment? (select one) <input checked="" type="checkbox"/> Customer <input type="checkbox"/> Vendor (Customer must sign below)					
If the vendor is to receive payment, please sign below: I hereby authorize payment of incentive directly to vendor:					
Customer Signature _____ Date ____/____/____ (mm/dd/yyyy)					

**Mercantile Self Direct
Nonresidential Custom Rebate Application
PART 1**



2. Project Information (Required)

- A. Please indicate project type:
- New Construction
 - Expansion at an existing facility
 - Replacing equipment due to equipment failure
 - Replacing equipment that is estimated to have remaining useful life of 2 years or less
 - Replacing equipment that is estimated to have remaining useful life of more than 2 years
 - Behavioral, operational and/or procedural programs/projects
- B. Please describe your project, or attach a detailed project description that describes the project.
New public Career technical center
- C. When did you start and complete implementation?
Start date 06/2006 (mm/yyyy) End date 03/ 2010 (mm/yyyy)
- D. Are you also applying for Self-Direct Prescriptive incentives and, if so, which one(s)¹?
Premium efficient pumps, Premium efficient motors, Efficient lighting, Prescriptive occupancy sensors.
- E. Please indicate which worksheet(s) you are submitting for this application (check all that apply):
- Lighting
 - Variable Frequency Drive (VFD)
 - Compressed Air
 - Energy Management System (EMS)
 - General (for projects not easily submitted using one of the above worksheets)
- F. Please tell us if there is anything about your electrical energy projections (either for the baseline or the proposed project) that you are either unsure about or for which you have made significant assumptions. Attach additional sheets as needed.

Required: Attach a supplier or contractor invoice or other equivalent information documenting the Implementation Cost for each project listed in your application. (Note: self-install costs cannot be included in the Implementation Cost)

¹ If your project involves some equipment that is eligible for prescriptive incentives and some equipment that is likely eligible for custom incentives, and if it is feasible to separate the equipment for the energy analysis, then the equipment will be evaluated separately. If it is not feasible to separate the equipment for analysis, then the equipment will be evaluated together in the custom application.

**Mercantile Self Direct
Nonresidential Custom Rebate Application
PART 1**



3. Signature (Required – must be signed by Duke Energy customer)


Customer Consent to Release of Personal Information

I, (insert name) _____, do hereby consent to Duke Energy disclosing my Duke Energy Ohio, Inc Account Number and Federal Tax ID Number to its subcontractors solely for the purpose of administering Duke Energy Ohio's Mercantile Self-Direct Program. I understand that such subcontractors are contractually bound to otherwise maintain my Duke Energy Ohio, Inc Account Number and Federal Tax ID Number in the strictest of confidence.

I realize that under the rules and regulations of the public utilities commission, I may refuse to allow Duke Energy Ohio, Inc to release the information set forth above. By my signature, I freely give Duke Energy Ohio, Inc permission to release the information designated above.

Application Signature

I certify that I meet the eligibility requirements of the Duke Energy Ohio, Inc Mercantile Self Direct Custom Incentives Program and that all information provided within this application is correct to the best of my knowledge. I agree to the terms and conditions set forth for this program. I certify that the numbers, energy savings, and responses shown on this form are correct. Further, I certify that the taxpayer identification number is current and correct. I am not subject to backup withholding because: (a) I am exempt from backup withholding; or (b) I have not been notified by the IRS that I am subject to backup withholding as a result of a failure to report all interest or dividends; or (c) the IRS has notified me that I am no longer subject to backup withholding. I am a U.S. citizen (includes a U.S. resident alien).



Duke Energy Ohio, Inc Customer Signature

Print Name Kevin Kratzer

Date 6/11/2012

**Mercantile Self Direct
Nonresidential Custom Rebate Application
PART 1**



Checklist for completing the Application

INCOMPLETE APPLICATIONS WILL RESULT IN DELAYS IN DUKE ENERGY PROCESSING YOUR APPLICATION AND NOTIFYING YOU CONCERNING ANY REBATES. Before submitting the application and the required supplementary information, use the following checklist to ensure that your application is complete and the information in the application is accurate. (Note: this checklist is for your use only – do not submit this checklist with your application)

Section No. & Title	Have You:
1. Contact Information	<input checked="" type="checkbox"/> Completed the contact information for the Duke Energy customer? <input checked="" type="checkbox"/> Completed the contact information for the equipment vendor / project engineer that can answer questions about the technical aspects of the project, if that is a different person than above?
2. Project Information	<input checked="" type="checkbox"/> Answered the questions A-E, including providing a description of your project. <input checked="" type="checkbox"/> Completed and attached the lighting, compressed air, VFD, EMS and/or General worksheet(s)?
3. Signature	<input checked="" type="checkbox"/> Signed your name? <input checked="" type="checkbox"/> Printed your name? <input checked="" type="checkbox"/> Entered the date?
Supplementary information (Required)	<input checked="" type="checkbox"/> Attached a supplier or contractor's invoice or other equivalent information documenting the Implementation Cost for projects listed in your application? (Note: self-install costs cannot be included in the Implementation Cost) <input checked="" type="checkbox"/> (If submitting the General Worksheet) attached calculations documenting the energy usage and energy savings for each project listed in your application?

If you have any questions concerning how to complete any portion of the application or what supplementary information is required, please contact:

- your Duke Energy account manager
- or,
- the Duke Energy Smart \$aver® team at 1-866-380-9580.

Mercantile Self Direct Nonresidential Custom Rebate Application PART 1



Instructions/Terms/Conditions

Note: Please keep for your records- do not submit with the application

1. Energy service companies or contractors may assist in preparing the application, but an authorized representative of the customer must sign this application to be eligible to participate in the Mercantile Self Direct Program. Completion of this application does not guarantee the approval of a Self Direct Custom Rebate.
2. Once all documentation requested in this application is received by *Duke Energy Ohio, Inc*, and any follow-up information requested by *Duke Energy* is received, the rebate amount for each Energy Conservation Measure (ECM) will be communicated to the customer. The rebate amount will be based on ECM energy savings and ECM incremental installation cost.
3. All rebates require approval by the Public Utilities Commission of Ohio. *Duke Energy Ohio, Inc* will submit an application for rebate on the customer's behalf upon customer attestation to program terms, conditions and requirements as outlined in the rebate offer letter and upon customer completion of attestation documents required by the Public Utilities Commission of Ohio.
4. *Duke Energy Ohio, Inc* will issue a Self Direct Custom Rebate check, based on the approved rebate amount for each ECM, upon receiving approval from the Public Utilities Commission of Ohio. *Duke Energy Ohio, Inc* does not guarantee PUCO approval.
5. With the application, the customer must provide a list of all sites where the ECMs were installed. *Duke Energy Ohio, Inc* requests that sites of similar size, hours of operation and energy consuming characteristics be grouped together in one application for the determination of the rebate amount. The application should identify the site where each unique ECM was installed.
6. Based on the information submitted with the application and the information gathered both before and after the initial installation of the ECM, *Duke Energy Ohio, Inc* will calculate the rebate amount for each ECM.
7. *Duke Energy Ohio, Inc* may conduct random site inspections of a sample of the locations where the ECMs are installed to verify installation and operability of the ECMs and to obtain information needed to calculate the Approved Incentive Amount.
8. Customers are encouraged to retain copies of all forms, invoices and supporting documentation for their records.
9. Approved rebates are valid for 6 months from the date communicated to the customer by *Duke Energy Ohio, Inc*, subject to the expiration of measure eligibility based on project completion dates and application submission deadlines as defined by PUCO. Customers are encouraged to execute their rebate offer contracts and PUCO-required affidavits promptly to ensure eligibility is not forfeited.
10. *Duke Energy Ohio, Inc* reserves the right to recover all unrecoverable costs associated with the project approval if the customer decides not to execute the rebate contract, after the project is approved by *Duke Energy Ohio, Inc*.
11. Projects financially supported by other funding sources will be evaluated on a case-by-case basis for potential partial funding from *Duke Energy Ohio, Inc*.
12. Participants must be *Duke Energy Ohio, Inc* nonresidential, mercantile customers with the project sites in the *Duke Energy Ohio, Inc* service territory.

**Mercantile Self Direct
Nonresidential Custom Rebate Application
PART 1**



13. Customers or trade allies may not use any *Duke Energy* logo without prior written permission.
14. Only trade allies registered with *Duke Energy* are eligible to participate.
15. All equipment must be new. Used or rebuilt equipment is not eligible for incentives. All old existing equipment must be removed on retrofit projects.
16. Disclaimers: *Duke Energy Ohio, Inc*
 - a. does not endorse any particular manufacturer, product or system design within the program;
 - b. will not be responsible for any tax liability imposed on the customer as a result of the payment of incentives;
 - c. does not expressly or implicitly warrant the performance of installed equipment. (Contact your contractor for details regarding equipment warranties.);
 - d. is not responsible for the proper disposal/recycling of any waste generated or obsolete or old equipment as a result of this project;
 - e. is not liable for any damage caused by the installation of the equipment nor for any damage caused by the malfunction of the installed equipment; and
 - f. reserves the right to change or discontinue this program at any time. The acceptance of program applications is determined solely by *Duke Energy Ohio, Inc*.



