



**Case No.: 15-2273-EL-EEC**

Mercantile Customer: Heinen's Inc.

Electric Utility: The Cleveland Electric Illuminating Company

Program Title or  
Description: Door Cases and Temp. Racks

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](mailto:ee-pdr@puc.state.oh.us).

## Section 1: Mercantile Customer Information

Name: Heinen's Inc.

Principal address: 4540 Richmond Road, Warrensville Hts. Ohio 44128

Address of facility for which this energy efficiency program applies: 16611 Chagrin Blvd. Shaker Hts 44120; 2180 S. Green Rd. University Hts 44118; 434 Dover Center Rd. Bay Village 44140; 19219 Detroit Ave. Rocky River 44116; 8850 Mentor Ave. Mentor 44060; 8482 E. Washington St. Bainbridge 44022; 8383 Chippewa Rd. Brecksville 44141; 35980 Detroit Rd. Avon 44011; & 18300 Royalton Rd. Strongsville 44136

Name and telephone number for responses to questions: Rabi Ridha (216) 475-2300

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. (Please attach 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: The Cleveland Electric Illuminating Company

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)). **If Checked, Please see Exhibit 1 and Exhibit 2**
- ☐ 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): \_\_\_\_.
- ☐ 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: 1,269,315 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. **Please see Exhibit 1 if applicable**

- 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: \_\_\_\_\_ kWh

Please describe the less efficient new equipment that was rejected in favor of the more efficient new equipment. **Please see Exhibit 1 if applicable**

- 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?

10/08/2009

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

0 kW

## **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 \$\_\_\_\_. (Rebate shall not exceed 50% project cost. Attach documentation showing the methodology used to determine the cash rebate value and calculations showing how this payment amount was determined.)

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: **See Exhibit 3** (Skip to Subsection 2.)

#### 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 **See Exhibit 3**

The utility's program costs were **See Exhibit 3**

The utility's incentive costs/rebate costs were **See Exhibit 3**

### **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.
- 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.





## Public Utilities Commission

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

13-0051

Case No.: ~~12-25~~ 12-2529-EL-EEC

State of Ohio :

Rabi Ridha, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

Heinen's Inc.

[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.

Rabi Ridha, S. Engineer  
Signature of Affiant & Title

Sworn and subscribed before me this 29<sup>th</sup> day of October, 2012 Month/Year

Kenneth A. Brocklehurst  
Signature of official administering oath

Kenneth A. Brocklehurst  
Print Name and Title

My commission expires on



KENNETH A. BROCKLEHURST  
NOTARY PUBLIC, STATE OF OHIO  
Recorded in Medina County  
My Comm. Expires March 11, 2017

Project No.	Project Name	Narrative description of your program including, but not limited to, make, model, and year of any installed and replaced equipment:	Description of methodologies, protocols and practices used in measuring and verifying project results	What date would you have replaced your equipment if you had not replaced it early? Also, please explain briefly how you determined this future replacement date.	Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment.
1	VFDs on med temp ref rack	Installed VFD on 40 HP medium temperature rack lead compressor. Refrigeration systems are designed for full-load conditions. Most of the time, however, their loads are average, not peak, and full motor capacity is not required. During average conditions, motors in traditionally designed systems (without VFDs) either constantly are running at a higher speed than necessary or frequently cycling on and off. Producing more capacity than needed wastes considerable energy, and frequent on/off cycling accelerates wear and shortens the useful life of motors, contactors, and other components. Frequently starting and stopping motors and continually accelerating them to full speed eliminates opportunities for reducing energy costs. VFDs can help in both of these areas as well as provide better product environments. Although maximum-load conditions — high ambient temperature, high humidity, and fully loaded store fixtures and storage boxes —	Motor System inventory was performed with pre & post ECM consumption calculated and demand utilized. Specified equipment selection of the motors and motor controls. Electrical Usage (kWh) = Motor KWx Operating hours. New kWh Usage= Motor KW x Motor Speed x Operating hours. Electrical Energy Cost = (kWh x \$/kwh) ; Existing kWh - Retrofit kWh = Savings. See attached summary spreadsheet for details. Measurement and Verification is based on IPMVP Option A. Calculations based on engineering study including physical assessment of operational factors and commonly accepted usage assumptions.	15 years	N/A

Exhibit 2

Customer Legal Entity Name: Heinen's Inc

Site: H #1

Principal Address: 16611 Chagrin Blvd

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (C)	Note 1
2011	26,311,240	26,311,240	26,311,240	
2010	25,720,730	25,720,730	25,720,730	
2009	24,999,680	24,999,680	24,999,680	
<b>Average</b>	<b>25,677,217</b>	<b>25,677,217</b>	<b>25,677,217</b>	

Project Number	Project Name	In-Service Date	Project Cost \$	KWh Saved/Year Counting towards Utility compliance	KWh Saved/Year (D) eligible for incentive	Utility Peak Demand Reduction Contribution, KW	Commitment Payment \$
1	VFDs on med temp ref rack	05/12/2012	\$2,845	62,509	62,509	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
<b>Total</b>				<b>62,509</b>	<b>62,509</b>	<b>0</b>	<b>\$0</b>

**Docket No.** 13-0051

**Site:** 16611 Chagrin Blvd

**Savings as percent of usage** **0.2%** Note 2

**= Total (D) divided by Average (C)**

**Customer Eligible Exemption Period:** **3 Month(s)** Note 3

Notes

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) Savings as a percent of usage is equal to the of total project savings (D) divided by the 3 year average Weather Adjusted Usage with Energy Efficiency Addbacks (C).

(3) Customer exemption determined by savings percentage in relation to energy efficiency schedule as set forth in O.R.C. 4928.66(A)(1)(a).

(4) The exemption period reflects the maximum potential exemption period. NOTE: The FirstEnergy Utilities cannot guarantee the length of the exemption period that will ultimately be approved by the Commission.

### Exhibit 3 Utility Cost Test

UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh (A)	Utility Avoided Cost \$/MWh (B)	Utility Avoided Cost \$ (C)	Utility Cost \$ (D)	Cash Rebate \$ (E)	Administrator Variable Fee \$ (F)	Total Utility Cost \$ (G)	UCT (H)
1	63	\$ 308	\$ 19,270	\$ 4,050	\$0	\$625	\$ 4,675	4.1
<b>Total</b>	<b>63</b>	<b>\$ 308</b>	<b>19,270</b>	<b>4,050</b>	<b>\$0</b>	<b>\$625</b>	<b>4,675</b>	<b>4.1</b>

#### Notes

- (A) From Exhibit 2, = kWh saved / 1000
- (B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).
- (C) = (A) \* (B)
- (D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.
- (E) This is the amount of the cash rebate paid to the customer for this project.
- (F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.
- (G) = (D) + (E) + (F)
- (H) = (C) / (G)

Heinen's Inc ~ H #1  
Docket No. 13-0051

Site: 16611 Chagrin Blvd

Customer Legal Entity Name: Heinen's Inc

Site Address: H #4

Principal Address: 2180 South Green Rd

Project No.	Project Name	Narrative description of your program including, but not limited to, make, model, and year of any installed and replaced equipment:	Description of methodologies, protocols and practices used in measuring and verifying project results	What date would you have replaced your equipment if you had not replaced it early? Also, please explain briefly how you determined this future replacement date.	Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment.
1	VFD on med temp ref rack	Installed VFD on 40 HP medium temperature rack lead compressor. Refrigeration systems are designed for full-load conditions. Most of the time, however, their loads are average, not peak, and full motor capacity is not required. During average conditions, motors in traditionally designed systems (without VFDs) either constantly are running at a higher speed than necessary or frequently cycling on and off. Producing more capacity than needed wastes considerable energy, and frequent on/off cycling accelerates wear and shortens the useful life of motors, contactors, and other components. Frequently starting and stopping motors and continually accelerating them to full speed eliminates opportunities for reducing energy costs. VFDs can help in both of these areas as well as provide better product environments. Although maximum-load conditions — high ambient temperature, high humidity, and fully loaded store fixtures and storage boxes —	Motor System inventory was performed with pre & post ECM consumption calculated and demand utilized. Specified equipment selection of the motors and motor controls. Electrical Usage (kWh) = Motor KW x Operating hours. New kWh Usage= Motor KW x Motor Speed x Operating hours. Electrical Energy Cost = (kWh x \$/kwh) ; Existing kWh - Retrofit kWh = Savings. See attached summary spreadsheet for details. Measurement and Verification is based on IPMVP Option A. Calculations based on engineering study including physical assessment of operational factors and commonly accepted usage assumptions.	15 years	N/A
2	Installation of Glass Door Refrigeration Cases	Installed 76 linear foot of refrigeration cases with glass doors. These replaced 76 foot of multi deck open case displays.	Refrigerated Case Engineering study attached. The compressor, fan, lighting and anti sweat heat usage per linear foot was calculated for both a multideck open case and the new refrigeration case with glass doors. The savings per linear ft was multiplied by the linear feet of case installed and multiplied by 365 days for the year.	20 years	N/A

**Exhibit 2**

**Customer Legal Entity Name:** Heinen's Inc

**Site:** H #4

**Principal Address:** 2180 South Green Rd

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (C)	Note 1
2011	23,611,370	23,611,370	23,666,365	
2010	23,406,310	23,406,310	23,406,310	
2009	23,874,190	23,874,190	23,874,190	
<b>Average</b>	<b>23,630,623</b>	<b>23,630,623</b>	<b>23,648,955</b>	

Project Number	Project Name	In-Service Date	Project Cost \$	KWh Saved/Year Counting towards Utility compliance	KWh Saved/Year (D) eligible for incentive	Utility Peak Demand Reduction Contribution, KW	Commitment Payment \$
1	VFD on med temp ref rack	05/12/2012	\$5,156	62,508	62,508	-	
2	Installation of Glass Door Refrigeration Cases	06/21/2011	\$111,676	103,470	103,470	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
<b>Total</b>				<b>165,978</b>	<b>165,978</b>	<b>0</b>	<b>\$0</b>

**Docket No.** 13-0051

**Site:** 2180 South Green Rd

**Savings as percent of usage** 0.7% Note 2

**= Total (D) divided by Average (C)**

**Customer Eligible Exemption Period:** 9 Month(s) Note 3

**Notes**

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) Savings as a percent of usage is equal to the of total project savings (D) divided by the 3 year average Weather Adjusted Usage with Energy Efficiency Addbacks (C).

(3) Customer exemption determined by savings percentage in relation to energy efficiency schedule as set forth in O.R.C. 4928.66(A)(1)(a).

(4) The exemption period reflects the maximum potential exemption period. NOTE: The FirstEnergy Utilities cannot guarantee the length of the exemption period that will ultimately be approved by the Commission.

### Exhibit 3 Utility Cost Test

UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh (A)	Utility Avoided Cost \$/MWh (B)	Utility Avoided Cost \$ (C)	Utility Cost \$ (D)	Cash Rebate \$ (E)	Administrator Variable Fee \$ (F)	Total Utility Cost \$ (G)	UCT (H)
1	63	\$ 308	\$ 19,270	\$ 2,025	\$0	\$625	\$ 2,650	7.3
2	103	\$ 308	\$ 31,898	\$ 2,025	\$0	\$1,035	\$ 3,060	10.43
<b>Total</b>	<b>166</b>	<b>\$ 308</b>	<b>51,168</b>	<b>4,050</b>	<b>\$0</b>	<b>\$1,660</b>	<b>5,710</b>	<b>9.0</b>

#### Notes

- (A) From Exhibit 2, = kWh saved / 1000
- (B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).
- (C) = (A) \* (B)
- (D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.
- (E) This is the amount of the cash rebate paid to the customer for this project.
- (F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.
- (G) = (D) + (E) + (F)
- (H) = (C) / (G)

Heinen's Inc ~ H #4  
Docket No. 13-0051

Site: 2180 South Green Rd

Project No.	Project Name	Narrative description of your program including, but not limited to, make, model, and year of any installed and replaced equipment:	Description of methodologies, protocols and practices used in measuring and verifying project results	What date would you have replaced your equipment if you had not replaced it early? Also, please explain briefly how you determined this future replacement date.	Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment.
1	Installation of Glass Door Refrigeration Cases	Installed 80 linear foot of refrigeration cases with glass doors. These replaced 80 foot of multi deck open case displays.	Refrigerated Case Engineering study attached. The comperssor, fan, lighting and anti sweat heat usage per linear foot was calculated for both a multideck open case and and the new refrigeration case with glass doors. The savings per linear ft was multiplied by the linear feet of case installed and multiplied by 365 days for the year.	20 years	N/A



Exhibit 2

Customer Legal Entity Name: Heinens Inc  
 Site: H #6  
 Principal Address: 434 Dover Center

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (C)	Note 1
2011	19,738,090	19,738,090	19,820,448	
2010	19,632,100	19,632,100	19,632,100	
2009	20,989,500	20,989,500	20,989,500	
<b>Average</b>	<b>20,119,897</b>	<b>20,119,897</b>	<b>20,147,349</b>	

Project Number	Project Name	In-Service Date	Project Cost \$	KWh Saved/Year Counting towards Utility compliance	KWh Saved/Year (D) eligible for incentive	Utility Peak Demand Reduction Contribution, KW	Commitment Payment \$
1	Installation of Glass Door Refrigeration Cases	03/31/2011	\$111,435	108,916	108,916	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
<b>Total</b>				<b>108,916</b>	<b>108,916</b>	<b>0</b>	<b>\$0</b>

Docket No. 13-0051

Site: 434 Dover Center

Savings as percent of usage **0.5%** Note 2  
 = Total (D) divided by  
 Average (C)

Customer Eligible Exemption Period: **7 Month(s)** Note 3

Notes

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) Savings as a percent of usage is equal to the of total project savings (D) divided by the 3 year average Weather Adjusted Usage with Energy Efficiency Addbacks (C).

(3) Customer exemption determined by savings percentage in relation to energy efficiency schedule as set forth in O.R.C.  
 4928.66(A)(1)(a).

(4) The exemption period reflects the maximum potential exemption period. NOTE: The FirstEnergy Utilities cannot guarantee the length of the exemption period that will ultimately be approved by the Commission.

### Exhibit 3 Utility Cost Test

UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh (A)	Utility Avoided Cost \$/MWh (B)	Utility Avoided Cost \$ (C)	Utility Cost \$ (D)	Cash Rebate \$ (E)	Administrator Variable Fee \$ (F)	Total Utility Cost \$ (G)	UCT (H)
1	109	\$ 308	\$ 33,577	\$ 4,050	\$0	\$1,089	\$ 5,139	6.5
<b>Total</b>	<b>109</b>	<b>\$ 308</b>	<b>33,577</b>	<b>4,050</b>	<b>\$0</b>	<b>\$1,089</b>	<b>5,139</b>	<b>6.5</b>

#### Notes

- (A) From Exhibit 2, = kWh saved / 1000
- (B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).
- (C) = (A) \* (B)
- (D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.
- (E) This is the amount of the cash rebate paid to the customer for this project.
- (F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.
- (G) = (D) + (E) + (F)
- (H) = (C) / (G)

Heinens Inc ~ H #6  
Docket No. 13-0051

Site: 434 Dover Center

Customer Legal Entity Name: Heinens Inc  
Site Address: H #7  
Principal Address: 19219 Detroit ave

Project No.	Project Name	Narrative description of your program including, but not limited to, make, model, and year of any installed and replaced equipment:	Description of methodologies, protocols and practices used in measuring and verifying project results	What date would you have replaced your equipment if you had not replaced it early? Also, please explain briefly how you determined this future replacement date.	Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment.
1	Installation of Glass Door Refrigeration Cases	Installed 96 linear foot of refrigeration cases with glass doors. These replaced 96 foot of multi deck open case displays.	Refrigerated Case Engineering study attached. The comperssor, fan, lighting and anti sweat heat usage per linear foot was calculated for both a multideck open case and and the new refrigeration case with glass doors. The savings per linear ft was multiplied by the linear feet of case installed and multiplied by 365 days for the year.	20 years	N/A

## Exhibit 2

**Customer Legal Entity Name:** Heinen's Inc

**Site: H #7**

**Principal Address:** 19219 Detroit ave

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (C)	Note 1
2011	23,327,760	23,327,760	23,445,210	
2010	26,279,150	26,279,150	26,279,150	
2009	25,805,170	25,805,170	25,805,170	
<b>Average</b>	<b>25,137,360</b>	<b>25,137,360</b>	<b>25,176,510</b>	

Project Number	Project Name	In-Service Date	Project Cost \$	KWh Saved/Year Counting towards Utility compliance	KWh Saved/Year (D) eligible for incentive	Utility Peak Demand Reduction Contribution, KW	Commitment Payment \$
1	Installation of Glass Door Refrigeration Cases	02/07/2011	\$200,811	130,699	130,699	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
			Total	130,699	130,699	0	\$0

<b>Docket No.</b>	13-0051	<b>Savings as percent of usage</b>	0.5%	Note 2
<b>Site:</b>	19219 Detroit ave	<b>= Total (D) divided by Average (C)</b>		

**Customer Eligible Exemption Period:** 7 Month(s) Note 3

## Notes

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) Savings as a percent of usage is equal to the of total project savings (D) divided by the 3 year average Weather Adjusted Usage with Energy Efficiency Addbacks (C).