The General Worksheet is part 2 of the application. Do not submit this file without submitting a completed Part1 Custom Application document file, which can be found at www.duke-energy.com. This worksheet is for all projects that are not easily submitted through one of the other worksheets

Before you complete this application, please note the following important criteria:

- Submitting this application does not guarantee an incentive will be approved.
- Incentive already decided to proceed.
- Electric demand and/or energy reductions must be well documented with auditable calculations.
- Incomplete applications will not be reviewed; all fields are required.

Refer to the complete list of Instructions and Disclaimers, found in the Mercantile Self Direct Custom Application Part 1 document.

**Please enter your information and data into the cells that are shaded.
Cells in white are locked and cannot be written over.**

Duke Energy Customer Contact Information (Match the information in Application Part 1):

Name	Keven Kratzer
Company	Southern Hill Carrer and Tech Center

Equipment Vendor / Project Engineer Contact Information

Name	Lucas Dixon
Company	Plug Smart

Before proceeding with the custom application, please verify that your project is not on the Self-Direct Prescriptive application.

The prescriptive incentive applications can be found at:

<http://www.duke-energy.com/ohio-large-business/smart-saver/mercantile-self-direct.asp>

Prescriptive rebate amounts are pre-approved.



For each project, answer the following questions (use one worksheet per project)

App No.	0
Rev.	0

Project Name: **Heat Recovery Wheel**

How would you classify this project? (Place an x in all boxes that apply.)

Lighting		Heating/Cooling	X	Air Compressor		Energy Management System	
VFD		Motors/Pumps		Process Equipment		Other, describe below:	

Brief Project Description

Describe the Baseline (see note 3)	Equipment/System	Describe the Proposed High Efficiency Project
Air handler without heat recovery		Aid handler with heat recovery

If Existing Equipment is the Baseline, how many years of useful life remain or how many years until scheduled replacement?

Detailed Project Description Attached? Yes (Required)

Operating Hours (see note 4)

24 x 7	Weekday		Saturday		Sunday		Weeks of Use in Year (see note 5)	Total Annual Hours of Use
	Start Hour	End Hour	Start Hour	End Hour	Start Hour	End Hour		
No	7:00 AM	3:00 PM					29	1,225

Energy Savings

	Baseline (see Note 3)	Proposed	Savings	Describe how energy numbers were calculated
Annual Electric Energy	34,294 kWh	0 kWh	34,294 kWh	baseline is listed as the savings with proposed at 0 kWh. See attached DUKE Southern
Electric Demand	0 kW	0 kW	0 kW	
Calculations attached	Yes	Yes	(Required)	

Simple Payback

Average electric rate (\$/kWh) on the applicable accounts (see note 6)	\$0.08
Estimated annual electric savings	\$2,744
Other annual savings in addition to electric savings, such as operations, maintenance, other fuels	
Incremental cost to implement the project (equipment & installation) (see note 7)	
Copy of vendor proposal is attached (see note 8)	Yes
Simple Electric Payback in years (see note 9)	0
Total Payback in years	0

3 Baseline

Retrofit projects: the existing equipment is the baseline.
 New construction projects: the baseline is the standard option in today's market, taking into account any applicable organizational, local, state or federal codes or standards currently in effect.

4 Operating Hours

Describe when the equipment is typically used. If the project is proposed for more than one site, provide any variations in operating hours between the sites on a separate sheet.

5 Weeks of Use in Year

If the equipment is not in use 52 weeks during the year (for example, during holiday or summer break), provide an explanation of when usage is not expected and why: **Used year round but savings are only claimed during summer heating season**

6 Average electric rate (\$/kWh)

If you do not know your average electric rate, use \$0.10/kWh.

7 Incremental cost to implement the project

Costs exclude self installation costs. Retrofit projects, incremental cost is the total cost of the proposed project. New construction or where the existing equipment must be replaced anyway, then incremental cost is the premium of the proposed high efficiency project over baseline.

8 Copy of vendor invoice is attached

Vendor invoices detailing costs of the project are always required.
 New construction projects or where the existing equipment must be replaced anyway, vendor proposal of baseline must also be attached.

9 Simple Electric Payback

If the simple electric payback is less than 1 year, the rebate structure is affected. Double check average electric rate for correct payback.

HEAT RECOVERY WHEEL SAVINGS

AHU-1

INPUTS

Minimum Fraction Outdoor Air:	55%
Heat Recover Effectiveness:	71.0%
Set Point Temperature:	74 F
Set Point Enthalpy:	29.50 Btu/lba
Supply Air Temperature:	48.3 F
Supply Air Enthalpy:	19.60 Btu/lba
Supply Air Volume:	55390 cfm
Supply Air Density:	0.075 lb/ft^3

Rate:	\$0.08
Chiller IPLV	14.9

SAVINGS

Cooling kWh:	34,293.93
Dollars:	\$2,743.51
75%	\$2,057.64

StrTemp	EndTemp	Toa(F)	hoa(Btu/lba)	hrs	foa	Tma(F)	hma(Btu/lba)	Q (mmBTU)
105	109	107.0	0	0	55%	92.0	13.41	0.00
100	104	102.0	0	0	55%	89.3	13.41	0.00
95	99	96.1	42.6	12	55%	86.1	36.64	15.18
90	94	92.2	39.6	41	55%	83.9	35.01	39.98
85	89	87.6	37.7	142	55%	81.4	33.97	112.43
80	84	82.4	35.0	250	55%	78.6	32.50	132.79
75	79	77.2	33.4	287	55%	75.7	31.63	108.12
70	74	72.5	31.9	241	100%	72.5	31.90	102.49
65	69	68.0	29.1	252	100%	68.0	29.10	0.00
60	64	62.6	24.8	322	100%	62.6	24.80	0.00
55	59	57.1	21.9	222	100%	57.1	21.90	0.00
50	54	52.0	19.2	226	100%	52.0	19.20	0.00
45	49	47.5	17.3	151	97%	48.3	17.67	0.00
40	44	43.1	15.2	211	83%	48.3	17.61	0.00
35	39	37.6	12.9	206	71%	48.3	17.78	0.00
30	34	32.4	10.8	135	62%	48.3	17.95	0.00
25	29	27.7	9.0	99	56%	48.3	18.12	0.00
20	24	23.3	7.5	66	55%	46.3	17.50	0.00
15	19	18.3	5.9	36	55%	43.6	16.63	0.00
10	14	12.5	4.1	16	55%	40.5	15.65	0.00
5	9	7.5	2.7	5	55%	37.7	14.88	0.00
0	4	3.0	1.4	0	55%	35.3	14.17	0.00

510.98

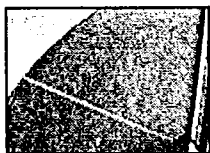
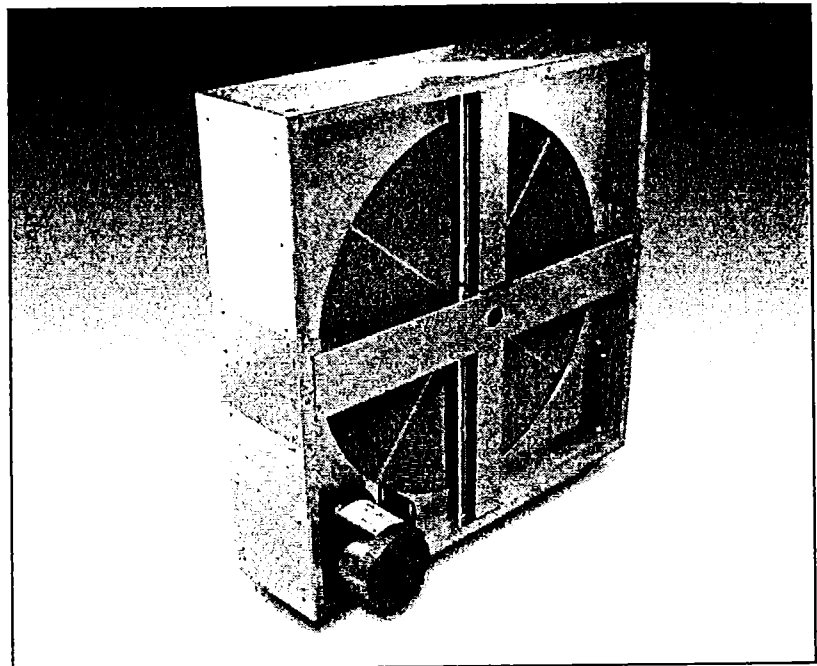


HEAT EXCHANGER MODEL BT

PRODUCT DATA SHEET

Rotary Exchangers

- Total Energy Recovery
- Up to 85% total effectiveness
- Reduces cooling and heating requirements
- Reduces winter humidification requirements
- Fluted aluminum matrix
- 4A molecular sieve desiccant
- Cleanable media
- One piece or sectionalized construction
- Variable speed drive option
- Economizer and frost control options
- Optional purge section



The Rotary Exchanger is the result of an intense research and development program that has led to the most durable, maintenance free energy recovery wheel available. The rotor matrix consists of a corrugated aluminum substrate that is coated with a mixture of desiccant binder and 4-angstrom molecular sieve. The resulting matrix yields a rotor that has the lowest pressure drop, highest effectiveness, and lowest possible leakage between air streams when compared to other types of wheel construction.