(3) Customer exemption determined by savings percentage in relation to energy efficiency schedule as set forth in O.R.C. 4928.66(A)(1)(a).

(4) The exemption period reflects the maximum potential exemption period. NOTE: The FirstEnergy Utilities cannot guarantee the length of the exemption period that will ultimately be approved by the Commission.

### Exhibit 3 Utility Cost Test

UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh (A)	Utility Avoided Cost \$/MWh (B)	Utility Avoided Cost \$ (C)	Utility Cost \$ (D)	Cash Rebate \$ (E)	Administrator Variable Fee \$ (F)	Total Utility Cost \$ (G)	UCT (H)
1	131	\$ 308	\$ 40,292	\$ 4,050	\$0	\$1,307	\$ 5,357	7.5
<b>Total</b>	<b>131</b>	<b>\$ 308</b>	<b>40,292</b>	<b>4,050</b>	<b>\$0</b>	<b>\$1,307</b>	<b>5,357</b>	<b>7.5</b>

#### Notes

- (A) From Exhibit 2, = kWh saved / 1000
- (B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).
- (C) = (A) \* (B)
- (D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.
- (E) This is the amount of the cash rebate paid to the customer for this project.
- (F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.
- (G) = (D) + (E) + (F)
- (H) = (C) / (G)

Heinens Inc ~ H #7  
Docket No. 13-0051

Site: 19219 Detroit ave

Customer Legal Entity Name: Heinens Inc  
Site Address: H #9  
Principal Address: 8850 Mentor Ave

Project No.	Project Name	Narrative description of your program including, but not limited to, make, model, and year of any installed and replaced equipment:	Description of methodologies, protocols and practices used in measuring and verifying project results	What date would you have replaced your equipment if you had not replaced it early? Also, please explain briefly how you determined this future replacement date.	Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment.
1	Installation of Glass Door Refrigeration Cases	Installed 80 linear foot of refrigeration cases with glass doors. These replaced 80 foot of multi deck open case displays.	Refrigerated Case Engineering study attached. The comperssor, fan, lighting and anti sweat heat usage per linear foot was calculated for both a multideck open case and and the new refrigeration case with glass doors. The savings per linear ft was multiplied by the linear feet of case installed and multiplied by 365 days for the year.	20 years	N/A

## Exhibit 2

**Customer Legal Entity Name:** Heinen's Inc

**Site: H #9**

**Principal Address:** 8850 Mentor Ave

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (C)	Note 1
2011	21,180,000	21,180,000	21,288,916	
2010	20,898,000	20,898,000	20,961,261	
2009	21,973,500	21,973,500	21,973,500	
<b>Average</b>	<b>21,350,500</b>	<b>21,350,500</b>	<b>21,407,892</b>	

Project Number	Project Name	In-Service Date	Project Cost \$	KWh Saved/Year Counting towards Utility compliance	KWh Saved/Year (D) eligible for incentive	Utility Peak Demand Reduction Contribution, KW	Commitment Payment \$
1	Installation of Glass Door Refrigeration Cases	06/03/2010	\$425,425	108,916	108,916	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
			Total	108,916	108,916	0	\$0

<b>Docket No.</b>	13-0051	<b>Savings as percent of usage</b>	0.5%	Note 2
<b>Site:</b>	8850 Mentor Ave	<b>= Total (D) divided by Average (C)</b>		

**Site:** 8850 Mentor Ave

**Customer Eligible Exemption Period:** 6 Month(s) Note 3

## Notes

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) Savings as a percent of usage is equal to the of total project savings (D) divided by the 3 year average Weather Adjusted Usage with Energy Efficiency Addbacks (C).

(3) Customer exemption determined by savings percentage in relation to energy efficiency schedule as set forth in O.R.C. 4928.66(A)(1)(a).

(4) The exemption period reflects the maximum potential exemption period. NOTE: The FirstEnergy Utilities cannot guarantee the length of the exemption period that will ultimately be approved by the Commission.

### Exhibit 3 Utility Cost Test

UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh (A)	Utility Avoided Cost \$/MWh (B)	Utility Avoided Cost \$ (C)	Utility Cost \$ (D)	Cash Rebate \$ (E)	Administrator Variable Fee \$ (F)	Total Utility Cost \$ (G)	UCT (H)
1	109	\$ 308	\$ 33,577	\$ 4,050	\$0	\$1,089	\$ 5,139	6.5
<b>Total</b>	<b>109</b>	<b>\$ 308</b>	<b>33,577</b>	<b>4,050</b>	<b>\$0</b>	<b>\$1,089</b>	<b>5,139</b>	<b>6.5</b>

#### Notes

- (A) From Exhibit 2, = kWh saved / 1000
- (B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).
- (C) = (A) \* (B)
- (D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.
- (E) This is the amount of the cash rebate paid to the customer for this project.
- (F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.
- (G) = (D) + (E) + (F)
- (H) = (C) / (G)

Heinens Inc ~ H #9  
Docket No. 13-0051

Site: 8850 Mentor Ave



Customer Legal Entity Name: Heinens Inc  
Site Address: H #14  
Principal Address: 8482 E Washington St

Project No.	Project Name	Narrative description of your program including, but not limited to, make, model, and year of any installed and replaced equipment:	Description of methodologies, protocols and practices used in measuring and verifying project results	What date would you have replaced your equipment if you had not replaced it early? Also, please explain briefly how you determined this future replacement date.	Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment.
1	Installation of Glass Door Refrigeration Cases	Installed 116 linear foot of refrigeration cases with glass doors. These replaced 116 foot of multi deck open case displays.	Refrigerated Case Engineering study attached. The comperssor, fan, lighting and anti sweat heat usage per linear foot was calculated for both a multideck open case and and the new refrigeration case with glass doors. The savings per linear ft was multiplied by the linear feet of case installed and multiplied by 365 days for the year.	20 years	N/A

## Exhibit 2

**Customer Legal Entity Name:** Heinen's Inc

**Site:** H #14

Principal Address: 8482 E Washington St

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (C)	Note 1
2011	27,450,550	27,450,550	27,608,478	
2010	27,094,200	27,094,200	27,252,128	
2009	27,855,430	27,855,430	27,892,208	
<b>Average</b>	<b>27,466,727</b>	<b>27,466,727</b>	<b>27,584,271</b>	

Project Number	Project Name	In-Service Date	Project Cost \$	KWh Saved/Year Counting towards Utility compliance	KWh Saved/Year (D) eligible for incentive	Utility Peak Demand Reduction Contribution, KW	Commitment Payment \$
1	Installation of Glass Door Refrigeration Cases	10/08/2009	\$251,862	157,928	157,928	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
			Total	157,928	157,928	0	\$0

<b>Docket No.</b>	13-0051	<b>Savings as percent of usage</b>	0.6% Note 2
<b>Site:</b>	8482 E Washington St	<b>= Total (D) divided by Average (C)</b>	

**Customer Eligible Exemption Period:** 7 Month(s) Note 3

## Notes

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) Savings as a percent of usage is equal to the of total project savings (D) divided by the 3 year average Weather Adjusted Usage with Energy Efficiency Addbacks (C).

(3) Customer exemption determined by savings percentage in relation to energy efficiency schedule as set forth in O.R.C. 4928.66(A)(1)(a).

(4) The exemption period reflects the maximum potential exemption period. NOTE: The FirstEnergy Utilities cannot guarantee the length of the exemption period that will ultimately be approved by the Commission.

### Exhibit 3 Utility Cost Test

UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh (A)	Utility Avoided Cost \$/MWh (B)	Utility Avoided Cost \$ (C)	Utility Cost \$ (D)	Cash Rebate \$ (E)	Administrator Variable Fee \$ (F)	Total Utility Cost \$ (G)	UCT (H)
1	158	\$ 308	\$ 48,686	\$ 4,050	\$0	\$1,579	\$ 5,629	8.6
<b>Total</b>	<b>158</b>	<b>\$ 308</b>	<b>48,686</b>	<b>4,050</b>	<b>\$0</b>	<b>\$1,579</b>	<b>5,629</b>	<b>8.6</b>

#### Notes

- (A) From Exhibit 2, = kWh saved / 1000
- (B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).
- (C) = (A) \* (B)
- (D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.
- (E) This is the amount of the cash rebate paid to the customer for this project.
- (F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.
- (G) = (D) + (E) + (F)
- (H) = (C) / (G)

Heinens Inc ~ H #14  
Docket No. 13-0051

Site: 8482 E Washington St

Customer Legal Entity Name: Heinens Inc  
Site Address: H #17  
Principal Address: 8383 Chippewa Rd

Project No.	Project Name	Narrative description of your program including, but not limited to, make, model, and year of any installed and replaced equipment:	Description of methodologies, protocols and practices used in measuring and verifying project results	What date would you have replaced your equipment if you had not replaced it early? Also, please explain briefly how you determined this future replacement date.	Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment.
1	Installation of Glass Door Refrigeration Cases	Installed 130 linear foot of refrigeration cases with glass doors. These replaced 130 foot of multi deck open case displays.	Refrigerated Case Engineering study attached. The comperssor, fan, lighting and anti sweat heat usage per linear foot was calculated for both a multideck open case and and the new refrigeration case with glass doors. The savings per linear ft was multiplied by the linear feet of case installed and multiplied by 365 days for the year.	20 years	N/A

## Exhibit 2

**Customer Legal Entity Name:** Heinen's Inc

**Site:** H #17

**Principal Address:** 8383 Chippewa Rd

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (C)	Note 1
2011	26,204,150	26,204,150	26,259,914	
2010	27,575,480	27,575,480	27,575,480	
2009	26,504,020	26,504,020	26,504,020	
<b>Average</b>	<b>26,761,217</b>	<b>26,761,217</b>	<b>26,779,805</b>	

Project Number	Project Name	In-Service Date	Project Cost \$	KWh Saved/Year Counting towards Utility compliance	KWh Saved/Year (D) eligible for incentive	Utility Peak Demand Reduction Contribution, KW	Commitment Payment \$
1	Installation of Glass Door Refrigeration Cases	09/08/2011	\$112,060	176,989	176,989	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
			Total	176,989	176,989	0	\$0

<b>Docket No.</b>	13-0051	<b>Savings as percent of usage</b>	0.7% Note 2
<b>Site:</b>	8383 Chippewa Rd	<b>= Total (D) divided by Average (C)</b>	

**Customer Eligible Exemption Period:** 8 Month(s) Note 3

## Notes

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) Savings as a percent of usage is equal to the of total project savings (D) divided by the 3 year average Weather Adjusted Usage with Energy Efficiency Addbacks (C).

(3) Customer exemption determined by savings percentage in relation to energy efficiency schedule as set forth in O.R.C. 4928.66(A)(1)(a).

(4) The exemption period reflects the maximum potential exemption period. NOTE: The FirstEnergy Utilities cannot guarantee the length of the exemption period that will ultimately be approved by the Commission.

### Exhibit 3 Utility Cost Test

UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh (A)	Utility Avoided Cost \$/MWh (B)	Utility Avoided Cost \$ (C)	Utility Cost \$ (D)	Cash Rebate \$ (E)	Administrator Variable Fee \$ (F)	Total Utility Cost \$ (G)	UCT (H)
1	177	\$ 308	\$ 54,562	\$ 4,050	\$0	\$1,770	\$ 5,820	9.4
<b>Total</b>	<b>177</b>	<b>\$ 308</b>	<b>54,562</b>	<b>4,050</b>	<b>\$0</b>	<b>\$1,770</b>	<b>5,820</b>	<b>9.4</b>

#### Notes

- (A) From Exhibit 2, = kWh saved / 1000
- (B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).
- (C) = (A) \* (B)
- (D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.
- (E) This is the amount of the cash rebate paid to the customer for this project.
- (F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.
- (G) = (D) + (E) + (F)
- (H) = (C) / (G)

Heinens Inc ~ H #17  
Docket No. 13-0051

Site: 8383 Chippewa Rd

Customer Legal Entity Name: Heinens Inc  
Site Address: H #18  
Principal Address: 35980 Detroit Rd

Project No.	Project Name	Narrative description of your program including, but not limited to, make, model, and year of any installed and replaced equipment:	Description of methodologies, protocols and practices used in measuring and verifying project results	What date would you have replaced your equipment if you had not replaced it early? Also, please explain briefly how you determined this future replacement date.	Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment.
1	Installation of Glass Door Refrigeration Cases	Installed 105 linear foot of refrigeration cases with glass doors. These replaced 105 foot of multi deck open case displays.	Refrigerated Case Engineering study attached. The comperssor, fan, lighting and anti sweat heat usage per linear foot was calculated for both a multideck open case and and the new refrigeration case with glass doors. The savings per linear ft was multiplied by the linear feet of case installed and multiplied by 365 days for the year.	20 years	N/A

## Exhibit 2

**Customer Legal Entity Name:** Heinen's Inc

**Site:** H #18

**Principal Address:** 35980 Detroit Rd

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (C)	Note 1
2011	33,708,800	33,708,800	33,761,673	
2010	33,124,800	33,124,800	33,124,800	
2009	30,852,800	30,852,800	30,852,800	
<b>Average</b>	<b>32,562,133</b>	<b>32,562,133</b>	<b>32,579,758</b>	

Project Number	Project Name	In-Service Date	Project Cost \$	KWh Saved/Year Counting towards Utility compliance	KWh Saved/Year (D) eligible for incentive	Utility Peak Demand Reduction Contribution, KW	Commitment Payment \$
1	Installation of Glass Door Refrigeration Cases	08/19/2011	\$82,400	142,952	142,952	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
			Total	142,952	142,952	0	\$0

<b>Docket No.</b>	13-0051	<b>Savings as percent of usage</b>	0.4% Note 2
<b>Site:</b>	35980 Detroit Rd	<b>= Total (D) divided by Average (C)</b>	

**Customer Eligible Exemption Period:** 5 Month(s) Note 3

## Notes

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) Savings as a percent of usage is equal to the of total project savings (D) divided by the 3 year average Weather Adjusted Usage with Energy Efficiency Addbacks (C).

(3) Customer exemption determined by savings percentage in relation to energy efficiency schedule as set forth in O.R.C. 4928.66(A)(1)(a).

(4) The exemption period reflects the maximum potential exemption period. NOTE: The FirstEnergy Utilities cannot guarantee the length of the exemption period that will ultimately be approved by the Commission.



### Exhibit 3 Utility Cost Test

UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh (A)	Utility Avoided Cost \$/MWh (B)	Utility Avoided Cost \$ (C)	Utility Cost \$ (D)	Cash Rebate \$ (E)	Administrator Variable Fee \$ (F)	Total Utility Cost \$ (G)	UCT (H)
1	143	\$ 308	\$ 44,069	\$ 4,050	\$0	\$1,430	\$ 5,480	8.0
<b>Total</b>	<b>143</b>	<b>\$ 308</b>	<b>44,069</b>	<b>4,050</b>	<b>\$0</b>	<b>\$1,430</b>	<b>5,480</b>	<b>8.0</b>

#### Notes

- (A) From Exhibit 2, = kWh saved / 1000
- (B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).
- (C) = (A) \* (B)
- (D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.
- (E) This is the amount of the cash rebate paid to the customer for this project.
- (F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.
- (G) = (D) + (E) + (F)
- (H) = (C) / (G)

Heinens Inc ~ H #18  
Docket No. 13-0051

Site: 35980 Detroit Rd

Customer Legal Entity Name: Heinens Inc  
Site Address: H #20  
Principal Address: 18300 Royalton Rd

Project No.	Project Name	Narrative description of your program including, but not limited to, make, model, and year of any installed and replaced equipment:	Description of methodologies, protocols and practices used in measuring and verifying project results	What date would you have replaced your equipment if you had not replaced it early? Also, please explain briefly how you determined this future replacement date.	Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment.
1	Installation of Glass Door Refrigeration Cases	Installed 157.5 linear foot of refrigeration cases with glass doors. These replaced 157.5 foot of multi deck open case displays.	Refrigerated Case Engineering study attached. The comperssor, fan, lighting and anti sweat heat usage per linear foot was calculated for both a multideck open case and and the new refrigeration case with glass doors. The savings per linear ft was multiplied by the linear feet of case installed and multiplied by 365 days for the year.	20 years	N/A

## Exhibit 2

**Customer Legal Entity Name:** Heinen's Inc

**Site:** H #20

**Principal Address:** 18300 Royalton Rd

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (C)	Note 1
2011	26,292,780	26,292,780	26,372,089	
2010	26,627,953	26,627,953	26,627,953	
2009	26,530,790	26,530,790	26,530,790	
<b>Average</b>	<b>26,483,841</b>	<b>26,483,841</b>	<b>26,510,277</b>	

Project Number	Project Name	In-Service Date	Project Cost \$	KWh Saved/Year Counting towards Utility compliance	KWh Saved/Year (D) eligible for incentive	Utility Peak Demand Reduction Contribution, KW	Commitment Payment \$
1	Installation of Glass Door Refrigeration Cases	08/19/2011	\$87,180	214,428	214,428	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
			Total	214,428	214,428	0	\$0

<b>Docket No.</b>	13-0051	<b>Savings as percent of usage</b>	0.8%	Note 2
<b>Site:</b>	18300 Royalton Rd	<b>= Total (D) divided by Average (C)</b>		

**Customer Eligible Exemption Period:** 10 Month(s) Note 3

## Notes

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) Savings as a percent of usage is equal to the of total project savings (D) divided by the 3 year average Weather Adjusted Usage with Energy Efficiency Addbacks (C).