Standard Dimensions

DESCRIPTION	CODE	TYPE
Unit Designator	BT	Total Energy Wheel (Enthalpy Wheel)
Wheel Diameter	022	22 Inch Diameter Wheel
	032	32 Inch Diameter Wheel
	038	38 Inch Diameter Wheel
	042	42 Inch Diameter Wheel
	048	48 Inch Diameter Wheel
	054	54 Inch Diameter Wheel
	060	60 Inch Diameter Wheel
Wheel Depth	04	Standard 4 Inch Depth Design
	06	Standard 6 Inch Depth Design

DESCRIPTION	CODE	TYPE
Drive Type	C	Constant Speed Drive
	V	Variable Speed Drive
Wheel Split and O/A Location	1	Horizontal Top
	2	Horizontal Bottom
	3	Vertical Left
	4	Vertical Right
Motor Position	A	Front Face Lower Left
	B	Front Face Upper Left
	C	Front Face Upper Right
	D	Front Face Lower Right
	E	Back Face Lower Left
	F	Back Face Upper Left
	G	Back Face Upper Right
	H	Back Face Lower Right

DESCRIPTION	CODE	TYPE
Purge Section	0	No Purge Section
	1	Purge Section Included
Voltage	1	120/60/1
	2	208/60/3
	3	230/60/3
	4	460/60/3
	5	575/60/3
	6	380-415/50/3
	7	208/60/1

* Other dimensions available on request

Owing to continued product development Heatex America reserves the right to introduce alterations both in design and prices without prior notice.



30 Cameron Street
 Natural Bridge Station, VA 24579
 540-261-7411 Fax: 540-291-1628

Customer Name	Ventrol
Project	
(Qty) Model	1
Conditions	Summer

Prepared By	CL
Unit Tag	
Altitude	0

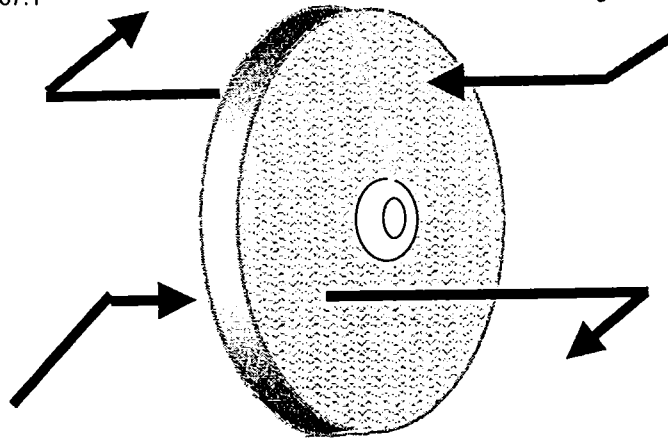
Wheel Parameters

Wheel Diameter, in.	120	Pressures, In.WC	
Wheel Depth, in.	6	OA Static	1.19
Wheel Speed, RPM	15	RA Static	1.07

Exhaust Air	30,905	Purge	695 scfm	Return Air	30,210
Temp	88.5			Temp	74
gr/lb	87.1			gr/lb	73.1

Cassette Parameters

Drive Motor, HP	1
Height, in.	128
Width, in.	128
Depth, in.	15
Weight	2266



Outdoor Air	30,905	Supply Velocity, fpm	954	Supply Air	30,210
Temp	94			Temp	79.3
gr/lb	94.1			gr/lb	79.9

	Effect.	BTU/h
Sensible Exchange	73.3%	478,626
Latent Exchange	67.4%	313,191
Total Exchange	71.0%	791,817

Rotor Media

Media shall be comprised of corrugated aluminum coated with 4A molecular sieve, water selective, non-migrating desiccant.

Rotor Frame

Shall be comprised of internal spokes and aluminum center hub.



30 Cameron Street
 Natural Bridge Station, VA 24579
 540-261-7411 Fax: 540-291-1628

Customer Name	Ventrol
Project	
(Qty) Model	1
Conditions	Winter

Prepared By	CL
Unit Tag	
Altitude	0

Wheel Parameters

Wheel Diameter, in.	120
Wheel Depth, in.	6
Wheel Speed, RPM	15

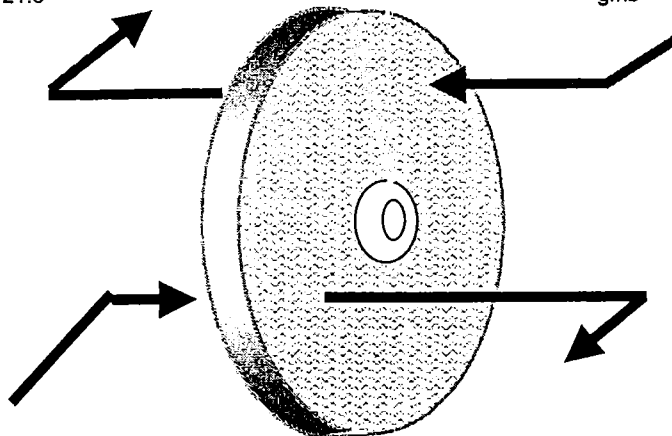
Frost Warning

Pressures, in.WC	
OA Static	0.99
RA Static	1.06

Exhaust Air	30,905	Purge	695 scfm	Return Air	30,210
Temp	27.9			Temp	72
gr/lb	21.8			gr/lb	71.6

Cassette Parameters

Drive Motor, HP	1
Height, in.	128
Width, in.	128
Depth, in.	15
Weight	2266



Outdoor Air	30,905	Supply Velocity, fpm	954	Supply Air	30,210
Temp	5			Temp	54.1
gr/lb	7.1			gr/lb	50.6

	Effect.	BTU/h
Sensible Exchange	73.3%	-1,603,396
Latent Exchange	67.4%	-918,954
Total Exchange	70.9%	-2,522,350

Rotor Media

Media shall be comprised of corrugated aluminum coated with 4A molecular sieve, water selective, non-migrating desiccant.

Rotor Frame

Shall be comprised of internal spokes and aluminum center hub.



Certified Performance Data Sheet

UNIT DETAILS

Unit TAG : RTU-1
CFM : 55390
TSP : 11.53" WG
Unit Type : Indoor
Thermal Break Construction : YES
Unit Exterior : Air dried enamel coated exterior liner customer color (need paint prior to unit release)
Unit Roof Curb : N/A
Unit Roof Curb Serial : N/A
Unit Floor Type : 1-1/2" Drainable with continuously welded Seams
Auxiliary Floor Drains : 2" Dia. Galvanized Drain Connection
Unit Floor Insulation : 4½", 3 lbs / cu.ft. density insulation
Unit Floor Liner : 8 Ga. (0.125) Aluminum Checkered Plate
Unit Under Floor Liner : 22 Ga. Galvanized steel (Ventrol standard)
Unit Wall And Roof Insulation : 4", 3 lbs/cu.ft density
Unit Exterior Liner : 16 Ga G-90 galvanized steel (Ventrol standard)
Interior Liner : SEE UNIT DRAWING
Fastners : Zinc coated screws on interior and exterior liners (Ventrol Standard Interior Unit)
ETL : YES
Vestibule Wall Size : N/A

Pre-Filter

Filter Duty : O/A
Filter Number : 1
Filter Loading : Front loading
Filter Type : 2" AAF Perfect Pleat 25-30% efficiency (MERV 6), UL Class II
Total Media Sets : One (1), supplied & installed by Ventrol
Filter Gage Type : Dwyer 2002
Filter Frame Type Material : Type 8 Galvanized steel
Filter Qty 24 X 24 : 27
Filter Qty 12 X 24 : 9
Blanking Material : Galvanized

Combo-Filter

Filter Duty : S/A
Filter Number : 1
Filter Loading : Front loading
Filter Type : 2" AAF Perfect Pleat 25-30% efficiency (MERV 6), UL Class II
Total Media Sets : One (1), supplied & installed by Ventrol
Pre-Filter Gage Type : Dwyer 2002
Final Filter Type : 12" AAF Rigifil II, Type SH, 60-65%, UL Class II
Final Filter Total Media Sets : One (1), installed by Ventrol & supplied by others
Final Filter Gage Type : Dwyer 2002
Final Filter Frame Type Material: Type 8 Galvanized steel
Filter Qty 24 X 24 : 27
Filter Qty 12 X 24 : 9

Southern Hills 11359-01 Revision : 1



Certified Performance Data Sheet

Blanking Material : Galvanized

Pre-Heating Coil(s)

Coil Casing Material : Galvanized Steel
Blanking Material : Galvanized
Coil Rack : Galvanized Steel Coil Rack

Cooling Coil(s)

Coil Casing Material : Stainless Steel
Blanking Material : Stainless
Coil Rack : 304 Stainless Steel Coil Rack
Drain Pan : 1AQ 304 (18 Ga.) Stainless Steel Drain Pan With (18 Ga.) Intermediate Drain Pan
Drain Pan Connection : 1 1/4" Dia. Stainless Steel Drain Connection

Section Note(s)

1- Face damper

Supply Fan(s)

Supply Fan Number : 1
Fan Model Number : AF-27 (Qty. 2) COLD DECK
Class Construction : III
Rotation : CCW & CCW
Fan Discharge Arrangement : TH
Fan Arrangement Type : 3
Motor manufacturer : WEG
Motor Model # : 07518OT3E365T
Enclosure/Hp/RPM/Frame/Eff. : ODP - 75 - 1775 - 365T - PREMIUM
Vac/Ph/Hz : 460 / 3 / 60
Belt Guard : OSHA
Drive Sheaves : Fixed pitch 1.5 safety factor
Safety Lock On Fan Door : OSHA approved tool operated latch
Fan Bearings : 200 000 hrs L-50 with heavy duty nylon tubing & grease fittings to common internal location
Septum Wall: 4" Double Wall
Fan Accessories 1 : Inlet screen
Fan Accessories 2 : Each motor is wired to an external J-box.

Heating Coil(s)

Coil Casing Material : Galvanized Steel
Blanking Material : Galvanized
Coil Rack : Galvanized Steel Coil Rack

Section Note(s)

1- Face dampers

Supply Fan(s)

Supply Fan Number : 2

Southern Hills 11359-01 Revision : 1



Certified Performance Data Sheet

Fan Model Number : PF-33 HOT DECK
Class Construction : III
Rotation : CW
Fan Discharge Arrangement : N/A
Fan Arrangement Type : 3
Motor manufacturer : WEG
Motor Model # : 07518OT3E365T
Enclosure/Hp/RPM/Frame/Eff. : ODP - 75 - 1775 - 365T - PREMIUM
Vac/Ph/Hz : 460 / 3 / 60
Belt Guard : OSHA
Drive Sheaves : Fixed pitch 1.5 safety factor
Safety Lock On Fan Door : OSHA approved tool operated latch
Fan Bearings : 200 000 hrs L-50 with heavy duty nylon tubing & grease fittings to common internal location
Septum Wall: 4" Double Wall
Fan Accessories 1 : Inlet screen
Fan Accessories 2 : Motor wired to J-box
Fan Accessories 3 : Fan enclosure screen

Pre-Filter

Filter Duty : E/A
Filter Number : 2
Filter Loading : Side loading
Filter Type : 2" AAF Perfect Pleat 25-30% efficiency (MERV 6), UL Class II
Total Media Sets : One (1), supplied & installed by Ventrol
Filter Gage Type : Dwyer 2002
Filter Frame Type Material : Galvanized steel tracks for side-loading angular filters
Filter Qty 24 X 24 : 36
Filter Qty 12 X 24 : 0
Blanking Material : Galvanized

Exhaust Fan(s)

Exhaust Fan Number : 1
Fan Model Number : PF-40 (Qty. 2)
Class Construction : II
Rotation : One CW & one CCW
Fan Discharge Arrangement : N/A
Fan Arrangement Type : 3
Motor manufacturer : WEG
Motor Model # : 04018OT3E324T
Enclosure/Hp/RPM/Frame/Eff. : ODP - 40 - 1775 - 324T - PREMIUM
Vac/Ph/Hz : 460 / 3 / 60
Belt Guard : OSHA
Drive Sheaves : Fixed pitch 1.5 safety factor
Safety Lock On Fan Door : OSHA approved tool operated latch
Fan Bearings : 200 000 hrs L-50 with heavy duty nylon tubing & grease fittings to common internal location
Septum Wall: 4" Double Wall
Fan Accessories 1 : Inlet screen
Fan Accessories 2 : Each motor is wired to an external J-box
Fan Accessories 3 : Fan enclosure screen

Southern Hills 11359-01 Revision : 1



Certified Performance Data Sheet

Dampers Louvers

Damper Louver Number : 1
Damper Model : Tamco 1000
Damper Louver Duty : Face Damper (Cooling coil) (Qty. 4)
Damper Actuator Model : None

Dampers Louvers

Damper Louver Number : 2
Damper Model : Tamco 1000
Damper Louver Duty : Face Damper (Heating coil) (Qty. 2)
Damper Actuator Model : None

Dampers Louvers

Damper Louver Number : 3
Damper Model : Tamco 1000
Damper Louver Duty : Return air
Damper Actuator Model : None

Dampers Louvers

Damper Louver Number : 4
Damper Model : Tamco 1000
Damper Louver Duty : Bypass Damper (Heat wheel) (Qty. 4)
Damper Actuator Model : None

Dampers Louvers

Damper Louver Number : 5
Damper Model : Tamco 1000
Damper Louver Duty : Exhaust air
Damper Actuator Model : None

Dampers Louvers

Damper Louver Number : 6
Damper Model : Tamco 1000
Damper Louver Duty : Outside air
Damper Actuator Model : None

Others Components

Other Component - 1 : Heatex America Heat Recovery wheel as per section detail. See selection for performance (BXT12006C3A14) 460/3/60
Note : Heat wheel c/w control package as per detail dwg.

Production Notes

Southern Hills 11359-01 Revision : 1



Certified Performance Data Sheet

- 1- All doors c/w Ventlok 310 door handles, windows, stainless steel butt hinges and static test port.
- 2- Cold deck and hot deck openings are c/w round short radius bell mouths, see dwg for size and location.
- 3- Floor openings are c/w flat bar floor grating. See dwg for location and sizes.
- 4- Heat wheel is shipped loose for field installation by others.
- 5- Aux. floor drain provided with caps.

Electrical Notes

- 1- All motors are wired to an J-box on the external adjacent to the fan section.
- 2- Incandescent marine lights wired to a light switch c/w pilot light and GFI. See dwg for location and qty.
- 3- Heat wheel controls provided and installed by Ventrol.

Customer Notes

- 1- All splicing of electrical wires between modules splits is done by others.
- 2- OSHA belt guards are constructed of perforated metal.



Coil Selection / Rating 2006.100

Job Name: Southern Hills
Tag: AHU-1 CC

Entered By: User Name

Date: 05/01/06
Serial #: 11359-01

Chilled Water		5WC - 8 - 39 x 103 x 12 - 12 AL	
Individual Coil Construction	Entering Conditions	Leaving Conditions	
(Qty) FH x FL : (4) 39.00 x 103.00 Rows - FPI : 12 - 12 Serpentine : 1.500 Total Face Area : 111.58 sq.ft Fin Thick / Mat. : 0.008" / AL Tube O.D. / Wall : 5/8" / 0.020" Tube Material : CU Case Material : 16 GA 304 Conn Location : LH Same Sup.Conn - Qty / Size : (1) 2-1/2" Ret.Conn - Qty / Size : (1) 2-1/2"	ACFM : 55,390 SCFM : 55,390 Altd : 0 ft EDB : 85.8°F EWB : 65.5°F EWT : 44.0°F Fluid : Ethylene Fluid Wt : 30.0 % GPM : 438.30	Total Heat : 2,714,409 Btu/Hr Sensible Heat : 2,278,238 Btu/Hr LDB : 48.3°F LWB : 48.3°F LWT : 57.4°F Actual FV : 496.4 ft/min APD : 1.83 in.WG Water Velocity : 3.12 ft/s Water PD : 16.88 ft	
Rated in Compliance with ARI Standard 410			

1. (Glycol) falls outside the range of Standard Rating Conditions specified in 'ARI Standard 410'.



BY JOHNSON CONTROLS



***Air-Cooled Screw Liquid Chillers with Variable Speed Drive
Style A***



150 - 385 TONS
(527 - 1354 kW_i)
2 and 3 Compressor
50 and 60 Hz
ASHRAE 90.1 Compliant
HFC-134a