(3) Customer exemption determined by savings percentage in relation to energy efficiency schedule as set forth in O.R.C. 4928.66(A)(1)(a).

(4) The exemption period reflects the maximum potential exemption period. NOTE: The FirstEnergy Utilities cannot guarantee the length of the exemption period that will ultimately be approved by the Commission.

### Exhibit 3 Utility Cost Test

UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh (A)	Utility Avoided Cost \$/MWh (B)	Utility Avoided Cost \$ (C)	Utility Cost \$ (D)	Cash Rebate \$ (E)	Administrator Variable Fee \$ (F)	Total Utility Cost \$ (G)	UCT (H)
1	214	\$ 308	\$ 66,104	\$ 4,050	\$0	\$2,144	\$ 6,194	10.7
<b>Total</b>	<b>214</b>	<b>\$ 308</b>	<b>66,104</b>	<b>4,050</b>	<b>\$0</b>	<b>\$2,144</b>	<b>6,194</b>	<b>10.7</b>

#### Notes

- (A) From Exhibit 2, = kWh saved / 1000
- (B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).
- (C) = (A) \* (B)
- (D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.
- (E) This is the amount of the cash rebate paid to the customer for this project.
- (F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.
- (G) = (D) + (E) + (F)
- (H) = (C) / (G)

Heinens Inc ~ H #20  
Docket No. 13-0051

Site: 18300 Royalton Rd

40 HP compressor								
	RUN TIME	HOURS	SPEED	Total HP	MOTORS	Motor Eff	KW	KWH
	100%	8,760	100%	40	1	92%	32.4	284,129
	0%	0	100%	0	0		0.0	0
<b>TOTAL</b>	100%	8,760						284,129
40 HP compressor								
	RUN TIME	HOURS	SPEED	Total HP	MOTORS	Motor Eff	KW	KWH
	10%	876	50%	40	1	92%	16.2	14,206
	10%	876	60%	40	1	92%	19.5	17,048
	20%	1,752	70%	40	1	92%	22.7	39,778
	25%	2,190	80%	40	1	92%	25.9	56,826
	20%	1,752	90%	40	1	92%	29.2	51,143
	15%	1,314	100%	40	1	92%	32.4	42,619
<b>TOTAL</b>	100%	8,760						221,620
								62508.31 KWH SAVED



40 HP compressor								
	RUN TIME	HOURS	SPEED	Total HP	MOTORS	Motor Eff	KW	KWH
	100%	8,760	100%	40	1	92%	32.4	284,129
	0%	0	100%	0	0		0.0	0
<b>TOTAL</b>	100%	8,760						284,129
40 HP compressor								
	RUN TIME	HOURS	SPEED	Total HP	MOTORS	Motor Eff	KW	KWH
	10%	876	50%	40	1	92%	16.2	14,206
	10%	876	60%	40	1	92%	19.5	17,048
	20%	1,752	70%	40	1	92%	22.7	39,778
	25%	2,190	80%	40	1	92%	25.9	56,826
	20%	1,752	90%	40	1	92%	29.2	51,143
	15%	1,314	100%	40	1	92%	32.4	42,619
<b>TOTAL</b>	100%	8,760						221,620
								62508.31 KWH SAVED





Door Case Calculations

Store	Linerar Ft	Reach In Multi Deck Ave KWH Per Day per Ft	Glass Door Ave KWH Per Day per Ft	Ave KWH KWH Saved Per Day per Ft	Annual KWH Saved
4	76.00	8.50	4.77	3.73	103470
6	80.00	8.50	4.77	3.73	108916
7	96.00	8.50	4.77	3.73	130699
9	80.00	8.50	4.77	3.73	108916
14	116.00	8.50	4.77	3.73	157928
17	130.00	8.50	4.77	3.73	176989
18	105.00	8.50	4.77	3.73	142952
20	157.50	8.50	4.77	3.73	214428

325762.5

4.77 KWH per day based on enigeering study attached

8.5 KWH per day based on enigeering study attached

45900

41279

87179

## Heat Recovery Reduction in Fan Usage

Based on engineering study provided by by Heinens

2000 gallons of DHW per day

Total Savings Electric	249.7
------------------------	-------

cost per KWH	0.11
--------------	------

KWH	2270
-----	------

Average 30% reduction in runtime

Total KWH before	7567
------------------	------

# ORZ Reach-In Glass Door Merchandiser

## 2, 3, 4, 5 & 6-door (Frozen Food / Ice Cream)

### Electrical Data

Doors	Fans Per Case	High Efficiency Fans		Tank <sup>1</sup> Heater		Defrost Heaters (1-Phase)				Defrost Heaters <sup>2</sup> (3-Phase)			
		120 Volts		120 Volts		208 Volts		240 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps <sup>3</sup>	Watts	Amps <sup>3</sup>	Watts
2-door	2	0.6	50	1.3	152	7.5	1552	8.6	2068	6.5	1552	7.5	2068
3-door	3	1.0	75	1.5	171	10.9	2274	12.6	3018	9.5	2274	10.9	3018
4-door	4	1.3	100	1.9	226	14.3	2984	16.6	3992	12.4	2984	14.4	3992
5-door	5	1.6	125	2.3	275	17.5	3640	20.2	4840	15.1	3640	17.4	4840
6-door	6	1.9	150	2.7	320	20.3	4224	23.4	5624	17.6	4224	20.3	5624

### Lighting Data

Doors	LED Lighting					
	Optimax Pro <sup>4</sup>		GE IMMERSION		Crossfire <sup>4</sup> /Polaris	
	120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts
2-door	0.3	39	0.3	32	0.3	30
3-door	0.5	58	0.4	48	0.4	45
4-door	0.6	77	0.5	64	0.5	60
5-door	0.8	96	0.7	80	0.6	75
6-door	1.0	115	0.8	96	0.8	90

### Anti-Condensate Heater Data

Doors	Anthony						Gemtron					
	ELMD		Eliminaator <sup>5</sup>		Eliminaator 2 <sup>5</sup>		Polar RE		Polar LE		Polar EF	
	120 Volts		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2-door	2.1	256	1.7	209	1.2	145	2.1	254	1.4	166	1.2	140
3-door	3.2	378	2.6	309	1.8	213	3.2	378	2.1	246	1.7	207
4-door	4.2	502	3.4	403	2.3	276	4.2	501	2.7	325	2.3	273
5-door	5.2	625	4.2	506	2.9	346	5.3	632	3.4	412	2.9	347
6-door	6.2	743	5.1	607	3.5	416	6.2	747	4.0	483	3.4	405

### Guidelines & Control Settings

Application	Door	BTUH/door		Evaporator (°F)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Discharge <sup>6</sup> Air Velocity (FPM)
		Conventional	Parallel				
Frozen	ELMD/Polar RE	1044	1014	-7	3 - 5	-3	400
	Eliminaator/2; Polar LE/EF (multi-door)	988	960	-7	3 - 5	-3	400
Ice Cream	ELMD/Polar RE	1091	1060	-15	3 - 5	-10	400
	Eliminaator/2; Polar LE/EF (multi-door)	1027	998	-15	3 - 5	-10	400

### Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
1	13 - 15	46	60 <sup>7</sup>	---	---	24	73 <sup>9</sup>

- 1 Tank heater and fan motors share the same circuit (separate cycles). Be certain that the circuit wiring is properly sized to handle the higher current draw of the tank heater.
- 2 3-phase load is unbalanced.
- 3 Figure given is maximum line amperage per phase.
- 4 Low-power lights. High-power option available.
- 5 Values provided are for doors with no heat on the glass.
- 6 Average discharge air velocity at peak of defrost.
- 7 Recommended sensor location is top-center of coil, 8" from left-hand coil end, beneath provided access hatch. If using a discharge air temperature sensor to terminate defrost, utilize a 55°F termination temp.
- 8 NOTE: "---" indicates that the feature is not an option with this case model.
- 9 Recommended location for Hot Gas defrost sensor is the dump line. If using a discharge air temperature sensor to terminate defrost, utilize a 55°F termination temp.

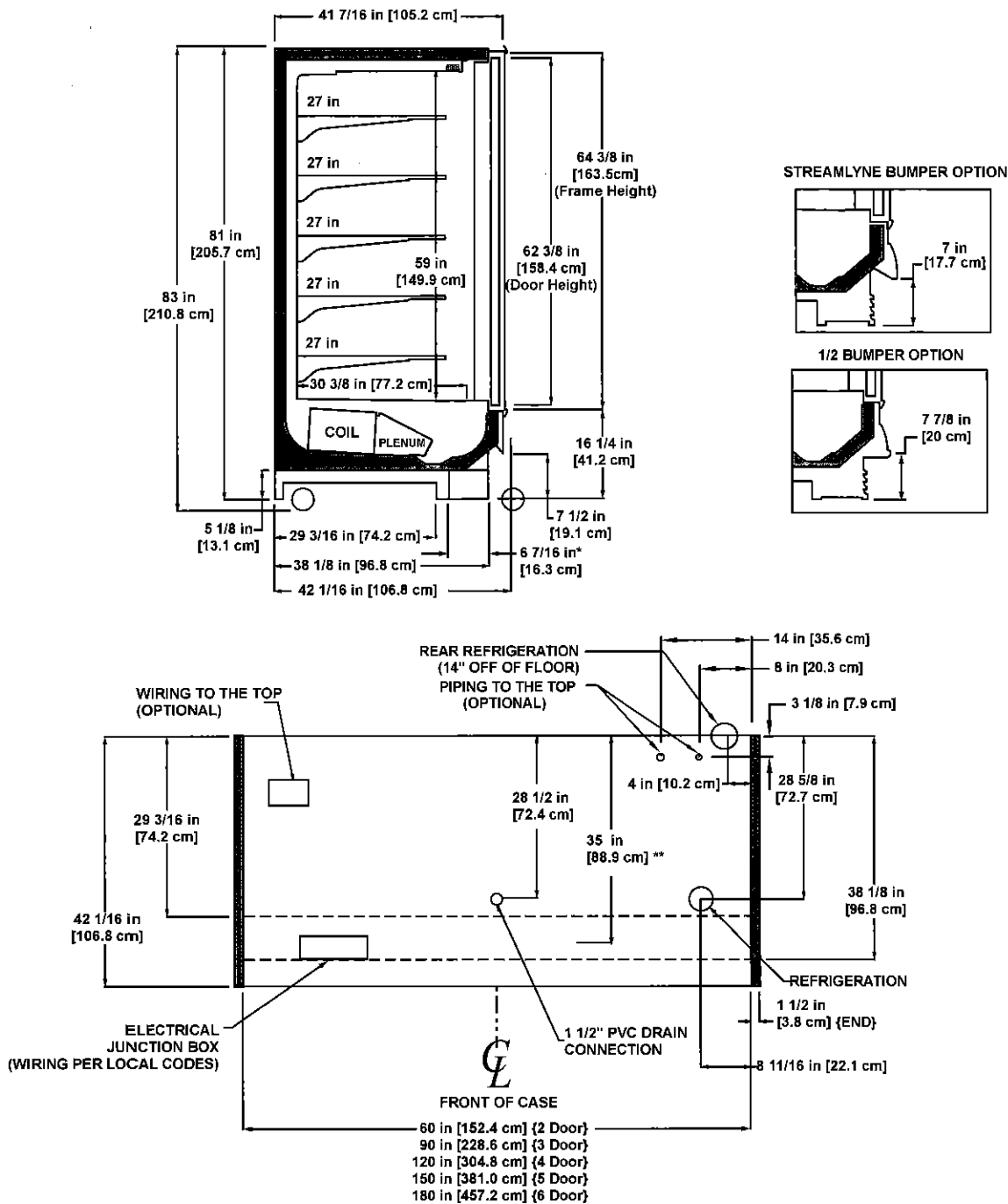
**Hill PHOENIX**  
EXCELLENCE  
A DOWNEY COMPANY



Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

# ORZ Reach-In Glass Door Merchandiser

## 2, 3, 4, 5 & 6-door (Frozen Food / Ice Cream)



### NOTES:

\* STUB-UP AREA

\*\* RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING TO THE TOP ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINES: 1/2" (4DR OR LESS); 5/8" (5DR & 6DR)
- LIQUID LINES: 1/2" (ALL LENGTHS); BOTH ELECTRIC & HOT GAS DEFROST
- AVAILABLE SHELF SIZES: WIRE SHELVES 16", 18", 20", 22" & 23 1/2"; SOLID SHELVES 18", 20", 22", 24" & 27"
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



# ONRZ Narrow Reach-In Glass Door Merchandiser

## 1, 2, 3, 4, 5 & 6-door (Frozen Food / Ice Cream)

### Electrical Data

Doors	Fans Per Case	High Efficiency Fans		Tank <sup>1</sup> Heater		Defrost Heaters (1-Phase)				Defrost Heaters <sup>2</sup> (3-Phase)			
		120 Volts		120 Volts		208 Volts		240 Volts		208 Volts		240 Volts	
		Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps <sup>3</sup>	Watts	Amps <sup>3</sup>	Watts
2-door	2	0.6	50	1.3	152	7.5	1552	8.6	2068	6.5	1552	7.5	2068
3-door	3	1.0	75	1.5	171	10.9	2274	12.6	3018	9.5	2274	10.9	3018
4-door	4	1.3	100	1.9	226	14.3	2984	16.6	3992	12.4	2984	14.4	3992
5-door	5	1.6	125	2.3	275	17.5	3640	20.2	4840	15.1	3640	17.4	4840
6-door	6	1.9	150	2.7	320	20.3	4224	23.4	5624	17.6	4224	20.3	5624

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Doors	LED Lighting					
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Doors	Anthony						Gemtron					
	ELMD		Eliminaator <sup>5</sup>		Eliminaator 2 <sup>5</sup>		Polar RE		Polar LE		Polar EF	
	120 Volts		120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
2-door	2.1	256	1.7	209	1.2	145	2.1	254	1.4	166	1.2	140
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### Guidelines & Control Settings

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### Defrost Controls

Defrosts Per Day	Run-Off Time (min)	Electric Defrost		Timed-Off Defrost		Hot Gas Defrost	
		Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
1	13 - 15	46	60 <sup>7</sup>	---	---	24	73 <sup>8</sup>

- 1 Tank heater and fan motors share the same circuit (separate cycles). Be certain that the circuit wiring is properly sized to handle the higher current draw of the tank heater.
- 2 3-phase load is unbalanced.
- 3 Figure given is maximum line amperage per phase.
- 4 Low-power lights. High-power option available.
- 5 Values provided are for doors with no heat on the glass.
- 6 Average discharge air velocity at peak of defrost.
- 7 Recommended sensor location is top-center of coil, 8" from left-hand coil end, beneath provided access hatch. If using a discharge air temperature sensor to terminate defrost, utilize a 55°F termination temp.
- 8 NOTE: " - - " indicates that the feature is not an option with this case model.
- 9 Recommended location for Hot Gas defrost sensor is the dump line. If using a discharge air temperature sensor to terminate defrost, utilize a 55°F termination temp.

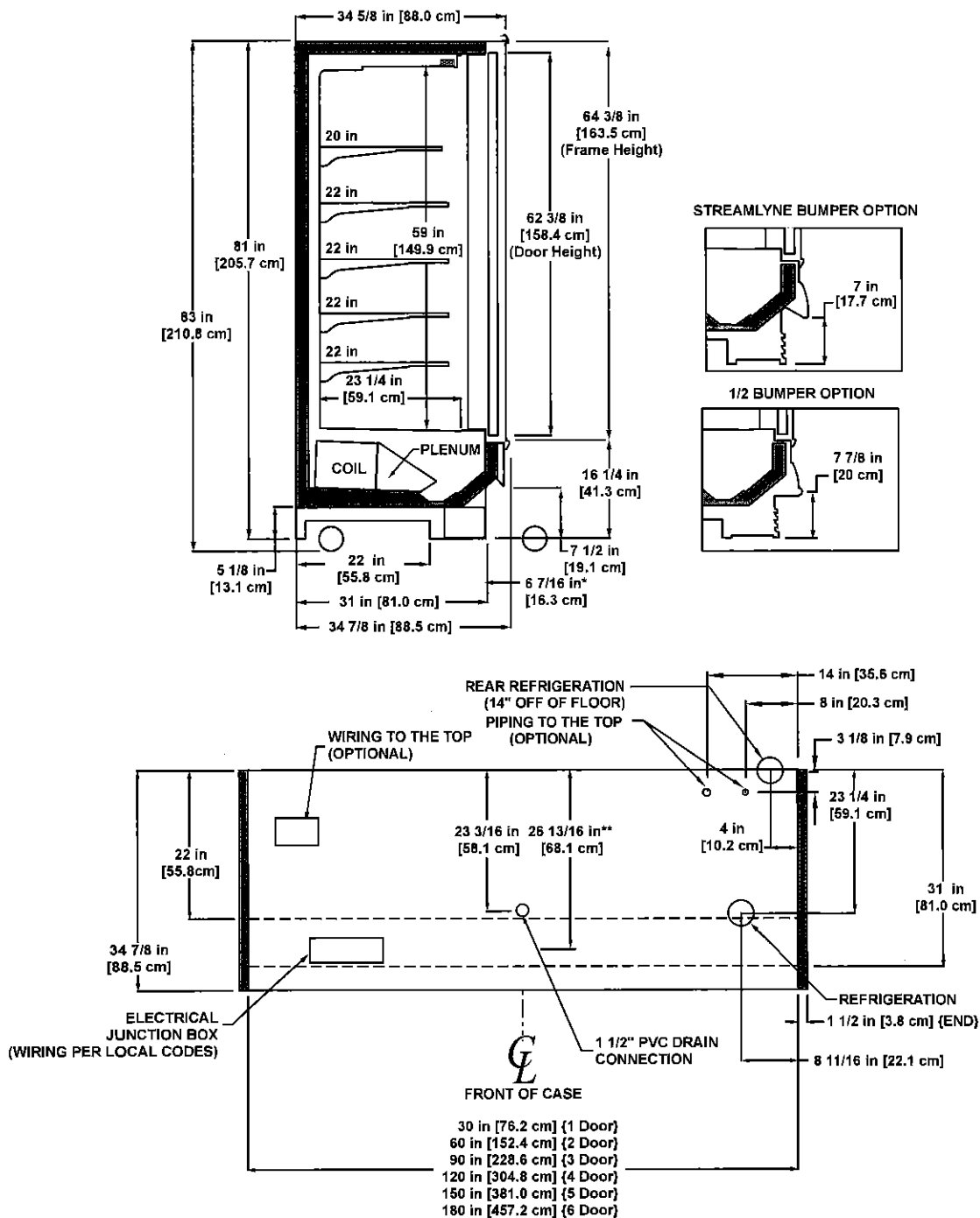
**Hill PHOENIX**  
EXCELLENCE<sup>®</sup>  
A BUDGET COMPANY



Defrost per Day	Time
1	12 midnight
2	12am - 12pm
3	6am - 2pm - 10pm
4	12am - 6am - 12pm - 6pm

# ONRZ Narrow Reach-In Glass Door Merchandiser

## 1, 2, 3, 4, 5 & 6-door (Frozen Food / Ice Cream)



### NOTES:

\* STUB-UP AREA

\*\* RECOMMENDED STUB-UP CENTERLINE FOR ELECTRICAL AND HUB DRAINS

- ENDS ADD APPROXIMATELY 1 INCH TO CASE HEIGHT
- WIRING-TO-THE-TOP- ADDS APPROXIMATELY 4 INCHES TO CASE HEIGHT
- A 2" MINIMUM AIR GAP IS REQUIRED BETWEEN THE REAR OF THE CASE AND A WALL
- SUCTION LINES: 1/2" (4DR OR LESS); 5/8" (5DR & 6DR)
- LIQUID LINES: 1/2" (ALL LENGTHS); BOTH ELECTRIC & HOT GAS DEFROST
- AVAILABLE SHELF SIZES: WIRE SHELVES 16", 18", 20" & 22"; SOLID SHELVES 18", 20" & 22"
- TOP SHELF MUST BE 20" OR SHORTER
- RECOMMENDED CONFIGURATION IS 20" SHELF AND 4 22" SHELVES BELOW TOP SHELF
- DASHED LINES SIGNIFY AREA INSIDE BASE RAIL BEHIND KICK-PLATE



**INFORMAL REPORT: THE CONSUMPTION OF HIGH RISE FREEZER FOOD CASES  
VERSUS THE ENERGY CONSUMPTION OF REACH IN CASE  
GLASS DOOR CASES**

**PREPARED FOR: THE HEINEN'S MANAGEMENT**

**BY: RABI RIDHA**

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THE ENERGY CONSUMPTION OF THE HIGH RISE FROZEN FOOD CASE. . .	
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COMPARISON OF ANNUAL ENERGY CONSUMPTION COST . . . . .	
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## LIST OF ILLUSTRATIONS

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## INTRODUCTION

### PURPOSE

The purpose of this report is to define a general method to compare between the energy consumption of different types of cases used in the Heinen's stores. Also, a comparison between the energy consumption of the glass doors reach in frozen food cases versus the high rise case will be provided.

### PROBLEM

The energy consumption of the refrigerated cases is an important contribution in the total energy consumption of a supermarket store. However, more efficient refrigerated cases should not remarkably effect negatively the sales of the displayed merchandise. The Heinen's management is seeking a balance between efficient refrigerated cases and easy access.

### SCOPE

This report will discuss the following:

1. The energy consumption of a refrigerated case.
2. Energy Consumption of the high rise frozen food case.
3. Energy consumption of the glass door reach in the frozen food cases.
4. Comparison of the annual energy consumption cost.

The needed information to complete this report was obtained from Hill Inc., Hussmann Inc., and General Electric.

## THE ENERGY CONSUMPTION OF A REFRIGERATED CASE

The method calculation is simple and is basically to approximate the energy consumption of the components to add them together, and to calculate the total energy consumption per foot per day for the sake of comparison. These five components that are considered the sources of energy consumption in any refrigerated case:

1. Case refrigeration
2. Fan motor
3. A.S. heater
4. Case lighting
5. Defrost heaters

The approximation of each source of consumption will be calculated using the unit: KWH/FT-DAY

1. Case Refrigeration: The following formula can be utilized to approximate the contribution of the case refrigeration.

$$W_1 = \frac{Q}{EER * L} (24 - T) \text{ ----- (1)}$$

Where:

$W_1$  = Refrigeration consumption KWH/FT-DAY  
 $EER$  = Energy efficiency rating  
 $Q$  = Case refrigeration load  
 $L$  = Case length  
 $T$  = Defrost time

Notice that the definition of EER is:

$$EER = \frac{Q}{E.E.} \text{ ----- (1-9)}$$

Where:

$EE$  = Refrigeration electrical energy consumption.

Also:

$$T = \frac{N * F.S.T.}{60} * C.F.I. \text{ ----- (1-6)}$$

Where:

$N$  = Number of different cycles/day  
 $F.S.T.$  = Fail-safe time/defrost cycle  
 $C.F.I.$  = Correction factor for electrical defrost cycles  
other than 208 volts =  $(208^2 - (\text{rating voltage})^2)$

2. Fan Motor: The consumption per KWH/FT-DAY can be calculated as follows keeping in mind that for a glass door case the fan and A.S. heaters are not operated continuously. They will be turned off during defrost cycles:

$$W^2 = \frac{(M^1 * W.R.1)}{L} (24 - T * C.F.I.) \text{ ----- (3)}$$

Where:

$W^2$  = Fan motors consumption KWH/FT-DAY

$M^1$  = Number of fan motors

$W.R.1$  = \_\_\_\_\_ motors watt rating

$C.F.I.$  = Correction factor for case other than glass door cases.

3. A.S. Heaters: The calculations can be done similarly to that of the fan motors consumption:

$$W^3 = \frac{(M^2 * W.R.2)}{L} (24 - T * C.F.3.) \text{ ----- (4)}$$

Where:

$W^3$  = A.S. heaters consumption KWH/FT-DAY

$M^2$  = Number of A.S. heaters

$W.R.2.$  = A.S. heater watt rating

$C.F.2.$  = Correction failure for case other than glass door case.

4. Case Lighting: The case lighting contribution can be calculated as follows:

$$W^4 = \frac{M^3 (W.R.3.)}{L} * (O.T.) \text{ ----- (5)}$$

Where:

$W^4$  = Lighting consumption in KWH/FT-DAY

$M^3$  = Number of lamps

$W.R.3.$  = Lamps watt rating

$O.T.$  = Operation Time (HR/DAY)

5. Defrost Heater: The energy consumption of the defrost cycle is accounted for as shown in Part (1).

### ENERGY CONSUMPTION OF THE HIGH RISE FROZEN FOOD CASE

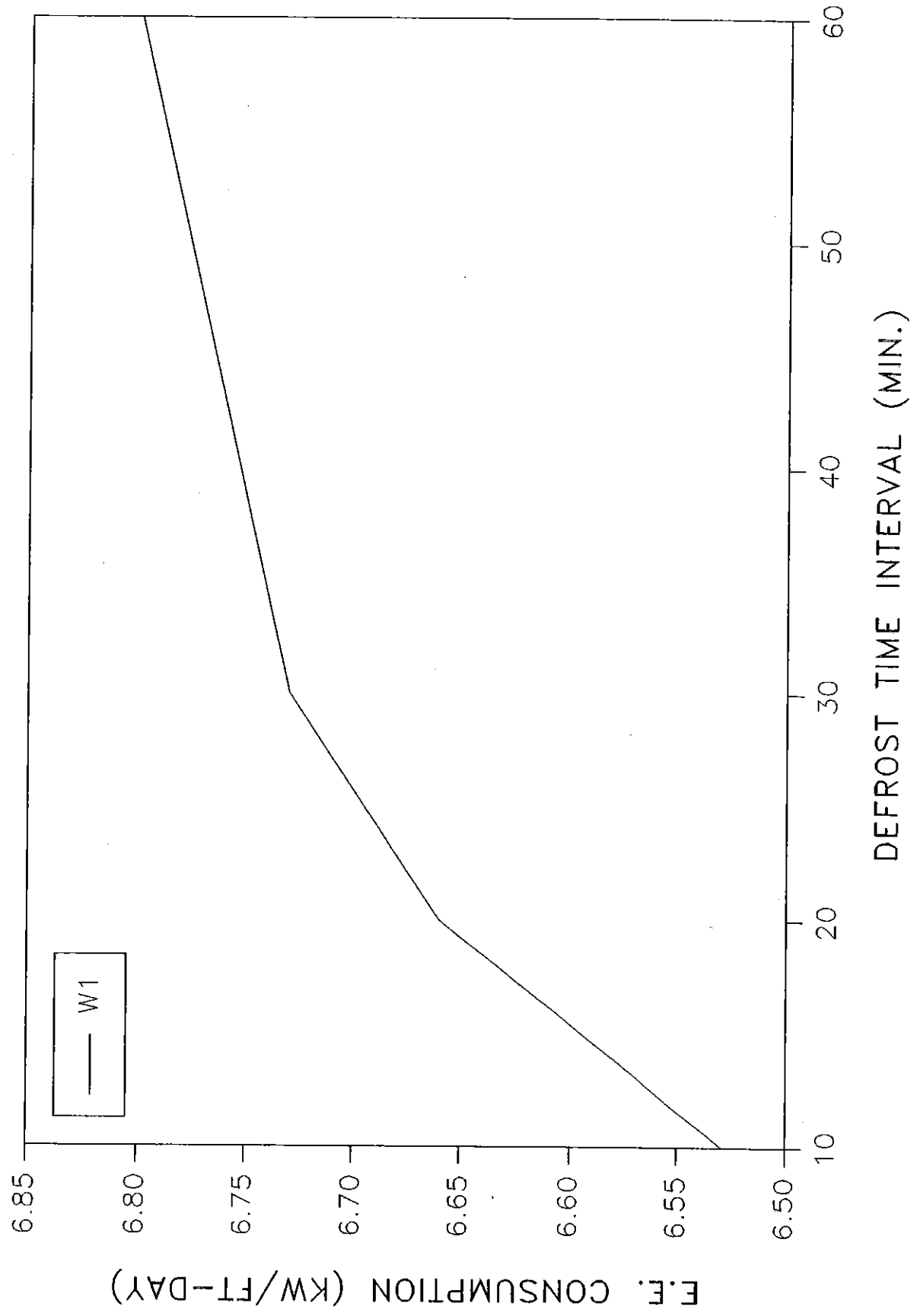
The total energy consumption of this type of frozen food case can be calculated as follows:

$$\text{Total energy consumption} = W^1 + W^2 + W^3 + W^4 \text{ ----- (6)}$$

Applying equations (1) to (3) and considering a maximum gas defrost cycle time interval of 30 minutes and a minimum of 8 minutes, the results are exhibited by Figure (1) to Figure (3) for a range of defrost cycle time interval between 10 to 60 minutes for both cases for the sake of comparison.

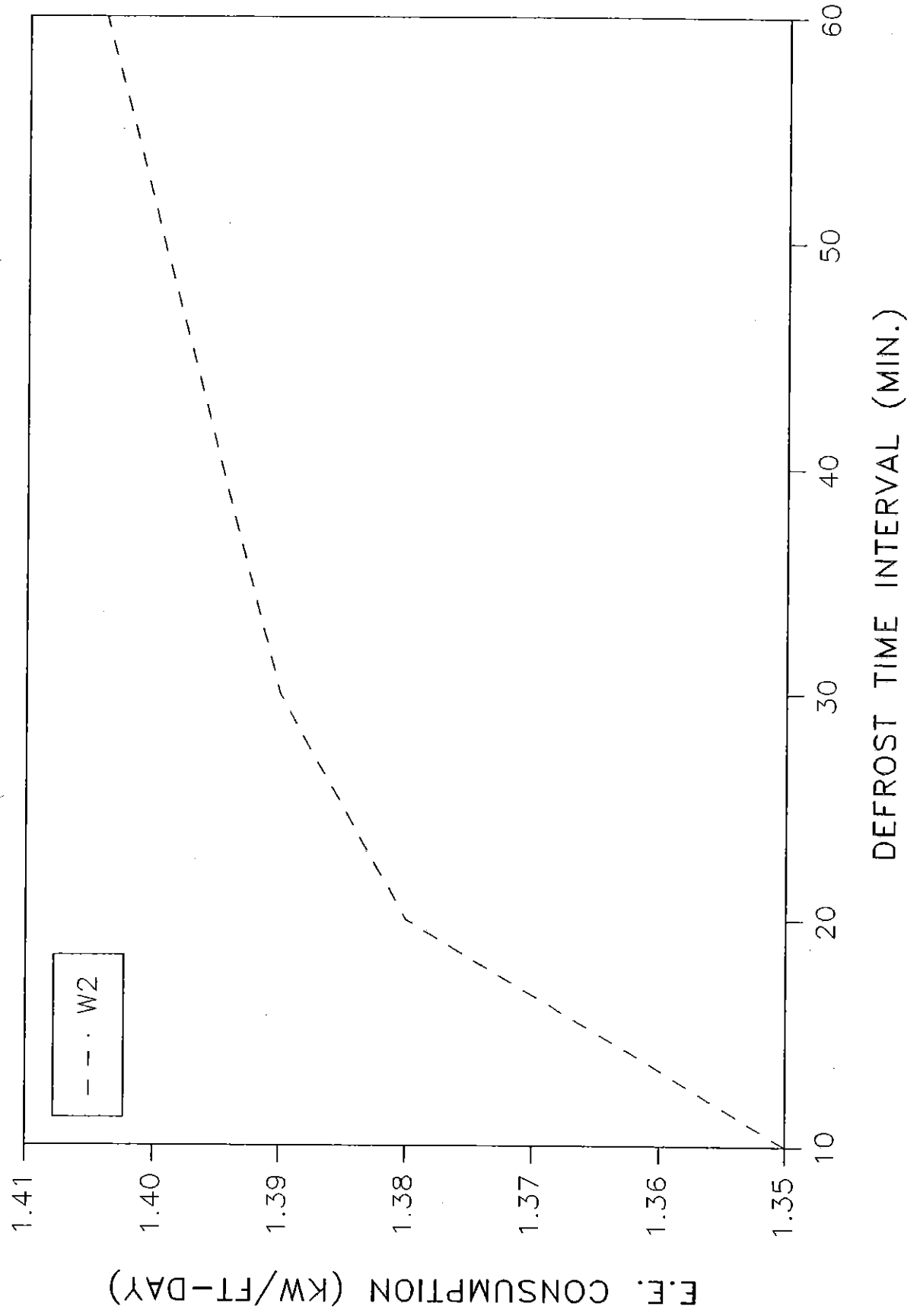
# HEINEN'S HIGH RISE F.F. CASESS E.E. CONSUMPTION

REFRIGERATION CONTRIBUTION (KW/FT-DAY)