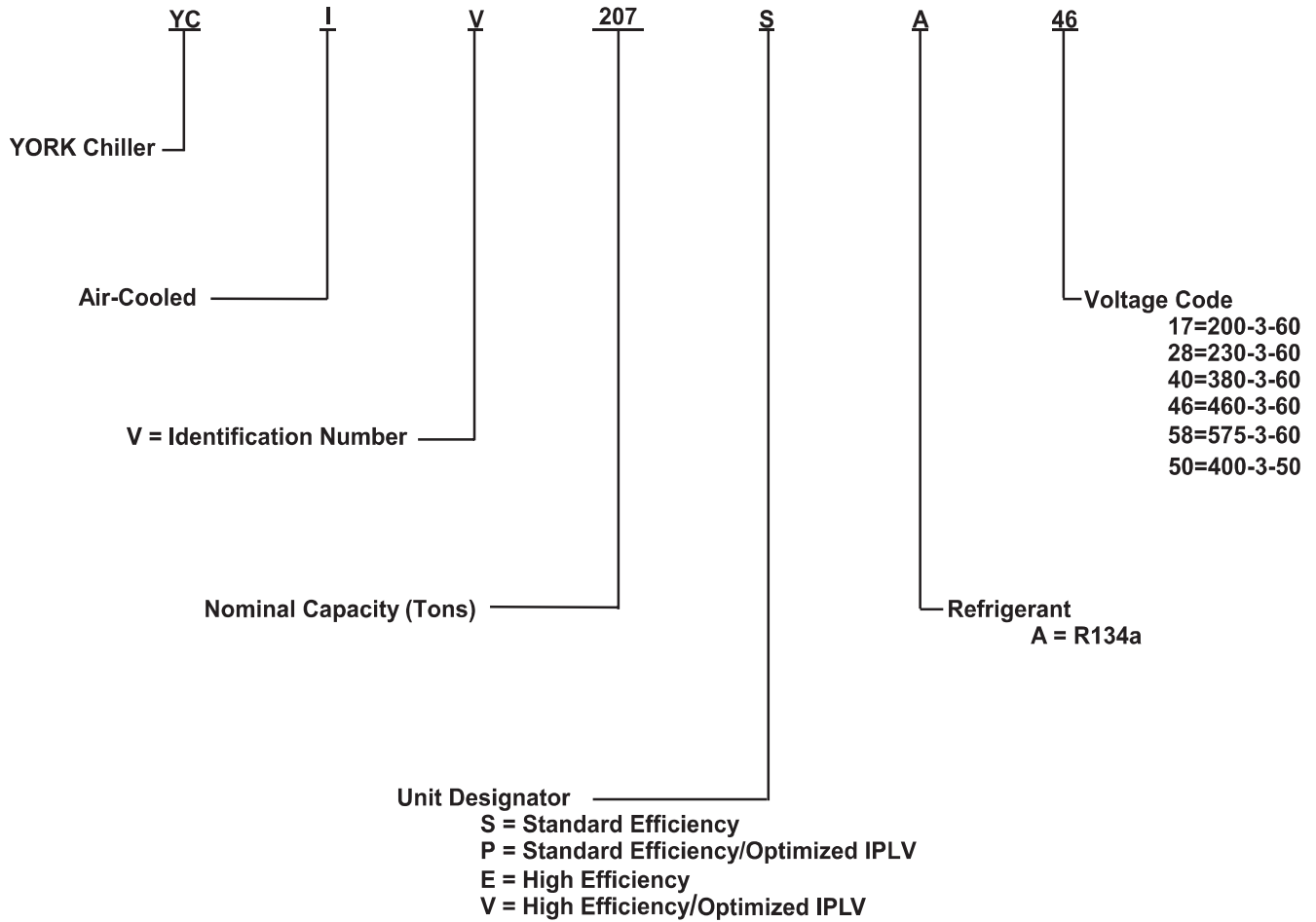


Products are produced at a facility whose quality-management systems are ISO9001 certified.



NOMENCLATURE

The Model Number denotes the following characteristics of the unit:



Standard Efficiency Ratings - English - 460V/60Hz

MODEL: YCIV0267S/P

S_IPLV= 12.3

P_IPLV= 14.9

AIR TEMPERATURE ON - CONDENSER (°F)

LCWT (°F)	75.0			80.0			85.0			90.0			95.0			100.0			105.0			110.0			115.0		
	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER
40.0	252.3	217.0	12.8	250.2	233.1	11.9	247.9	250.3	11.0	245.4	268.3	10.2	242.7	287.2	9.5	239.6	308.5	8.7	233.9	325.1	8.1	232.6	345.9	7.6	229.4	364.5	7.2
42.0	260.2	219.0	13.1	258.0	235.2	12.1	255.6	252.2	11.3	252.9	270.4	10.4	250.1	289.2	9.7	246.8	310.7	9.0	240.4	326.4	8.3	239.1	347.3	7.8	231.5	356.0	7.4
44.0	268.2	221.2	13.3	265.9	237.3	12.4	263.3	254.3	11.5	260.6	272.4	10.7	257.6	291.5	9.9	254.0	312.6	9.2	247.1	327.6	8.5	245.6	348.7	8.0	233.9	347.4	7.6
45.0	272.2	222.5	13.5	269.9	238.4	12.5	267.3	255.5	11.6	264.5	273.6	10.8	261.4	292.5	10.0	257.5	313.2	9.3	250.5	328.3	8.6	248.9	349.5	8.1	235.1	343.0	7.8
46.0	276.3	223.6	13.6	273.9	239.5	12.7	271.3	256.6	11.8	268.4	274.7	10.9	265.3	293.6	10.1	261.0	313.9	9.4	253.9	328.9	8.7	252.3	350.1	8.2	236.3	338.6	7.9
48.0	284.6	226.1	13.9	282.1	242.0	12.9	279.4	258.9	12.0	276.4	276.9	11.2	273.1	296.0	10.4	268.2	315.2	9.6	260.9	330.1	8.9	259.1	351.5	8.4	238.7	329.7	8.2
50.0	293.1	228.7	14.1	290.5	244.5	13.2	287.7	261.3	12.3	284.6	279.3	11.4	281.1	298.4	10.6	275.5	316.5	9.8	267.9	331.5	9.1	266.1	352.8	8.6	241.1	321.1	8.5
52.0	301.7	231.6	14.4	299.1	247.1	13.4	296.1	264.0	12.5	292.9	281.8	11.6	289.3	300.9	10.8	282.9	317.8	10.0	275.1	332.8	9.4	273.1	354.2	8.8	243.3	313.0	8.8
55.0	315.0	234.9	14.8	312.1	251.1	13.8	309.0	268.1	12.9	305.6	286.0	12.0	301.9	304.8	11.1	294.2	320.1	10.4	286.1	334.8	9.7	283.9	356.3	9.1	246.4	301.5	9.2

MODEL: YCIV0287S/P

S_IPLV= 13.0

P_IPLV= 14.7

AIR TEMPERATURE ON - CONDENSER (°F)

LCWT (°F)	75.0			80.0			85.0			90.0			95.0			100.0			105.0			110.0			115.0		
	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER
40.0	268.2	228.0	12.9	265.7	246.5	11.9	262.9	266.4	10.9	259.9	287.2	10.1	256.7	308.8	9.3	251.3	328.6	8.6	244.3	345.3	8.0	239.3	361.9	7.5	211.8	327.9	7.3
42.0	276.6	229.7	13.2	274.1	248.0	12.2	271.2	267.7	11.2	268.0	288.6	10.4	264.6	310.3	9.6	258.7	329.7	8.8	250.9	345.8	8.2	245.7	362.8	7.7	214.1	320.4	7.5
44.0	285.2	231.6	13.5	282.6	249.6	12.5	279.6	269.2	11.5	276.3	290.0	10.6	272.7	311.7	9.8	266.3	330.6	9.1	257.7	346.2	8.4	252.2	363.6	7.9	217.0	313.7	7.8
45.0	289.6	232.6	13.7	286.9	250.5	12.6	283.9	270.0	11.7	280.6	290.8	10.8	276.7	312.1	9.9	270.2	331.0	9.2	261.2	346.3	8.5	255.5	363.8	8.0	218.3	310.2	7.9
46.0	294.0	233.7	13.8	291.3	251.4	12.8	288.3	270.8	11.8	284.9	291.6	10.9	280.7	312.5	10.1	274.1	331.5	9.3	264.7	346.4	8.6	257.2	360.2	8.1	219.5	306.6	8.0
48.0	303.0	236.1	14.1	300.2	253.5	13.1	297.1	272.7	12.1	293.5	293.3	11.2	288.9	313.4	10.3	282.0	332.3	9.6	271.7	346.6	8.9	260.1	351.7	8.4	221.8	299.5	8.3
50.0	312.1	238.8	14.4	309.3	255.8	13.4	306.0	274.7	12.4	302.4	295.2	11.4	297.2	314.4	10.6	290.1	333.3	9.8	278.9	346.7	9.1	263.2	343.4	8.6	224.0	292.4	8.6
52.0	321.4	241.7	14.6	318.5	258.5	13.6	315.2	277.1	12.7	311.4	297.4	11.7	305.7	315.5	10.9	298.2	334.0	10.1	286.2	346.8	9.3	266.3	335.4	8.9	226.2	285.4	8.8
55.0	335.7	246.8	15.0	332.7	262.8	14.0	329.2	280.9	13.0	325.3	300.9	12.1	318.6	317.4	11.3	310.1	334.5	10.4	297.4	346.9	9.7	270.7	323.9	9.4	229.3	275.1	9.3

MODEL: YCIV0307S/P

S_IPLV= 12.6

P_IPLV= 14.6

AIR TEMPERATURE ON - CONDENSER (°F)

LCWT (°F)	75.0			80.0			85.0			90.0			95.0			100.0			105.0			110.0			115.0		
	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER
40.0	298.0	251.5	13.0	295.2	272.2	12.0	292.2	294.8	11.0	289.0	318.9	10.1	285.6	344.0	9.3	279.8	366.7	8.6	271.4	384.3	8.0	266.1	400.6	7.5	231.7	351.8	7.4
42.0	307.4	253.3	13.3	304.5	273.7	12.3	301.3	296.0	11.3	297.9	320.0	10.4	294.3	345.1	9.6	287.9	367.5	8.8	278.6	384.1	8.2	273.1	401.0	7.7	234.3	343.4	7.7
44.0	317.0	255.6	13.6	314.0	275.5	12.6	310.6	297.5	11.6	307.1	321.3	10.7	302.9	345.6	9.8	296.2	368.1	9.1	286.0	383.8	8.4	278.5	397.4	7.9	237.3	335.8	7.9
45.0	321.9	256.9	13.8	318.8	276.5	12.8	315.4	298.3	11.8	311.7	322.0	10.8	307.3	345.8	10.0	300.4	368.5	9.2	289.7	383.6	8.5	280.0	392.6	8.1	238.6	331.9	8.1
46.0	326.9	258.2	13.9	323.7	277.6	12.9	320.2	299.2	11.9	316.4	322.7	11.0	311.7	346.1	10.1	304.7	368.8	9.3	293.5	383.3	8.7	281.5	387.8	8.2	239.8	328.1	8.2
48.0	336.9	261.3	14.2	333.6	280.0	13.2	329.9	301.2	12.2	326.0	324.5	11.2	320.6	346.9	10.4	313.4	369.4	9.6	301.2	382.7	8.9	284.6	378.1	8.5	242.5	320.7	8.5
50.0	347.2	264.7	14.5	343.7	282.9	13.5	339.9	303.5	12.5	335.8	326.6	11.5	329.8	347.7	10.7	322.0	369.6	9.8	309.0	382.1	9.1	287.9	368.4	8.8	244.7	312.7	8.7
52.0	357.7	268.6	14.7	354.1	286.1	13.7	350.1	306.2	12.7	345.8	328.8	11.8	339.1	348.7	10.9	330.3	369.0	10.1	317.0	381.4	9.4	291.1	359.1	9.1	247.1	305.2	9.0
55.0	373.9	275.3	15.0	370.0	291.6	14.1	365.8	310.9	13.1	360.8	332.0	12.2	353.5	350.8	11.3	343.0	368.4	10.5	329.2	380.5	9.8	295.5	346.4	9.6	250.5	294.1	9.5

NOTES:

1. kW = Compressor Input Power
2. EER = Chiller EER (includes power from compressors, fans, and control panels 0.8 KW/IT)
3. LCWT = Leaving Chilled Water Temperature
4. Ratings based on 2.4 GPM cooler water per ton
5. Rated IAW AHRI Standard 550/590

May 14th, 2012

To whom it may concern:

This letter is to confirm that for the renovation to **Southern Hills Career and Technical Center (9193 Hamer Road)**, for the **self direct prescriptive** rebate application, lighting, heat exchange wheels, and supply fans to an air handling unit were installed with a minimum unit cost listed below.

DESCRIPTION	Model Number	QUANTITY	PRICE/FIXTURE	AMOUNT
A1 Light Fixture	Lithonia 2SP8G 432	38	\$157.00	\$5,966.00
A2 Light Fixture	Lithonia 2SP8G 332	551	\$153.00	\$84,303.00
A3 Light Fixture	Lithonia 2SP8G 232	193	\$150.00	\$28,950.00
A4 Light Fixture	Lithonia 2SP8G 217	162	\$146.00	\$23,652.00
A5 Light Fixture	Lithonia 2PM3NGB 332	95	\$152.00	\$14,440.00
A6 Light Fixture	Lithonia 2M 332	15	\$171.00	\$2,565.00
B6 Light Fixture	Lithonia VRI 332	26	\$171.00	\$4,446.00
B7 Light Fixture	Elcast CVT-701	16	\$50.00	\$800.00
C1 Light Fixture	Lithonia AF 232	50	\$71.00	\$3,550.00
D1 Light Fixture	Lithonia LP6F	33	\$26.00	\$858.00
D2 Light Fixture	Lithonia LP6/608AZ	43	\$21.00	\$903.00
Ha Light Fixture	Lithonia TE 250M E17W	6	\$141.00	\$846.00
X1 Exit Light	Lithonia LE S W 1 R	32	\$25.00	\$800.00
X2 Exit Light	Lithonia LE S W 2 R	5	\$30.00	\$150.00
AHU-1 Return Fan - 40 hp motor	Lincoln AC LM13811	2	\$2,496.00	\$4992.00
AHU-1 Supply Deck Fan - 75 hp motor	Lincoln AC LM14815	3	\$5,000.00	\$15,000.00
HHWP-1 & CWSP-1 Pumps	Armstrong 4600 10hp	2	\$1,600.00	\$3,200.00
Occupancy Sensors	Hubbell OMNI-DT	80	\$117.00	\$9,360.00

TOTAL	\$204,781.00
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This is also to confirm that for the renovation to **Southern Hills Career and Technical Center (9193 Hamer Road)**, for the **custom** rebate application, a heat exchange wheel was installed with a minimum unit cost listed below.

AHU-1 Heat Exchange Wheel	Heatex BXT 12006C3A14	1	\$7,000.00	\$7,000.00
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TOTAL	\$7,000.00
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Thank you for your attention to this matter,



Kevin Kratzer
Superintendent

APPLICATION AND CERTIFICATE FOR PAYMENT

TO OWNER:

Southern Hills Joint Vocational School District
9193 Hamer Road
Georgetown, OH 45121

PROJECT:

Renovations to:
Southern Hills Career Center

APPLICATION No:

16

PERIOD TO:

11/30/2007

PROJECT NOS:

CONTRACT DATE:

05/17/06

FROM CONTRACTOR:

Artic Heating & A/C Inc.
6080-A Branch Hill Guinea Pike
Milford, OH 45150

VIA ARCHITECT:

Steed Hammond Paul Inc.

CONTRACT FOR: HVAC

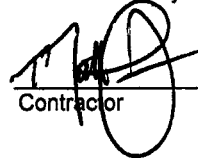
CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment as shown below, in connection with the Contract
Continuation sheet is attached.

1. ORIGINAL CONTRACT SUM.....\$	1,507,400.00
2. Net Change by Change Orders.....\$	129,479.12
3. CONTRACT SUM TO DATE.....\$	1,636,879.12
4. TOTAL COMPLETED & STORED TO DATE.....\$	1,636,879.12
5. RETAINAGE	
a. 8% Labor to 50% total Contract.....\$	33,028.24
b. 8% of Stored Material.....\$	0.00
Total Retainage.....\$	33,028.24
6. TOTAL EARNED LESS RETAINAGE.....\$	1,603,850.88
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT.....\$	1,599,529.76
8. CURRENT PAYMENT DUE.....\$	4,321.12
9. BALANCE TO FINISH, INCLUDING RETAINAGE.....\$	33,028.24

Change Order/Contract	ADDITIONS	DEDUCTIONS
Total Changes approved in Previous months by Owner	126,778.00	(1,620.00)
Total approved this month	4,321.12	
TOTALS	131,099.12	(1,620.00)
NET CHANGES by Change Order	129,479.12	

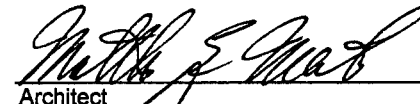
The Contractor certified that the work covered by this pay request has been completed in accordance with the Contract Documents and that all progress payments previously paid by the State have been applied by the Contractor to discharge in full all of Contractor's obligations incurred in connection with the work covered by all prior pay requests.



Contractor

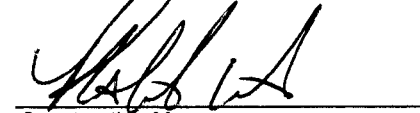
11/14/07

Based upon on-site observations, the firm affirms that the work has progressed to the percentage of completeness indicated on the pay request.



Architect

4-8-08
Date



Construction Manager

3-18-08
Date

Approved:



School District Treasurer

4-9-08
Date

PCF 2706.55
S - 2945.92
L - 981.97
993.03

62154
LFI - 393.22

RTK

PROJECT NAME: RENOVATIONS TO SOUTHERN HILLS CAREER CENTER / 9193 HAMER ROAD / GEORGETOWN, OH 45121
 ARCHITECT: STEED / HAMMOND / PAUL ARCHITECTS
 CONSTRUCTION MANAGER: RESOURCE INTERNATIONAL
 HVAC CONTRACTOR: ARTIC HEATING & AIR CONDITIONING, INC / 6080-A BRANCH HILL GUINEA PIKE / MILFORD, OH 45150