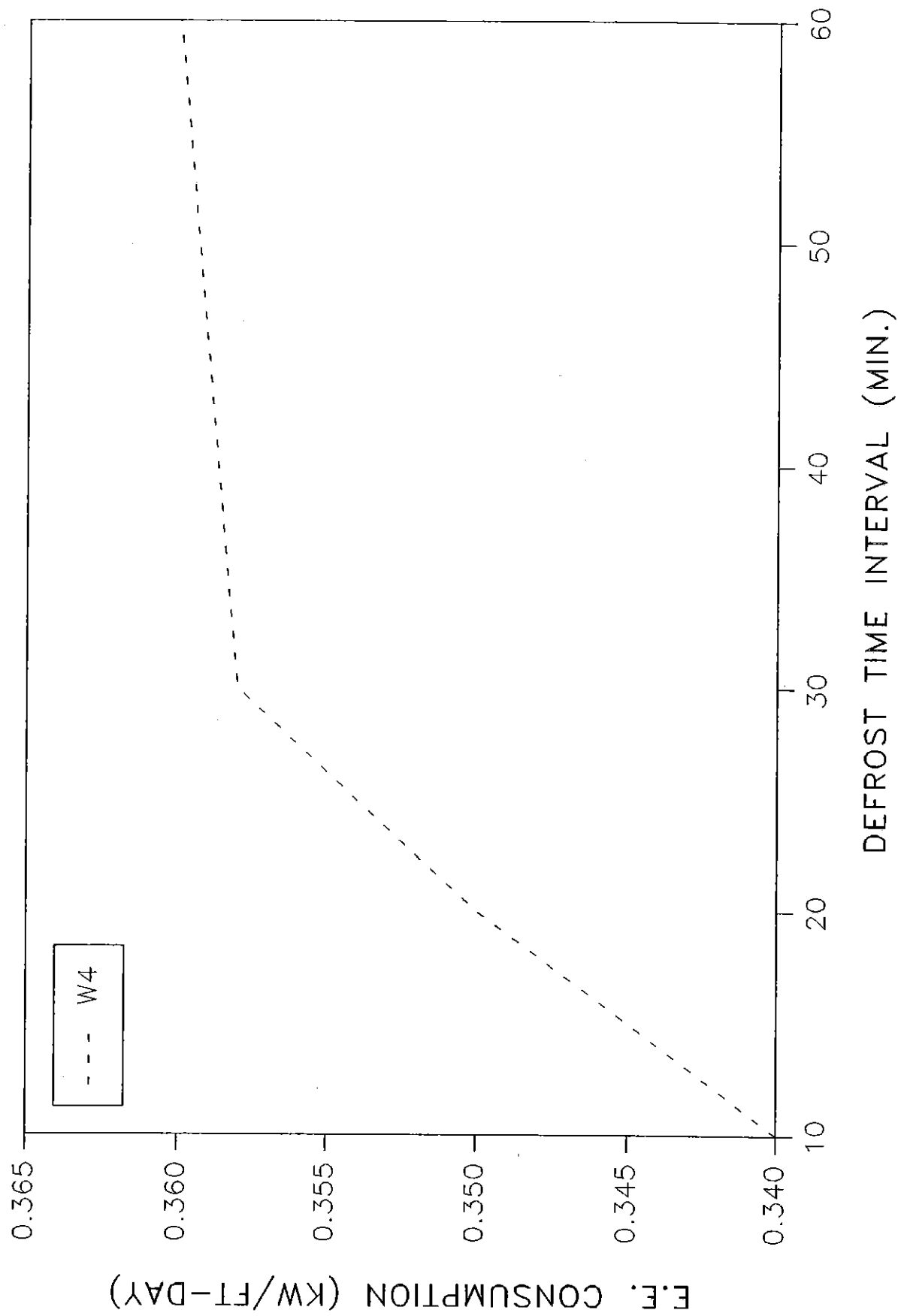
# HEINEN'S HIGH RISE F.F. CASESS E.E. CONSUMPTION

FANS CONTRIBUTION (KW/FT-DAY)



# HEINEN'S HIGH RISE F.F. CASESS E.E. CONSUMPTION

LIGHTING CONTRIBUTION (KWH/FT-DAY)



## ENERGY CONSUMPTION OF THE GLASS DOOR FROZEN FOOD CASE

The total energy consumption can be calculated as follows:

$$\text{Total energy consumption} = W^1 + W^2 + W^3 + W^4 \text{ ----- (7)}$$

Figure (4) to Figure (8) displays the results of equations (1) to (4) with gas defrost of a maximum of 20 minutes and a minimum of 6 minutes.

## COMPARISON OF ANNUAL ENERGY CONSUMPTION COST

In order to compare between the two case performance the annual energy consumption cost should be calculated for the different operation conditions. The annual energy consumption cost (A.C.C.) can be calculated as follows:

$$\text{A.C.C.} = \text{Total energy consumption} * 365 * (\text{C.E.C.}) \text{ ----- (8)}$$

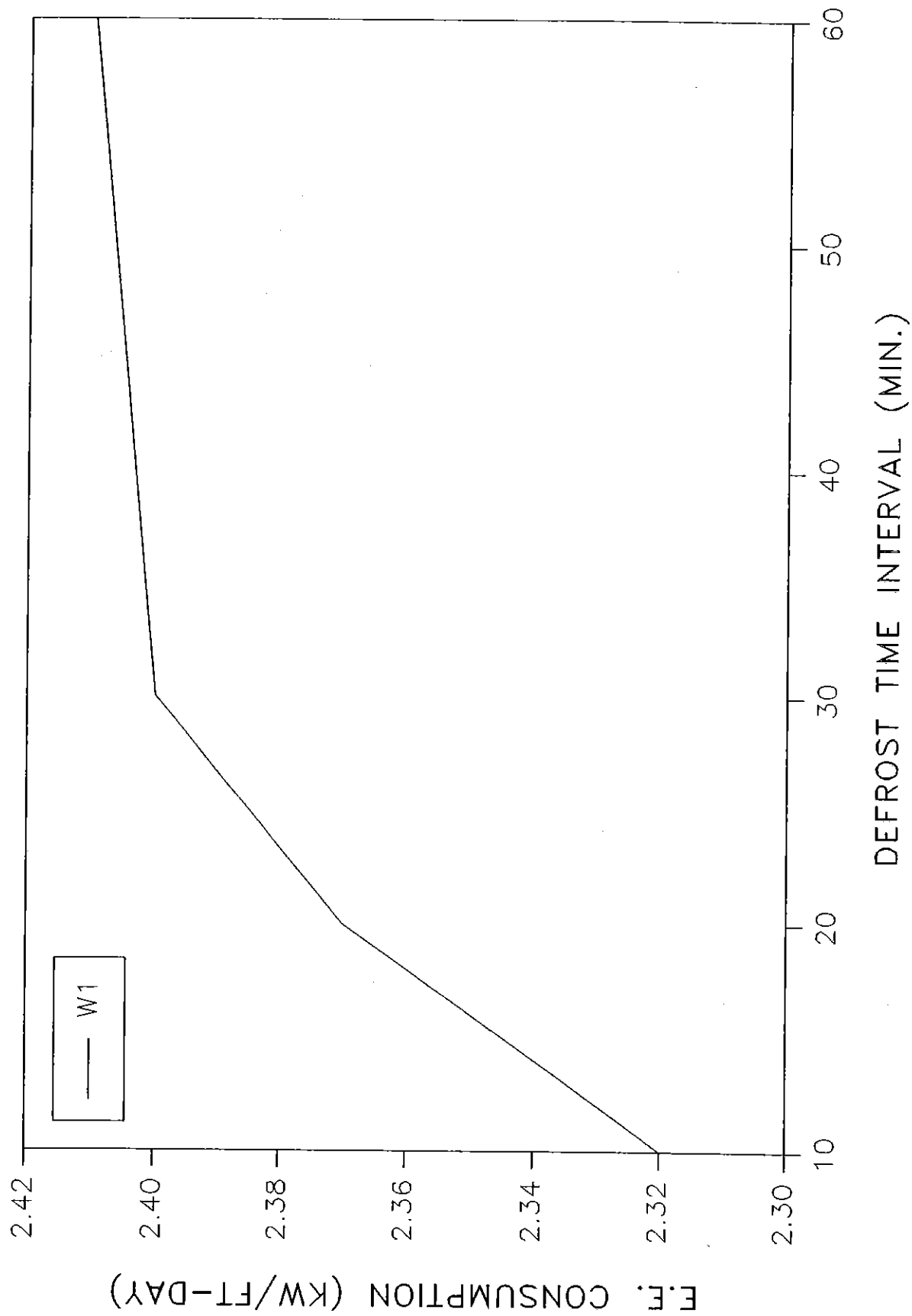
Where:

C.E.C. = Combined energy cost provided by C.E.I. to be 11.8¢/KWH

Figure (9) exhibits the results generated by equation (8) for both cases combined.

# HEINEN'S STORES' GLASS F.F. CASESS E.E. CONSUMPTION

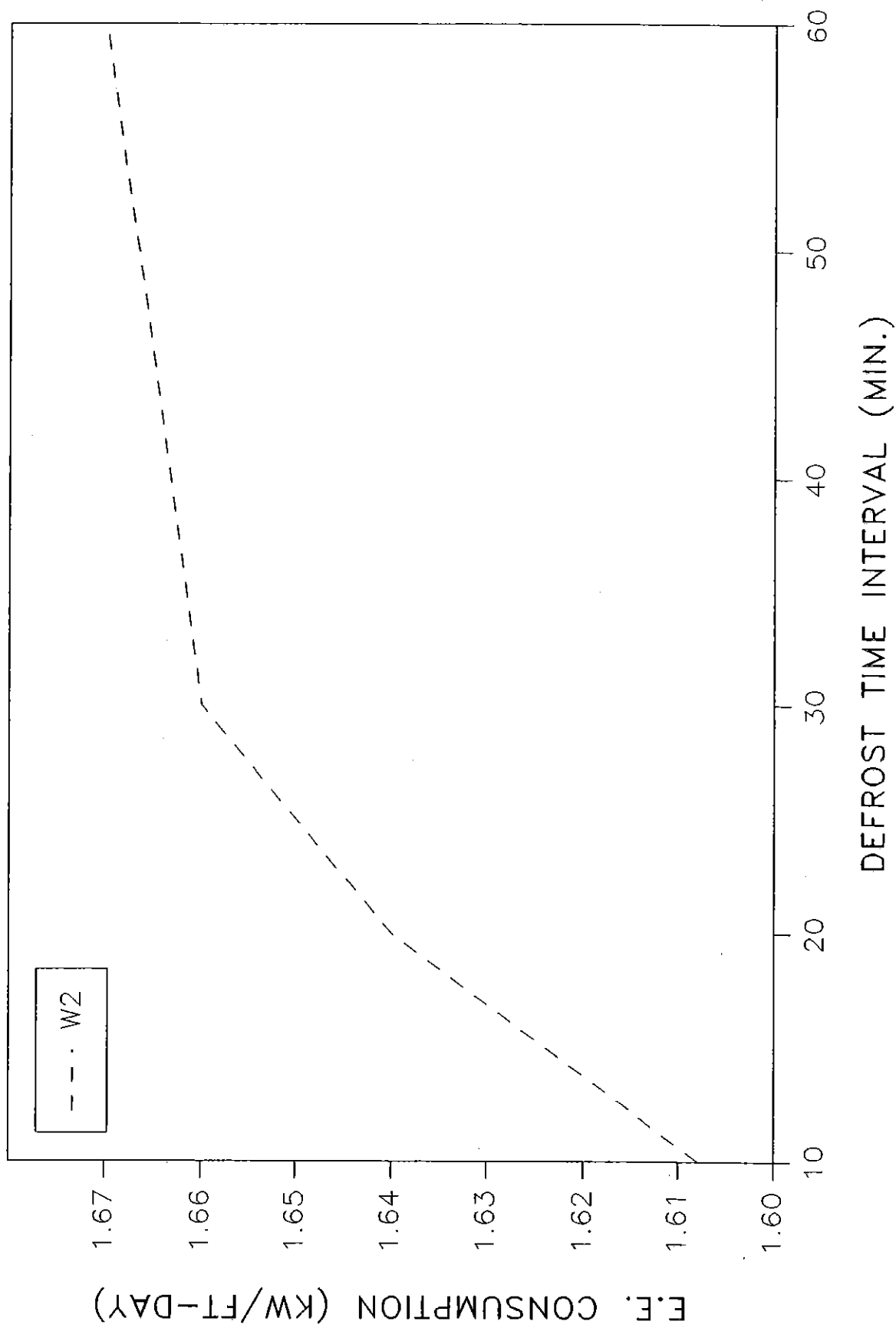
REFRIGERATION CONTRIBUTION (KW/FT-DAY)





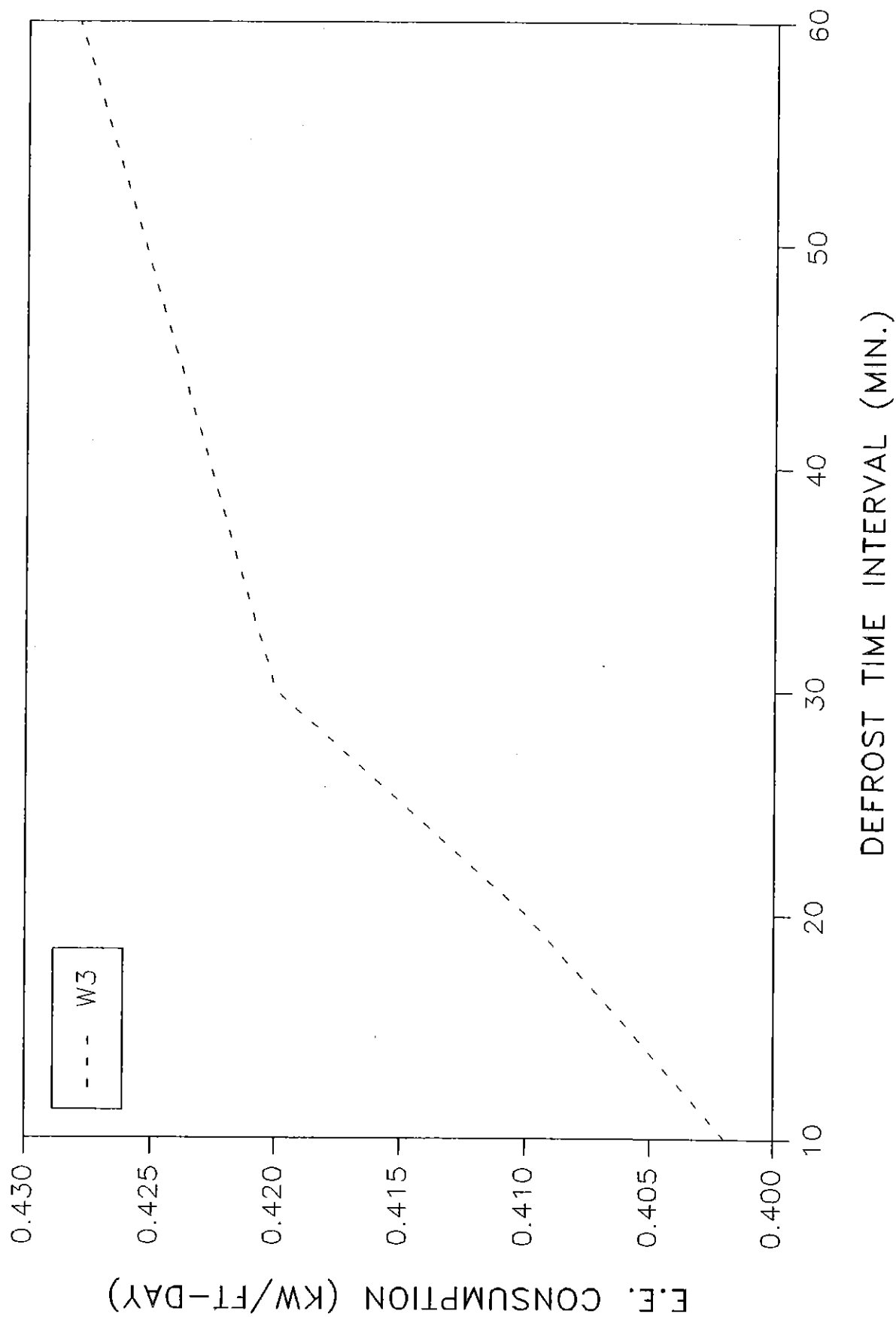
# HEINEN'S STORES' GLASS F.F. CASESS E.E. CONSUMPTION

FANS CONTRIBUTION (KW/FT-DAY)



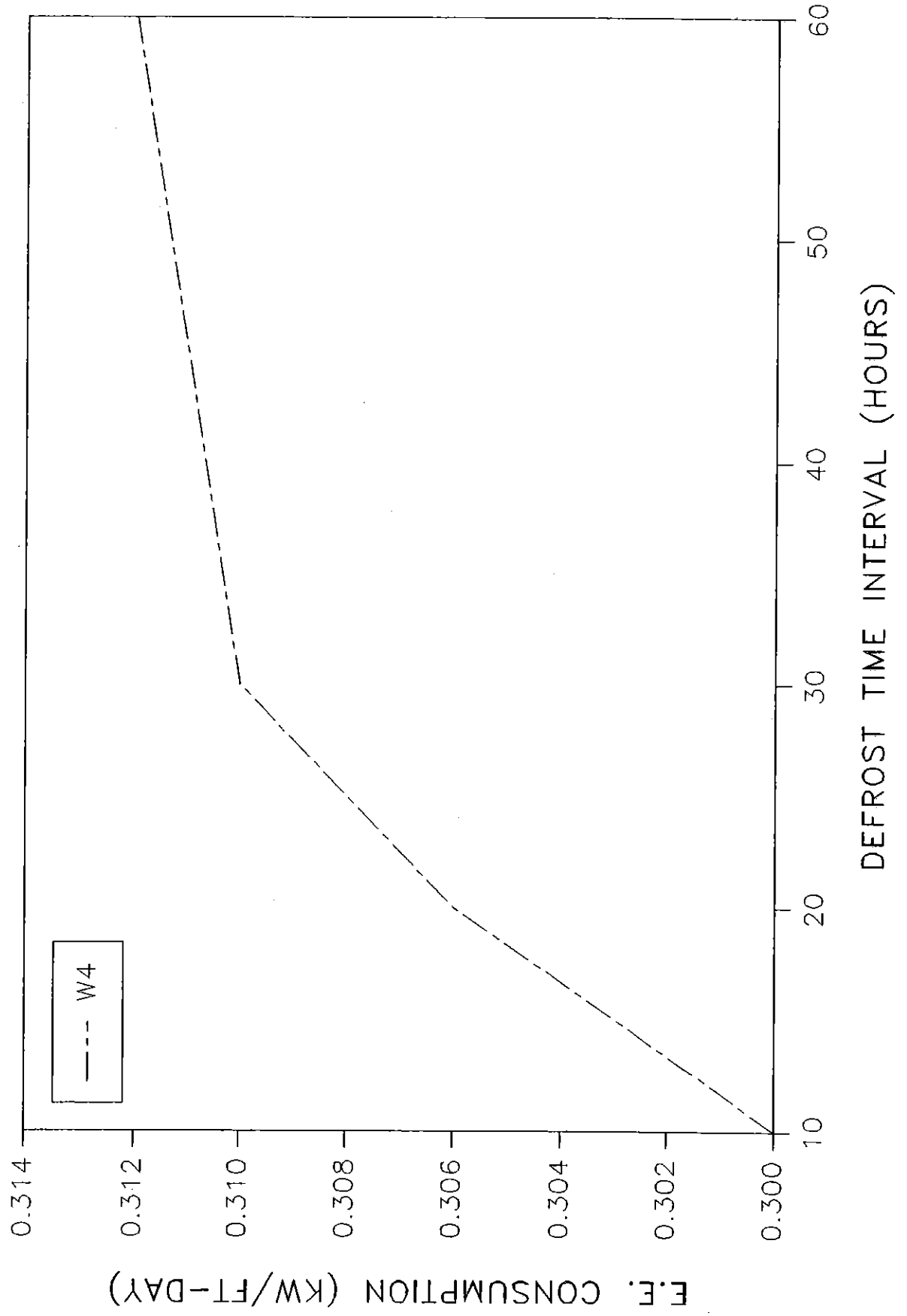
# HEINEN'S STORES' GLASS F.F. CASESS E.E. CONSUMPTION

A.S. CONTRIBUTION (KW/FT-DAY)



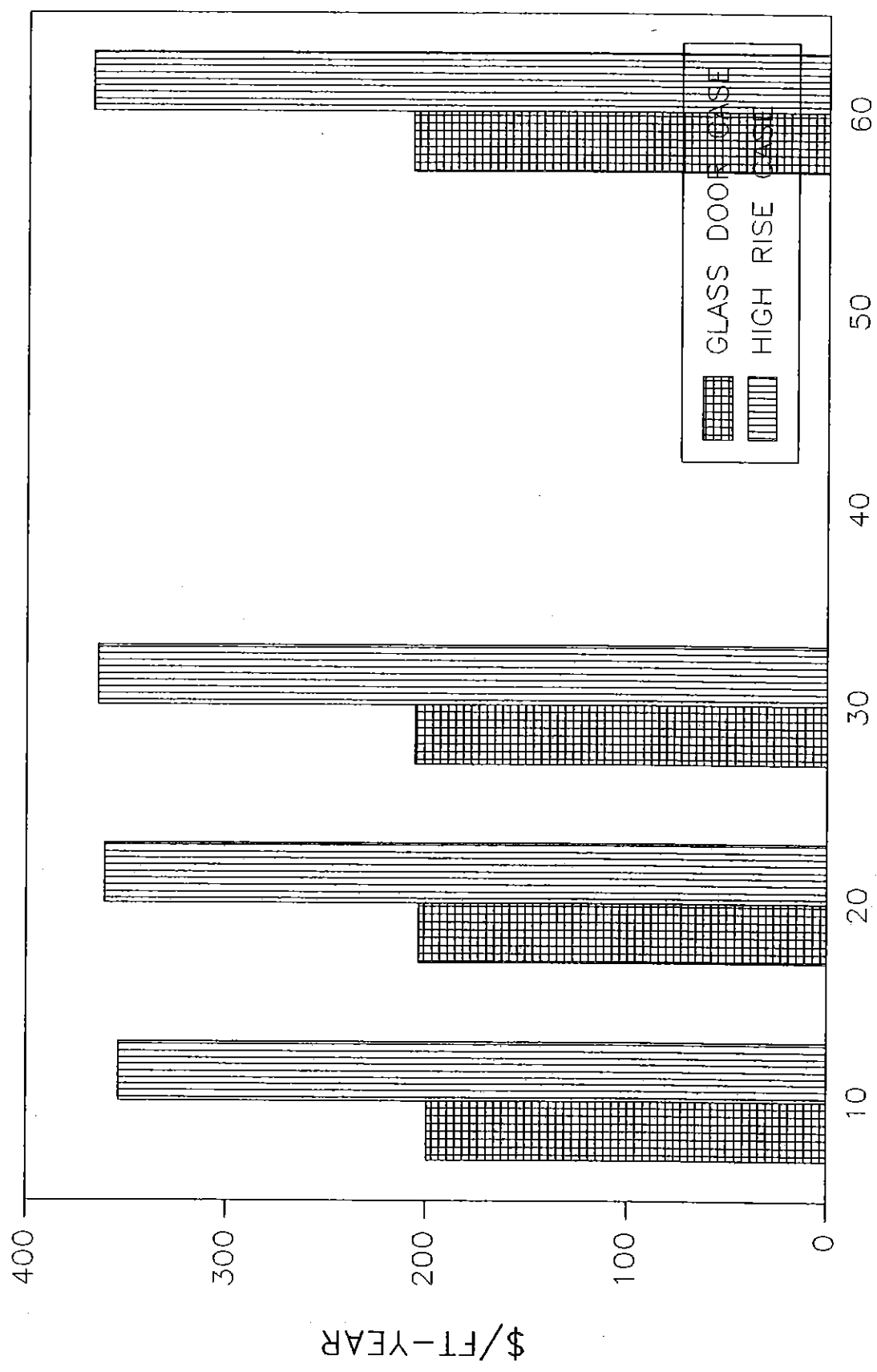
# HEINEN'S STORES' GLASS DOOR CASESS E.E.CONSUMPTION

LIGHTING CONTRIBUTION (KWH/FT-DAY)



# HEINEN'S STORES' F.F. CASESS E.E. CONSUMPTION COST

ANUAL E.E. COST (\$/FT-YEAR)



DEFROST TIME INTERVAL (MIN.)

	GLASS				H.R.			
	60	30	20	10	60	30	20	10
$W_1$	2.32	2.37	2.4	2.41	6.53	6.66	6.73	6.8
$W_2$	1.608	1.64	1.66	1.67	1.35	1.38	1.39	1.404
$W_3$	0.402	0.41	0.42	0.418	----	----	----	----
$W_4$	0.3	0.306	0.31	0.312	0.34	0.35	0.35	0.36
$WT_4$	4.63	4.7	4.77	4.82	8.22	8.4	8.5	8.6
ANNUAL COST \$/FT-YEAR	199.4	203.4	205.4	202.4	354.0	361.1	364.7	368.2

**TABLE (2): SUMMARY OF THE CALCULATION RESULTS**

## **CONCLUSION**

The glass door frozen food case, the more energy efficient, consumes 43.67% less electrical energy than the high rise case. In addition less maintenance can be expected when using this case due to shorter defrost cycles. Also, the fan motors are less likely to be damaged because less cleaning is required. The shopping time interval in the area that has glass door cases should be longer because the environment is more comfortable than that near the open cases.

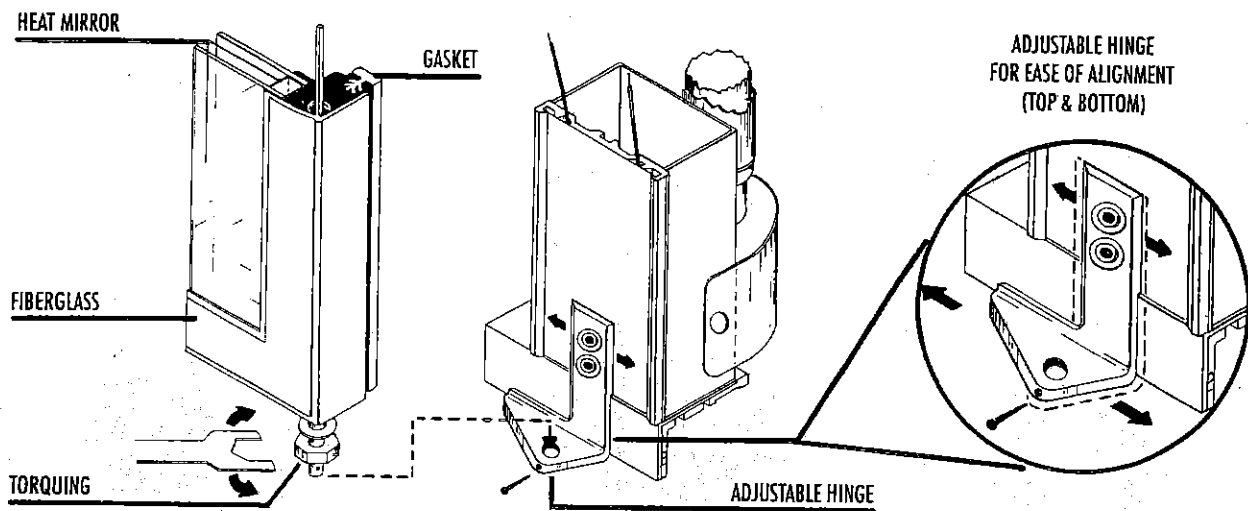
## **RECOMMENDATION**

The following is recommended for the Heinen's management.

1. The glass door cases should be used as possible by the Heinen's frozen food department due to the efficient performance and more economical operation.
2. When cleaning the cases using a water hose, employees should be careful to shut off the case fans first and to avoid as possible to allow water to leak to the fan motor lubrication chamber, this will cause the failure of the fan motor.
3. Better glass doors with higher thermal insulation should be required to be used in the future, see appendix.

## APPENDIX

# ANATOMY OF THE ZEROWATT DOOR



**Fiberglass:** The frame of the Zerowatt door is constructed of high impact pultruded fiberglass that encompass an insulated unit of two panes of tempered glass.

**Why Fiberglass?** The thermal conductivity of fiberglass is 1/250 that of aluminum. Thus, in its pultruded form it not only provides necessary strength and durability, but conducts virtually no surrounding temperature. This eliminates the need for heat in the door to prevent the attraction of moisture.

**Heat Mirror:** Low temperature cases (freezers) require additional insulation in the door glass to achieve a moisture-free condition. The conventional method of providing this added insulation is by costly electrical heating of the glass.

A special material known as Heat Mirror™ is the means employed by Zerowatt to replace costly heat in the glass. This material, which is the most efficient heat reflective film in existence, is suspended and unseen within the molded glass unit (see figure above). It reflects the ambient temperature of the aisle back to the front glass pane, thus eliminating the need for electrical heating in the glass. Not only is this exceptional item an extraordinary insulator, it is transparent, colorless, and becomes a permanent, visually undetectable component of the door itself.

**Adjustable Hinging:** The two hinges are of drop-in design for ease of installation and are both adjustable for ease of alignment (see figure above).

**Torquing:** For reliable opening and closing, the door system contains a unique torquing assembly with few moving parts to minimize maintenance and make replacement simple and easy (see figure above).

- 
- **Economy:** Significant savings can be as much as \$400 or more per door per year—depending upon the cost of electrical energy per kilowatt hour in a given utility district.
  - **Durability:** High impact material—no denting / Impregnated color—no chipping, permanent hue.
  - **Convenience:** Installation—simple and easy.
  - **Maintenance:** Trouble-free design; no costly business interruptions.



40 HP compressor								
	RUN TIME	HOURS	SPEED	Total HP	MOTORS	Motor Eff	KW	KWH
	100%	8,760	100%	40	1	92%	32.4	284,129
	0%	0	100%	0	0		0.0	0
<b>TOTAL</b>	100%	8,760						284,129
40 HP compressor								
	RUN TIME	HOURS	SPEED	Total HP	MOTORS	Motor Eff	KW	KWH
	10%	876	50%	40	1	92%	16.2	14,206
	10%	876	60%	40	1	92%	19.5	17,048
	20%	1,752	70%	40	1	92%	22.7	39,778
	25%	2,190	80%	40	1	92%	25.9	56,826
	20%	1,752	90%	40	1	92%	29.2	51,143
	15%	1,314	100%	40	1	92%	32.4	42,619
<b>TOTAL</b>	100%	8,760						221,620
								62508.31 KWH SAVED

40 HP compressor								
	RUN TIME	HOURS	SPEED	Total HP	MOTORS	Motor Eff	KW	KWH
	100%	8,760	100%	40	1	92%	32.4	284,129
	0%	0	100%	0	0		0.0	0
<b>TOTAL</b>	100%	8,760						284,129
40 HP compressor								
	RUN TIME	HOURS	SPEED	Total HP	MOTORS	Motor Eff	KW	KWH
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	15%	1,314	100%	40	1	92%	32.4	42,619
<b>TOTAL</b>	100%	8,760						221,620
								62508.31 KWH SAVED

Door Case Calculations

Store	Linerar Ft	Reach In Multi Deck Ave KWH Per Day per Ft	Glass Door Ave KWH Per Day per Ft	Ave KWH KWH Saved Per Day per Ft	Annual KWH Saved
4	76.00	8.50	4.77	3.73	103470
6	80.00	8.50	4.77	3.73	108916
7	96.00	8.50	4.77	3.73	130699
9	80.00	8.50	4.77	3.73	108916
14	116.00	8.50	4.77	3.73	157928
17	130.00	8.50	4.77	3.73	176989
18	105.00	8.50	4.77	3.73	142952
20	157.50	8.50	4.77	3.73	214428