SUBMITTAL DATE: 11/14/2007

ITEM NUMBER	DESCRIPTION OF WORK		SCHEDULED VALUE	WORK COMPLETED		MATERIALS PRESENTLY STORED	TOTAL COMPLETED & STORED TO DATE		BALANCE TO FINISH	RETAINAGE
				PREVIOUS APPS.	THIS PERIOD		%	%		
RENOVATIONS TO SOUTHERN HILLS CAREER CENTER										
1	BOND	LABOR	0.00				0.00	0.00%	0.00	0.00
		MATERIAL	16,989.00	16,989.00			16,989.00	100.00%	0.00	0.00
2	INSURANCE	LABOR	0.00				0.00	0.00%	0.00	0.00
		MATERIAL	13,530.00	13,530.00			13,530.00	100.00%	0.00	0.00
3	PERMITS	LABOR	0.00				0.00	0.00%	0.00	0.00
		MATERIAL	2,960.00	2,960.00			2,960.00	100.00%	0.00	0.00
4	MOBILIZATION	LABOR	12,801.00	12,801.00			12,801.00	100.00%	0.00	1,024.08
		MATERIAL	0.00				0.00	0.00%	0.00	0.00
5	SUBMITTALS & T.C. ENGINEERING	LABOR	104,493.00	104,493.00			104,493.00	100.00%	0.00	7,941.44
		MATERIAL	0.00				0.00	0.00%	0.00	0.00
6	PROJECT MEETINGS	LABOR	5,010.00	5,010.00			5,010.00	100.00%	0.00	48.08
		MATERIAL	0.00				0.00	0.00%	0.00	0.00
7	DAILY / FINAL CLEANUP	LABOR	8,568.00	8,568.00			8,568.00	100.00%	0.00	68.56
		MATERIAL	150.00	150.00			150.00	100.00%	0.00	0.00
8	PUNCH LIST	LABOR	10,168.00	10,168.00			10,168.00	100.00%	0.00	0.00
		MATERIAL	250.00	250.00			250.00	100.00%	0.00	0.00
9	CLOSEOUT	LABOR	16,506.00	16,506.00			16,506.00	100.00%	0.00	0.00
		MATERIAL	150.00	150.00			150.00	100.00%	0.00	0.00
10	COORDINATION DRAWINGS	LABOR	26,500.00	26,500.00			26,500.00	100.00%	0.00	2,120.00
		MATERIAL	9,230.00	9,230.00			9,230.00	100.00%	0.00	0.00
11	TEMP HEAT	LABOR	2,155.00	2,155.00			2,155.00	100.00%	0.00	0.00
		MATERIAL	900.00	900.00			900.00	100.00%	0.00	0.00
12	START UP	LABOR	1,939.00	1,939.00			1,939.00	100.00%	0.00	0.00
		MATERIAL	0.00				0.00	0.00%	0.00	0.00
13	COMMISSIONING	LABOR	2,694.00	2,694.00			2,694.00	100.00%	0.00	0.00
		MATERIAL	0.00				0.00	0.00%	0.00	0.00
PIPING										
14	PHASE 2 DEMOLITION	LABOR	11,128.00	11,128.00			11,128.00	100.00%	0.00	890.24
		MATERIAL	0.00				0.00	0.00%	0.00	0.00
15	PHASE 2 PIPING ROUGH IN	LABOR	5,129.00	5,129.00			5,129.00	100.00%	0.00	410.32
		MATERIAL	9,285.00	9,285.00			9,285.00	100.00%	0.00	0.00
16	PHASE 2 FINALS	LABOR	7,194.00	7,194.00			7,194.00	100.00%	0.00	345.28
		MATERIAL	12,524.00	12,524.00			12,524.00	100.00%	0.00	0.00
17	PHASE 3 DEMOLITION	LABOR	2,077.00	2,077.00			2,077.00	100.00%	0.00	166.16
		MATERIAL	0.00				0.00	0.00%	0.00	0.00
18	PHASE 4 DEMOLITION	LABOR	3,155.00	3,155.00			3,155.00	100.00%	0.00	0.00
		MATERIAL	0.00				0.00	0.00%	0.00	0.00
19	PHASE 4 ROUGH IN	LABOR	3,949.00	3,949.00			3,949.00	100.00%	0.00	0.00
		MATERIAL	7,435.00	7,435.00			7,435.00	100.00%	0.00	0.00
20	PHASE 4 FINALS	LABOR	5,424.00	5,424.00			5,424.00	100.00%	0.00	0.00
		MATERIAL	9,749.00	9,749.00			9,749.00	100.00%	0.00	0.00
21	MECHANICAL ROOM 304 DEMOLITION	LABOR	25,210.00	25,210.00			25,210.00	100.00%	0.00	2,016.80
		MATERIAL	0.00				0.00	0.00%	0.00	0.00
22	MECHANICAL ROOM 304 ROUGH IN	LABOR	12,798.00	12,798.00			12,798.00	100.00%	0.00	819.04
		MATERIAL	21,316.00	21,316.00			21,316.00	100.00%	0.00	0.00
23	MECHANICAL ROOM 304 FINALS	LABOR	18,696.00	18,696.00			18,696.00	100.00%	0.00	1,046.96
		MATERIAL	30,570.00	30,570.00			30,570.00	100.00%	0.00	0.00
24	EQUIPMENT PADS W/VIBRATION PADS	LABOR	11,757.00	11,757.00			11,757.00	100.00%	0.00	940.56
		MATERIAL	8,150.00	8,150.00			8,150.00	100.00%	0.00	0.00
25	CUSTOM AIR HANDLING UNIT	LABOR	9,940.00	9,940.00			9,940.00	100.00%	0.00	795.20
		MATERIAL	257,128.00	257,128.00			257,128.00	100.00%	0.00	0.00
26	AIR HANDLING UNITS	LABOR	13,878.00	13,878.00			13,878.00	100.00%	0.00	999.20
		MATERIAL	42,935.00	42,935.00			42,935.00	100.00%	0.00	0.00
27	BOILERS	LABOR	3,848.00	3,848.00			3,848.00	100.00%	0.00	0.00
		MATERIAL	25,000.00	25,000.00			25,000.00	100.00%	0.00	0.00

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 CONSTRUCTION MANAGER: RESOURCE INTERNATIONAL
 HVAC CONTRACTOR: ARTIC HEATING & AIR CONDITIONING, INC / 6080-A BRANCH HILL GUIINEA PIKE / MILFORD, OH 45150

SUBMITTAL DATE: 11/14/2007

ITEM NUMBER	DESCRIPTION OF WORK		SCHEDULED VALUE	WORK COMPLETED		MATERIALS PRESENTLY STORED	TOTAL COMPLETED & STORED TO DATE		BALANCE TO FINISH	RETAINAGE
				PREVIOUS APPS.	THIS PERIOD		%	%		
28	PUMPS AND ACCESSORIES	LABOR	3,580.00	3,580.00			3,580.00	100.00%	0.00	286.40
		MATERIAL	31,932.00	31,932.00			31,932.00	100.00%	0.00	0.00
29	ELECTRIC CABINET UNIT HEATERS	LABOR	4,158.00	4,158.00			4,158.00	100.00%	0.00	66.56
		MATERIAL	25,000.00	25,000.00			25,000.00	100.00%	0.00	0.00
30	ROOFTOP HEATPUMP	LABOR	2,765.00	2,765.00			2,765.00	100.00%	0.00	221.20
		MATERIAL	4,000.00	4,000.00			4,000.00	100.00%	0.00	0.00
31	BALANCING METER	LABOR	108.00	108.00			108.00	100.00%	0.00	0.00
		MATERIAL	750.00	750.00			750.00	100.00%	0.00	0.00
32	CHEMICAL TREATMENT / GLYCOL	LABOR	3,283.00	3,283.00			3,283.00	100.00%	0.00	0.00
		MATERIAL	6,844.00	6,844.00			6,844.00	100.00%	0.00	0.00
33	LABELS & VALVE TAGS	LABOR	3,089.00	3,089.00			3,089.00	100.00%	0.00	0.00
		MATERIAL	1,675.00	1,675.00			1,675.00	100.00%	0.00	0.00
	SHEET METAL									
34	GENERAL CONDITIONS	LABOR	9,000.00	9,000.00			9,000.00	100.00%	0.00	460.80
		MATERIAL	0.00	0.00			0.00	0.00%	0.00	0.00
35	FIELD SUPERVISION	LABOR	5,000.00	5,000.00			5,000.00	100.00%	0.00	160.00
		MATERIAL	0.00	0.00			0.00	0.00%	0.00	0.00
36	DEMOBILIZATION	LABOR	1,000.00	1,000.00			1,000.00	100.00%	0.00	0.00
		MATERIAL	0.00	0.00			0.00	0.00%	0.00	0.00
37	PHASE 2 DEMOLITION	LABOR	6,000.00	6,000.00			6,000.00	100.00%	0.00	480.00
		MATERIAL	1,000.00	1,000.00			1,000.00	100.00%	0.00	0.00
38	PHASE 2 ROUGH-IN	LABOR	24,000.00	24,000.00			24,000.00	100.00%	0.00	1,920.00
		MATERIAL	19,000.00	19,000.00			19,000.00	100.00%	0.00	0.00
39	PHASE 2 FANS	LABOR	39,000.00	39,000.00			39,000.00	100.00%	0.00	3,120.00
		MATERIAL	37,000.00	37,000.00			37,000.00	100.00%	0.00	0.00
40	DUST COLLECTOR & CARMON SYS	LABOR	29,000.00	29,000.00			29,000.00	100.00%	0.00	0.00
		MATERIAL	40,000.00	40,000.00			40,000.00	100.00%	0.00	0.00
41	PHASE 2 VAV BOXES	LABOR	2,500.00	2,500.00			2,500.00	100.00%	0.00	200.00
		MATERIAL	7,500.00	7,500.00			7,500.00	100.00%	0.00	0.00
42	PHASE 2 AIR DEVICES	LABOR	5,600.00	5,600.00			5,600.00	100.00%	0.00	0.00
		MATERIAL	4,300.00	4,300.00			4,300.00	100.00%	0.00	0.00
43	PHASE 3 DEMOLITION	LABOR	4,200.00	4,200.00			4,200.00	100.00%	0.00	336.00
		MATERIAL	500.00	500.00			500.00	100.00%	0.00	0.00
44	PHASE 3 ROUGH-IN	LABOR	21,000.00	21,000.00			21,000.00	100.00%	0.00	1,680.00
		MATERIAL	17,000.00	17,000.00			17,000.00	100.00%	0.00	0.00
45	PHASE 3 FANS	LABOR	2,000.00	2,000.00			2,000.00	100.00%	0.00	72.00
		MATERIAL	2,200.00	2,200.00			2,200.00	100.00%	0.00	0.00
46	PHASE 3 VAV BOXES	LABOR	4,500.00	4,500.00			4,500.00	100.00%	0.00	75.60
		MATERIAL	13,500.00	13,500.00			13,500.00	100.00%	0.00	0.00
47	PHASE 3 AIR DEVICES	LABOR	3,600.00	3,600.00			3,600.00	100.00%	0.00	0.00
		MATERIAL	3,000.00	3,000.00			3,000.00	100.00%	0.00	0.00
48	PHASE 4 DEMOLITION	LABOR	2,900.00	2,900.00			2,900.00	100.00%	0.00	0.00
		MATERIAL	500.00	500.00			500.00	100.00%	0.00	0.00
49	PHASE 4 ROUGH-IN	LABOR	10,000.00	10,000.00			10,000.00	100.00%	0.00	0.00
		MATERIAL	8,100.00	8,100.00			8,100.00	100.00%	0.00	0.00
50	PHASE 4 FANS	LABOR	3,500.00	3,500.00			3,500.00	100.00%	0.00	0.00
		MATERIAL	2,500.00	2,500.00			2,500.00	100.00%	0.00	0.00
51	PHASE 4 VAV BOXES	LABOR	2,900.00	2,900.00			2,900.00	100.00%	0.00	0.00
		MATERIAL	5,200.00	5,200.00			5,200.00	100.00%	0.00	0.00
52	PHASE 4 AIR DEVICES	LABOR	1,900.00	1,900.00			1,900.00	100.00%	0.00	0.00
		MATERIAL	1,600.00	1,600.00			1,600.00	100.00%	0.00	0.00
53	MECHANICAL ROOM 304	LABOR	20,000.00	20,000.00			20,000.00	100.00%	0.00	1,200.00
		MATERIAL	15,000.00	15,000.00			15,000.00	100.00%	0.00	0.00
	INSULATION									
54	PHASE 2	LABOR	4,000.00	4,000.00			4,000.00	100.00%	0.00	0.00
		MATERIAL	3,500.00	3,500.00			3,500.00	100.00%	0.00	0.00