325762.5

4.77 KWH per day based on enigeering study attached

8.5 KWH per day based on enigeering study attached

45900

41279

87179

## Heat Recovery Reduction in Fan Usage

Based on engineering study provided by by Heinens

2000 gallons of DHW per day

Total Savings Electric	249.7
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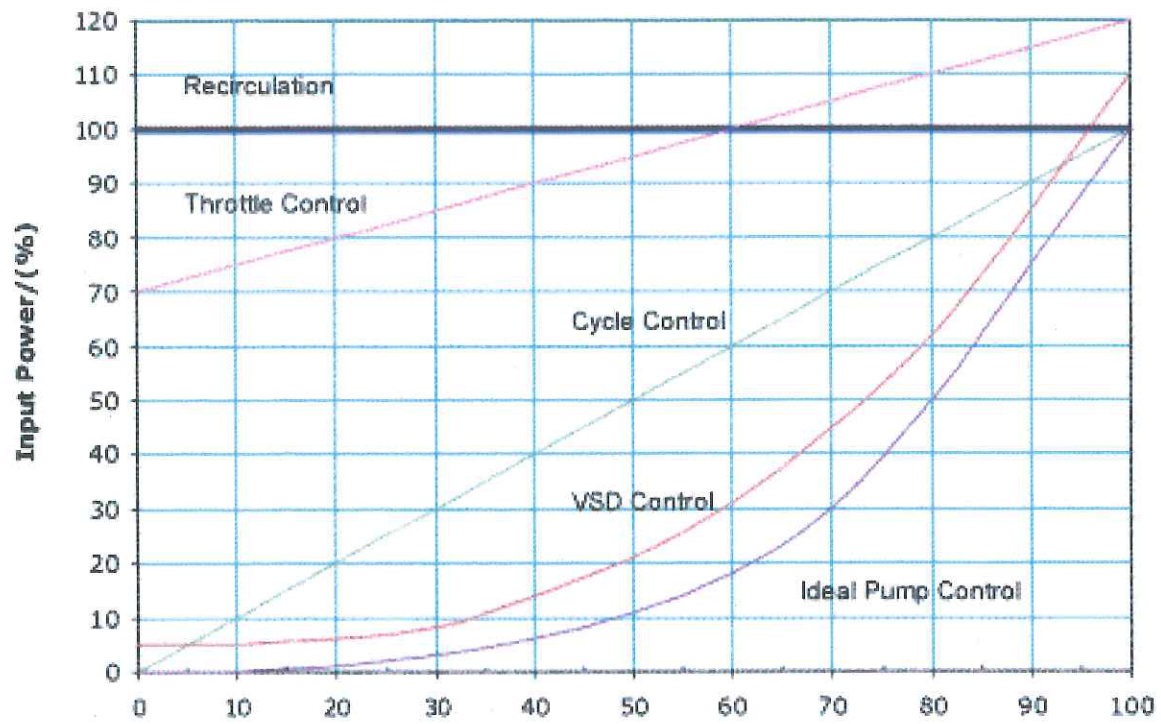
cost per KWH	0.11
--------------	------

KWH	2270
-----	------

Average 30% reduction in runtime

Total KWH before	7567
------------------	------

(extracted from ETSU Good Practice Guide 2 Energy savings with electric motors and drives)



**■ Why choose Danfoss?**

Danfoss manufactured the world's first mass-produced frequency converter back in 1968. We have set the standard for quality drives ever since. That is why our VLT frequency converters are today sold and serviced in more than 100 countries covering six continents.

With the new VLT 5000 Series, we are introducing VVC<sup>plus</sup>. This is our new Sensorless Vector Drive System for torque and speed control of induction motors.

If compared with a standard voltage/frequency ratio control, VVC<sup>plus</sup> offers improved dynamics and stability, both when the speed reference and the load torque are changed. We have implemented a fully digitalised protection concept, which ensures reliable operation, even under the worst possible operating conditions. Naturally, the VLT 5000 Series also offers full protection against short-circuiting, earthing fault and overload.

Danfoss drives with the VVC<sup>plus</sup> control system tolerate load shocks throughout their speed range and react swiftly to changes in reference.

However, it must also be easy to reach this performance. Danfoss is convinced that high-technology drives can be made user-friendly. The VLT 5000 Series proves us right. In order to make programming simple and easy-to-grasp, we have divided the parameters into different groups. The Quick menu guides users quickly through the programming of the few parameters that must be set to get started. The control panel is detachable. It features a four-line alpha-numeric display, enabling four measuring values to be displayed at the same time. Via the detachable control panel, the programmed settings can be copied from one VLT frequency converter to the next. This means that there is no time to be spent on programming when changing drives or integrating an extra drive in the installation.

The entire programming process is easier than ever before. The VLT 5000 Series makes most adjustments automatically.

If you have any questions concerning VLT frequency converters, please call us. We have drive specialists all over the world ready to advise you on applications, programming, training and service.

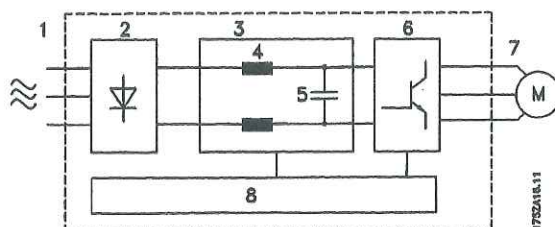
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## ■ Technology

### ■ Control principle

A frequency converter rectifies AC voltage from mains into DC voltage, after which this DC voltage is converted into a AC current with a variable amplitude and frequency.

The motor is thus supplied with variable voltage and frequency, which enables infinitely variable speed control of three-phased, standard AC motors.



#### 1. Mains voltage

3 x 200 - 240 V AC, 50 / 60 Hz.  
3 x 380 - 500 V AC, 50 / 60 Hz.  
3 x 525 - 600 V AC, 50 / 60 Hz.  
3 X 525 - 690 V AC, 50 / 60 Hz.

#### 2. Rectifier

A three-phase rectifier bridge that rectifies AC current into DC current.

#### 3. Intermediate circuit

DC voltage = 1.35 x mains voltage [V].

#### 4. Intermediate circuit coils

Smooth the intermediate circuit current and limit the load on mains and components (mains transformer, wires, fuses and contactors).

#### 5. Intermediate circuit capacitors

Smooth the intermediate circuit voltage.

#### 6. Inverter

Converts DC voltage into variable AC voltage with a variable frequency.

#### 7. Motor voltage

Variable AC voltage, 0-100% of mains supply voltage.  
Variable frequency: 0.5-132/0.5-1000 Hz.

#### 8. Control card

This is where to find the computer that controls the inverter which generates the pulse pattern by which the DC voltage is converted into variable AC voltage with a variable frequency.

### VVC<sup>plus</sup> control principle

The frequency converter features an inverter control system called VVC<sup>plus</sup>, which is a further development of the Voltage Vector Control (VVC) known i.e. from Danfoss VLT 3000 Series.

VVC<sup>plus</sup> controls an induction motor by energizing it with a variable frequency and a voltage that matches it. If the motor load is changed, the magnetisation of the motor changes too, and so does its speed. Consequently, the motor current is measured continuously and the actual voltage requirement and slip of the motor are calculated from a motor model. Motor frequency and voltage are adjusted to ensure that the motor operating point remains optimum under varying conditions.

The development of the VVC<sup>plus</sup> principle is the result of a wish to maintain robust, sensorless regulation that is tolerant to different motor characteristics without motor derating being required.

First and foremost, the current measurement and the motor model have been improved. The current is split into magnetising and torque-generating parts and provides for much better and quicker estimation of the actual motor loads. It is now possible to compensate for rapid load changes. Full torque as well as extremely accurate speed control can now be obtained even at low speeds or even at standstill.



■ Compact, Mains supply 3 x 200 - 240 V

According to international requirements		VLT type	5032	5042	5052
<b>Normal overload torque (110 %):</b>					
Output current	$I_{MTN}$ [A] (200-230 V)		115	143	170
	$I_{MT MAX}$ (60 s) [A] (200-230 V)		127	158	187
	$I_{MTN}$ [A] (231-240 V)		104	130	154
	$I_{MT MAX}$ (60 s) [A] (231-240 V)		115	143	170
Output	$S_{MTN}$ [kVA] (208 V)		41	52	61
	$S_{MTN}$ [kVA] (230 V)		46	57	68
	$S_{MTN}$ [kVA] (240 V)		43	54	64
Typical shaft output		[HP] (208 V)	40	50	60
Typical shaft output		[kW] (230 V)	30	37	45
<b>High overload torque (160 %):</b>					
Output current	$I_{MTN}$ [A] (200-230 V)		88	115	143
	$I_{MT MAX}$ [A] (200-230 V)		132	173	215
	$I_{MTN}$ [A] (231-240 V)		80	104	130
	$I_{MT MAX}$ [A] (231-240 V)		120	285	195
Output	$S_{MTN}$ [kVA] (208 V)		32	41	52
	$S_{MTN}$ [kVA] (230 V)		35	46	57
	$S_{MTN}$ [kVA] (240 V)		33	43	54
Typical shaft output		[HP] (208 V)	30	40	50
		[kW] (230 V)	22	30	37
Max. cable cross-section to motor and loadsharing		[mm <sup>2</sup> ] <sup>1,6</sup>		120	
		[AWG] <sup>2,4,6</sup>		300 mcm	
Max. cable cross-section to brake		[mm <sup>2</sup> ] <sup>1,6</sup>		25	
		[AWG] <sup>2,4,6</sup>		4	
<b>Normal overload torque (110 %):</b>					
Rated input current		$I_N$ [A] (230 V)	101.3	126.6	149.9
<b>Normal overload torque (150 %):</b>					
Rated input current		$I_N$ [A] (230 V)	77.9	101.3	126.6
Max. cable cross-section		[mm <sup>2</sup> ] <sup>1,6</sup>		120	
power supply		[AWG] <sup>2,4,6</sup>		300 mcm	
Min. cable cross-section to motor, power		[mm <sup>2</sup> ] <sup>1,6</sup>		6	
		[AWG] <sup>2,4,6</sup>		8	
supply, brake and loadsharing					
Max. pre-fuses (mains) (-I/UL)		[A] <sup>1</sup>	150/150	200/200	250/250
Efficiency <sup>3</sup>				0.96-0.97	
Power loss	Normal overload [W]		1089	1361	1612
	High overload [W]		838	1089	1361
Weight		IP 00 [kg]	101	101	101
Weight		IP 20 Nema1 [kg]	101	101	101
Weight		IP 54 Nema12 [kg]	104	104	104
Enclosure			IP 00 / Nema 1 (IP 20) / IP 54		

1. For type of fuse see section Fuses

2. American Wire Gauge.

3. Measured using 30 m screened motor cables at rated load and rated frequency.

4. Max. cable cross-section is the maximum possible cable cross-section allowed to be fitted on the terminals. Min. cable cross-section is the minimum allowed cross-section. Always comply with national and local regulations on min. cable cross-section.

5. Weight without shipping container.

6. Connection stud: M8 Brake: M6.



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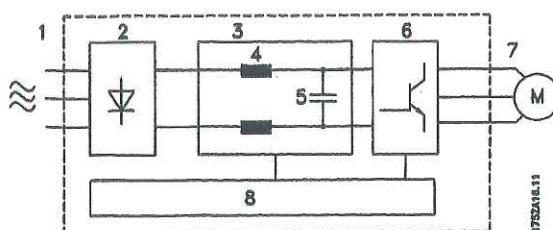
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	$S_{MTN}$ [kVA] (230 V)		46	57	68
	$S_{MTN}$ [kVA] (240 V)		43	54	64
	$I_{HPI}$ (208 V)		40	50	60
Typical shaft output	[kW] (230 V)		30	37	45
<b>High overload torque (160 %):</b>					
Output current	$I_{MTN}$ [A] (200-230 V)		88	115	143
	$I_{MT MAX}$ [A] (200-230 V)		132	173	215
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	$S_{MTN}$ [kVA] (240 V)		33	43	54
	$I_{HPI}$ (208 V)		30	40	50
Typical shaft output	[kW] (230 V)		22	30	37
Max. cable cross-section to motor	[mm <sup>2</sup> ] <sup>4,6</sup>			120	
and loadsharing	[AWG] <sup>2,4,6</sup>			300 mcm	
Max. cable cross-section to brake	[mm <sup>2</sup> ] <sup>4,6</sup>			25	
	[AWG] <sup>2,4,6</sup>			4	
<b>Normal overload torque (110 %):</b>					
Rated input current	$I_{LN}$ [A] (230 V)		101.3	126.6	149.9
<b>Normal overload torque (150 %):</b>					
Rated input current	$I_{LN}$ [A] (230 V)		77.9	101.3	126.6
Max. cable cross-section	[mm <sup>2</sup> ] <sup>4,6</sup>			120	
power supply	[AWG] <sup>2,4,6</sup>			300 mcm	
Min. cable cross-section to motor,	[mm <sup>2</sup> ] <sup>4,6</sup>			6	
power	[AWG] <sup>2,4,6</sup>			8	
<b>supply, brake and loadsharing</b>					
Max. pre-fuses (mains) [-]/[UL]	[A] <sup>1</sup>	150/150	200/200	250/250	
Efficiency <sup>3</sup>			0.96-0.97		
Power loss	Normal overload [W]	1089	1361	1612	
	High overload [W]	838	1089	1361	
Weight	IP 00 [kg]	101	101	101	
Weight	IP 20 Nema1 [kg]	101	101	101	
Weight	IP 54 Nema12 [kg]	104	104	104	
Enclosure	IP 00 / Nema 1 (IP 20) / IP 54				

1. For type of fuse see section *Fuses*

2. American Wire Gauge.

3. Measured using 30 m screened motor cables at rated load and rated frequency.

4. Max. cable cross-section is the maximum possible cable cross-section allowed to be fitted on the terminals. Min. cable cross-section is the minimum allowed cross-section. Always comply with national and local regulations on min. cable cross-section.

5. Weight without shipping container.

6. Connection stud: M8 Brake: M6.



# ENERGY COMPARISON - DISPLAY CASES

## GIANT STORE NO. 53

DEPARTMENT & MFR.	LINEUP LENGTH	MODEL NO.	KWH/FT DAY	1-YEAR OP.COST#	5-YEAR OP.COST#	HILL SAVINGS#
<del>FRONT END</del> <del>WIZ-F</del> Hill Hussmann	133.0'	WIZ-F GWI	3.85 3.88	\$ 11,214.00 11,301.00	\$ 56,070.00 56,505.00	- \$435.00
<del>REACHING</del> <del>Hill</del> <del>Hussmann</del>	<del>102.5'</del>	<del>ZER-F</del> <del>RFH-5</del>	<del>4.64</del> <del>4.98</del>	<del>10,416.00</del> <del>11,179.00</del>	<del>52,080.00</del> <del>55,895.00</del>	- 3,815.00
<del>MULTI-DECK</del> <del>Hill</del> <del>Hussmann</del>	<del>8'</del>	<del>52E-F</del> <del>G6FI</del>	<del>8.90</del> <del>10.00</del>	<del>1,559.00</del> <del>1,752.00</del>	<del>7,795.00</del> <del>8,760.00</del>	- 965.00
ICE CREAM (R.I.) Hill Hussmann	52.5'	ZER-C RCA-5	5.35 5.63	6,151.00 6,473.00	30,755.00 32,365.00	- 1,610.00
ICE CREAM (ISLAND) Hill Hussmann	31'	WIZ-C GWIC	4.91 5.41	3,333.00 3,673.00	16,665.00 18,365.00	- 1,700.00
MEAT (MULTI-DECK) Hill Hussmann	48'	HLNM FHHH	4.83 5.85	5,077.00 6,150.00	25,385.00 30,750.00	- 5,365.00
SINGLE DECK Hill Hussmann	36'	LNH FM	1.02 1.30	804.00 1,025.00	4,020.00 5,125.00	- 1,105.00
ISLAND MEAT Hill Hussmann	16'	VMG MWI	2.71 3.57	950.00 1,251.00	4,750.00 6,255.00	- 1,505.00
SERVICE MEAT Hill Hussmann	40'	EGM CGDMG	1.46 1.25	1,279.00 1,095.00	6,395.00 5,475.00	- (920.00)
SERVICE FISH Hill Hussmann	20'	EGF CGFMG	1.46 1.25	639.00 548.00	3,195.00 2,740.00	- (455.00)
MULTI-DECK DELI Hill Hussmann	32'	SLMK DMDH	3.65 4.89	2,558.00 3,427.00	12,790.00 17,135.00	- 4,345.00
MULTI-DECK DAIRY Hill Hussmann	96'	5DRK DM	3.52 3.79	7,400.00 7,968.00	37,000.00 39,840.00	- 2,840.00

# Power costs calculated at \$0.06/KWH

**Mercantile Customer Project Commitment Agreement**  
**Exemption Option**

**THIS MERCANTILE CUSTOMER PROJECT COMMITMENT AGREEMENT** ("Agreement") is made and entered into by and between The Cleveland Electric Illuminating Company, its successors and assigns (hereinafter called the "Company") and Heinen's Inc., its permitted successors and assigns (hereinafter called the "Customer") (collectively the "Parties" or individually the "Party") and is effective on the date last executed by the Parties as indicated below.