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				PREVIOUS APPS.	THIS PERIOD			%		
55	PHASE 3	LABOR	5,500.00	5,500.00			5,500.00	100.00%	0.00	0.00
		MATERIAL	4,000.00	4,000.00			4,000.00	100.00%	0.00	0.00
56	PHASE 4	LABOR	11,000.00	11,000.00			11,000.00	100.00%	0.00	0.00
		MATERIAL	6,500.00	6,500.00			6,500.00	100.00%	0.00	0.00
57	MECHANICAL ROOM 304	LABOR	7,250.00	7,250.00			7,250.00	100.00%	0.00	0.00
		MATERIAL	5,000.00	5,000.00			5,000.00	100.00%	0.00	0.00
	TEMPERATURE CONTROL									
58	PHASE 2	LABOR	38,803.00	38,803.00			38,803.00	100.00%	0.00	1,396.88
		MATERIAL	31,607.00	31,607.00			31,607.00	100.00%	0.00	0.00
59	PHASE 3	LABOR	16,143.00	16,143.00			16,143.00	100.00%	0.00	180.80
		MATERIAL	10,136.00	10,136.00			10,136.00	100.00%	0.00	0.00
60	PHASE 4	LABOR	21,899.00	21,899.00			21,899.00	100.00%	0.00	0.00
		MATERIAL	13,166.00	13,166.00			13,166.00	100.00%	0.00	0.00
61	MECHANICAL ROOM 304	LABOR	33,509.00	33,509.00			33,509.00	100.00%	0.00	1,208.32
		MATERIAL	22,780.00	22,780.00			22,780.00	100.00%	0.00	0.00
	BALANCING									
62	AIR & WATER	LABOR	16,855.00	16,855.00			16,855.00	100.00%	0.00	0.00
		MATERIAL	0.00	0.00			0.00	0.00%	0.00	0.00
	TOTAL LABOR	LABOR	694,359.00	694,359.00	0.00	0.00	694,359.00		0.00	32,694.48
	TOTAL MATERIAL	MATERIAL	813,041.00	813,041.00	0.00	0.00	813,041.00		0.00	0.00
	SOUTHERN HILLS CAREER CENTER		1,507,400.00	1,507,400.00	0.00	0.00	1,507,400.00	100.00%	0.00	32,694.48

CHANGE ORDERS										
63	013-304-03	LABOR	6,002.00	6,002.00			6,002.00	100.00%	0.00	333.76
		MATERIAL	5,720.00	5,720.00			5,720.00	100.00%	0.00	0.00
64	013-304-04	LABOR	6,028.00	6,028.00			6,028.00	100.00%	0.00	0.00
		MATERIAL	2,394.00	2,394.00			2,394.00	100.00%	0.00	0.00
65	059-304-05	LABOR	16,882.00	16,882.00			16,882.00	100.00%	0.00	0.00
		MATERIAL	5,310.00	5,310.00			5,310.00	100.00%	0.00	0.00
66	060-304-06	LABOR	1,634.00	1,634.00			1,634.00	100.00%	0.00	0.00
		MATERIAL	1,428.00	1,428.00			1,428.00	100.00%	0.00	0.00
67	061-304-07	LABOR	2,051.00	2,051.00			2,051.00	100.00%	0.00	0.00
		MATERIAL	2,620.00	2,620.00			2,620.00	100.00%	0.00	0.00
68	048-304-08	LABOR	280.00	280.00			280.00	100.00%	0.00	0.00
		MATERIAL	198.00	198.00			198.00	100.00%	0.00	0.00
69	073-304-09	LABOR	1,052.00	1,052.00			1,052.00	100.00%	0.00	0.00
		MATERIAL	348.00	348.00			348.00	100.00%	0.00	0.00
70	074-304-10	LABOR	7,378.00	7,378.00			7,378.00	100.00%	0.00	0.00
		MATERIAL	8,173.00	8,173.00			8,173.00	100.00%	0.00	0.00
71	079-304-11	LABOR	766.00	766.00			766.00	100.00%	0.00	0.00
		MATERIAL	677.00	677.00			677.00	100.00%	0.00	0.00
72	080-304-12	LABOR	4,768.00	4,768.00			4,768.00	100.00%	0.00	0.00
		MATERIAL	7,067.00	7,067.00			7,067.00	100.00%	0.00	0.00
73	080-304-14	LABOR	1,785.00	1,785.00			1,785.00	100.00%	0.00	0.00
		MATERIAL	13,065.00	13,065.00			13,065.00	100.00%	0.00	0.00
74	080-304-15	LABOR	1,715.00	1,715.00			1,715.00	100.00%	0.00	0.00
		MATERIAL	12,660.00	12,660.00			12,660.00	100.00%	0.00	0.00
75	080-304-16	LABOR	0.00	0.00			0.00	0.00%	0.00	0.00
		MATERIAL	(1,620.00)	(1,620.00)			(1,620.00)	100.00%	0.00	0.00
76	068-304-17	LABOR	1,028.00	1,028.00			1,028.00	100.00%	0.00	0.00
		MATERIAL	402.00	402.00			402.00	100.00%	0.00	0.00
77	000-304-18	LABOR	774.00	774.00			774.00	100.00%	0.00	0.00
		MATERIAL	417.00	417.00			417.00	100.00%	0.00	0.00
78	055-304-19	LABOR	2,610.00	2,610.00			2,610.00	100.00%	0.00	0.00
		MATERIAL	3,456.00	3,456.00			3,456.00	100.00%	0.00	0.00

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79	082-304-20	LABOR	992.00	992.00			992.00	100.00%	0.00	0.00
		MATERIAL	362.00	362.00			362.00	100.00%	0.00	0.00
80	002-304-21	LABOR	949.00	949.00			949.00	100.00%	0.00	0.00
		MATERIAL	1,053.00	1,053.00			1,053.00	100.00%	0.00	0.00
81	002-304-22	LABOR	852.00	852.00			852.00	100.00%	0.00	0.00
		MATERIAL	1,441.00	1,441.00			1,441.00	100.00%	0.00	0.00
81	002-304-23	LABOR	2,156.00		2,156.00		2,156.00	100.00%	0.00	0.00
		MATERIAL	1,814.00		1,814.00		1,814.00	100.00%	0.00	0.00
81	002-304-24	LABOR	351.12		351.12		351.12	100.00%	0.00	0.00
		MATERIAL	0.00		0.00		0.00	0.00%	0.00	0.00
ON SCHEDULE OF VALUES PER STEVE GILMORE										
82	304-13 DAMAGED DUCT IN VESTIBULE	LABOR	1,928.00	1,928.00			1,928.00	100.00%	0.00	0.00
		MATERIAL	513.00	513.00			513.00	100.00%	0.00	0.00
	TOTAL LABOR	LABOR	61,981.12	59,474.00	2,507.12	0.00	61,981.12		0.00	333.76
	TOTAL MATERIAL	MATERIAL	67,498.00	65,684.00	1,814.00	0.00	67,498.00		0.00	0.00
	CHANGE ORDER TOTAL		129,479.12	126,158.00	4,321.12	0.00	129,479.12	100.00%	0.00	333.76
GRAND TOTAL JOB										
	TOTAL LABOR	LABOR	756,340.12	753,833.00	2,507.12	0.00	756,340.12		0.00	33,028.24
	TOTAL MATERIAL	MATERIAL	880,539.00	878,725.00	1,814.00	0.00	880,539.00		0.00	0.00
	GRAND TOTAL SOUTHERN HILLS CAREER		1,636,879.12	1,632,558.00	4,321.12	0.00	1,636,879.12	100.00%	0.00	33,028.24