**WITNESSETH**

**WHEREAS**, the Company is an electric distribution utility and electric light company, as both of these terms are defined in R.C. § 4928.01(A); and

**WHEREAS**, Customer is a mercantile customer, as that term is defined in R.C. § 4928.01(A)(19), doing business within the Company's certified service territory; and

**WHEREAS**, R.C. § 4928.66 (the "Statute") requires the Company to meet certain annual energy efficiency and peak demand reduction ("EE&PDR") benchmarks; and

**WHEREAS**, when complying with certain EE&PDR benchmarks the Company may include the effects of mercantile customer-sited EE&PDR projects; and

**WHEREAS**, Customer has certain customer-sited demand reduction, demand response, or energy efficiency project(s) as set forth in attached Exhibit 1 (the "Customer Energy Project(s)") that it desires to commit to the Company for integration into the Company's Energy Efficiency & Peak Demand Reduction Program Portfolio Plan ("Company Plan") that the Company will implement in order to comply with the Statute; and

**WHEREAS**, the Customer, pursuant to and consistent with the Statute, desires to pursue exemption from paying charges included in the Company's then current cost recovery mechanism (hereinafter, "Rider DSE") as approved by the Public Utilities Commission of Ohio ("Commission") for recovery of the DSE2 costs associated with the Company Plan; and is committing the Customer Energy Project(s) as a result of such exemption.

**WHEREAS**, Customer's decision to commit its Customer Energy Project(s) to the Company for inclusion in the Company Plan has been reasonably encouraged by the possibility of an exemption; and

**WHEREAS**, in consideration of, and upon receipt of, said exemption, Customer has consented to committing the Customer Energy Project(s) to the Company and complying with all other terms and conditions set forth herein, including without limitation, the submission of an annual report on the energy savings and/or peak-demand reductions achieved by the Customer Energy Project(s).

**NOW THEREFORE**, in consideration of the mutual promises set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties, intending to be legally bound, do hereby agree as follows:

1. **Customer Energy Projects.** Customer hereby commits to the Company and Company accepts for integration into the Company Plan the Customer Energy Project(s) set forth on attached Exhibit 1. Said commitment shall be for the life of the Customer Energy Project(s). Company will incorporate said project(s) into the Company Plan to the extent that such projects qualify. In so committing, and as evidenced by the affidavit attached hereto as Exhibit A, Customer

acknowledges that the information provided to the Company about the Customer Energy Project(s) is true and accurate to the best of its knowledge.

- a. By committing the Customer Energy Project(s) to the Company, Customer acknowledges and agrees that the Company shall control the use of the kWh and/or kW reductions resulting from said projects for purposes of complying with the Statute. By committing the Customer Energy Project(s), Customer further acknowledges and agrees that the Company shall take ownership of the energy efficiency capacity rights associated with said Project(s) and shall, at its sole discretion, aggregate said capacity into the PJM market through an auction. Any proceeds from any such bids accepted by PJM will be used to offset the costs charged to the Customer and other of the Company's customers for compliance with state mandated energy efficiency and/or peak demand requirements.
  - b. The Company acknowledges that some of Customer's Energy Projects contemplated in this paragraph may have been performed under certain other federal and/or state programs in which certain parameters are required to be maintained in order to retain preferential financing or other government benefits (individually and collectively as applicable, "Benefits"). In the event that the use of any such project by the Company in any way affects such Benefits, and upon written request from the Customer, Company will release said Customer's Energy Project(s) to the extent necessary for Customer to meet the prerequisites for such Benefits. Customer acknowledges that such release (i) may affect Customer's exemption benefits discussed in Article 3 below; and (ii) will not affect any of Customer's other requirements or obligations, including without limitation any reporting requirements, as set forth herein.
  - c. Any future Customer Energy Project(s) committed by Customer shall be subject to a separate application and, upon approval by the Commission, said projects shall become part of this Agreement.
  - d. Customer will provide Company or Company's agent(s) with reasonable assistance in the preparation of a joint application for approval of this Agreement ("Joint Application") that will be filed with the Commission, with such Joint Application being consistent with then current Commission requirements.
  - e. Upon written request and reasonable advance notice, Customer will grant employees or authorized agents of either the Company or the Commission reasonable, pre-arranged access to the Customer Energy Project(s) for purposes of measuring and verifying energy savings and/or peak demand reductions resulting from the Customer Energy Project(s). It is expressly agreed that consultants of either the Company or the Commission are their respective authorized agents.
2. **Joint Application to the Commission.** The Parties will submit the Joint Application using the Commission's standard "Application to Commit Energy Efficiency/Peak Demand Reduction Programs" in which they will seek the Commission's approval of (i) this Agreement; (ii) the commitment of the Customer Energy Project(s) for inclusion in the Company Plan; and (iii) the Customer's exemption from paying the DSE2 charge of the Company's Rider DSE.

The Joint Application shall include all information as set forth in the Commission's standard form which, includes without limitation:

- i. A narrative description of the Customer Energy Project(s), including but not limited to, make, model and year of any installed and/or replaced equipment;
- ii. A copy of this Agreement; and

- iii. A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results.

3. **Customer Exemption and Annual Report.** Upon Commission approval of the request for exemption, the Company will exempt Customer from paying any Rider DSE charges consistent with any Commission directives as set forth in the Commission's Finding and Order approving the Joint Application. Such exempt status shall apply to those accounts identified by Customer that pertain to those Customer sites with one or more Customer Energy Project(s) approved for integration into the Company Plan by the Commission in the Joint Application.

- a. For purposes of this Agreement, a "site" shall be a single location with one or more facilities. As examples only, a site includes an industrial plant, a hospital complex or a university located on one or more parcels of land, provided that said parcels are contiguous.
- b. For purposes of this Agreement, an "account" shall be as defined by the Company through its normal business practices. Any account identified by Customer shall be eligible for exemption, provided that said account pertains to a specific site with at least one Customer Energy Project that qualifies Customer for exemption from paying Rider DSE charges.
- c. Any new accounts created at a site on which there is already an approved Customer Energy Project shall, at the option of the Customer, be included within the exemption granted under said project, and shall be included for purposes of calculating future eligibility for exemption under the project. Any such election shall become effective in the first billing cycle after March 15<sup>th</sup> following identification of said account in the annual report required under Section 3(d)(iii) below.
- d. Customer acknowledges and agrees that if it desires to pursue such exempt status, as evidenced in the Joint Application, Customer is obligated to provide to the Company an annual report on the energy savings and peak-demand reductions achieved by the Customer Energy Project(s) on a calendar year basis. Company shall provide Customer with such information as it may require, that is in Company's possession, for the purposes of preparing such report. Company shall provide a template for Customer to use in preparing the annual report and shall make available a designated Company representative to answer questions.
  - i. Said report shall be submitted annually on or before January 31 of each year after Commission approval of the Joint Application.
  - ii. Said report shall provide all information required under the Rules, and where the requirements of the Rules conflict with a requirement under this Agreement or the Joint Application, the requirements of the Rules shall control.
  - iii. Said report shall, at a minimum, include the following information for each Customer Energy Project that has been approved by the Commission:
    - 1. A demonstration that the energy savings and peak-demand reductions associated with the Customer Energy Project(s) meet the total resource cost test or that the Company's avoided cost exceeds the cost to the Company for the Customer's program;
    - 2. A statement distinguishing programs implemented before and after January 1 of the current year;

3. A quantification of the energy savings or peak-demand reductions for programs initiated prior to 2009 in the baseline period;
4. A recognition that the Company's baselines have been increased by the amount of mercantile customer energy savings and demand reductions;
5. A listing and description of the Customer Energy Projects that have been implemented, which provides the detail required by the Rules;
6. An accounting of expenditures made by the mercantile customer for each program and its component energy savings and peak-demand reduction attributes; and
7. A timeline showing when each Customer Energy Project went into effect and when the energy savings and peak-demand reductions occurred.
8. Any other information reasonably necessary for the Company to (i) verify Customer's continued eligibility for exemption from paying Rider charges; and (ii) report in the Company's annual status report to the Commission the EE&PDR results related to each Customer Energy Project.

e. Customer's exemption shall automatically terminate:

- i. At the end of the exemption period as determined by the Commission
  - ii. Upon order of the Commission or pursuant to any Commission rule;
  - iii. If Customer fails to comply with the terms and conditions set forth in the Company's then current Rider DSE, or its equivalent, as amended from time to time by the Commission, within a reasonable period of time after receipt of written notice of such non-compliance;
  - iv. If it is discovered that Customer knowingly falsified any documents provided to the Company or the Commission in connection with this Agreement or the Joint Application. In such an instance, Company reserves the right to recover any exempted rider charges from the date of approval of the Joint Application through the date said exemption is terminated; or
  - v. If Customer fails to submit the annual report required in (d) above. In such an instance, Company reserves the right to recover any exempted rider charges from the date of approval of the Joint Application through the date said exemption is terminated. It is expressly agreed that this provision shall not apply should said report contain errors, provided that the submission of said report is made in good faith. It is further agreed that the Company will provide written notice of the date on which said report is due at least thirty (30) days prior thereto.
- f. Company reserves the right to recover from Customer any Rider DSE charges incurred by Customer after the date Customer's exemption terminates.

3. **Termination of Agreement.** This Agreement shall automatically terminate:

- a. If the Commission fails to approve this Agreement through the Joint Application;



- b. Upon order of the Commission; or
- c. At the end of the life of the last Customer Energy Project subject to this Agreement.

Customer shall also have an option to terminate this Agreement should the Commission not approve the Customer's exemption, provided that Customer provides the Company with written notice of such termination within ten days of either the Commission issuing a final appealable order or the Ohio Supreme Court issuing its opinion should the matter be appealed.

Customer acknowledges that if a Customer Project is withdrawn pursuant to Paragraph 1(b) of this Agreement, the exemption or a portion of such exemption may be affected. Should Customer elect to withdraw a project pursuant to Paragraph 1(b), Customer shall provide Company with reasonable assistance in preparing any documentation that may be required by the Commission and, upon reasonable request, shall provide documentation supporting the necessity to withdraw such project.

- 4. **Confidentiality.** Each Party shall hold in confidence and not release or disclose to any person any document or information furnished by the other Party in connection with this Agreement that is designated as confidential and proprietary ("Confidential Information"), unless: (i) compelled to disclose such document or information by judicial, regulatory or administrative process or other provisions of law; (ii) such document or information is generally available to the public; or (iii) such document or information was available to the receiving Party on a non-confidential basis at the time of disclosure.
  - a. Notwithstanding the above, a Party may disclose to its employees, directors, attorneys, consultants and agents all documents and information furnished by the other Party in connection with this Agreement, provided that such employees, directors, attorneys, consultants and agents have been advised of the confidential nature of this information and through such disclosure are deemed to be bound by the terms set forth herein.
  - b. A Party receiving such Confidential Information shall protect it with the same standard of care as its own confidential or proprietary information.
  - c. A Party receiving notice or otherwise concluding that Confidential Information furnished by the other Party in connection with this Agreement is being sought under any provision of law, to the extent it is permitted to do so under any applicable law, shall endeavor to: (i) promptly notify the other Party; and (ii) use reasonable efforts in cooperation with the other Party to seek confidential treatment of such Confidential Information, including without limitation, the filing of such information under a valid protective order.
  - d. By executing this Agreement, Customer hereby acknowledges and agrees that Company may disclose to the Commission or its Staff any and all Customer information, including Confidential Information, related to a Customer Energy Project, provided that Company uses reasonable efforts to seek confidential treatment of the same.
- 5. **Taxes.** Customer shall be responsible for all tax consequences (if any) arising from the application of the exemption.
- 6. **Notices.** Unless otherwise stated herein, all notices, demands or requests required or permitted under this Agreement must be in writing and must be delivered or sent by overnight express mail, courier service, electronic mail or facsimile transmission addressed as follows:

**If to the Company:**

FirstEnergy Service Company  
76 South Main Street  
Akron, OH 44308  
Attn: Victoria Nofziger  
Telephone: 330-384-4684  
Fax: 330-761-4281  
Email: [vmnofziger@firstenergycorp.com](mailto:vmnofziger@firstenergycorp.com)

**If to the Customer:**

Heinen's Inc.  
4540 Richmond Road  
Warrensville Hts., Ohio 44128  
Attn: Rabi Ridha  
Telephone: (216) 475-2300  
Fax:  
Email: [RRReinens.com](mailto:RRReinens.com)

or to such other person at such other address as a Party may designate by like notice to the other Party. Notice received after the close of the business day will be deemed received on the next business day; provided that notice by facsimile transmission will be deemed to have been received by the recipient if the recipient confirms receipt telephonically or in writing.

7. **Authority to Act.** The Parties represent and warrant that they are represented by counsel in connection with this Agreement, have been fully advised in connection with the execution thereof, have taken all legal and corporate steps necessary to enter into this Agreement, and that the undersigned has the authority to enter into this Agreement, to bind the Parties to all provisions herein and to take the actions required to be performed in fulfillment of the undertakings contained herein.
8. **Non-Waiver.** The delay or failure of either party to assert or enforce in any instance strict performance of any of the terms of this Agreement or to exercise any rights hereunder conferred, shall not be construed as a waiver or relinquishment to any extent of its rights to assert or rely upon such terms or rights at any later time or on any future occasion.
9. **Entire Agreement.** This Agreement, along with related exhibits, and the Company's Rider DSE, or its equivalent, as amended from time to time by the Commission, contains the Parties' entire understanding with respect to the matters addressed herein and there are no verbal or collateral representations, undertakings, or agreements not expressly set forth herein. No change in, addition to, or waiver of the terms of this Agreement shall be binding upon any of the Parties unless the same is set forth in writing and signed by an authorized representative of each of the Parties. In the event of any conflict between Rider DSE or its equivalent and this document, the latter shall prevail.
10. **Assignment.** Customer may not assign any of its rights or obligations under this Agreement without obtaining the prior written consent of the Company, which consent will not be unreasonably withheld. No assignment of this Agreement will relieve the assigning Party of any of its obligations under this Agreement until such obligations have been assumed by the assignee and all necessary consents have been obtained.
11. **Severability.** If any portion of this Agreement is held invalid, the Parties agree that such invalidity shall not affect the validity of the remaining portions of this Agreement, and the Parties further agree to substitute for the invalid portion a valid provision that most closely approximates the economic effect and intent of the invalid provision.

12. **Governing Law.** This Agreement shall be governed by the laws and regulations of the State of Ohio, without regard to its conflict of law provisions.

13. **Execution and Counterparts.** This Agreement may be executed in multiple counterparts, which taken together shall constitute an original without the necessity of all parties signing the same page or the same documents, and may be executed by signatures to electronically or telephonically transmitted counterparts in lieu of original printed or photocopied documents. Signatures transmitted by facsimile shall be considered original signatures.

**IN WITNESS WHEREOF**, the Parties hereto have caused this Agreement to be executed by their duly authorized officers or representatives as of the day and year set forth below.

**The Cleveland Electric Illuminating Company**  
(Company)

By: Jale C. Dargatzis

Title: VP of Energy Efficiency

Date: 11-6-12

**Heinen's Inc.**  
(Customer)

By: Rabi Ridhan

Title: Staff Engineer

Date: 10/29/2012

Affidavit of Heinen's Inc. – Exhibit A

STATE OF OHIO                     )  
  )     SS:  
COUNTY OF Cuyahoga    )

I, Rabi Ridha, being first duly sworn in accordance with law, deposes and states as follows:

1. I am the Engineer of Heinen's Inc. ("Customer") As part of my duties, I oversee energy related matters for the Customer.
2. The Customer has agreed to commit certain energy efficiency projects to The Cleveland Electric Illuminating Company ("Company"), which are the subject of the agreement to which this affidavit is attached ("Project(s)").
3. In exchange for making such a commitment, the Company has agreed to provide Customer with a Rider Exemption ("Incentive"). This Incentive was a critical factor in the Customer's decision to go forward with the Project(s) and to commit the Project(s) to the Company.
4. All information related to said Project(s) that has been submitted to the Company is true and accurate to the best of my knowledge.

FURTHER AFFIANT SAYETH NAUGHT.

*Rabi Ridha*

Sworn to before me and subscribed in my presence this 29<sup>th</sup> day of Oct, 2012

*Kenneth A. Brocklehurst*



KENNETH A. BROCKLEHURST  
NOTARY PUBLIC, STATE OF OHIO  
Recorded in Medina County  
My Comm. Expires March 11, 2017

**This foregoing document was electronically filed with the Public Utilities**

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**Case No(s). 13-0051-EL-EEC**

Summary: Application to Commit Energy Efficiency/Peak Demand Reduction Programs of The Cleveland Electric Illuminating Company and Heinen's Inc. electronically filed by Ms. Jennifer M. Sybyl on behalf of The Cleveland Electric Illuminating Company and Heinen's Inc.