

Industrial Refrigeration: Present Electric-Energy Consumption

Project: Sample Project City: x Date: Nov-11-2002		Existing Compressors		Mark	HP	RPM	Amps	Volts	kW	S - Psia	D - Psia	Remarks
				Comp-1	350	3,560	395	460	251.5	37.7	145.1	Standby
				Comp-2	350	3,560	395	460	251.5			Down for Service
				Comp-3	350	3,560	395	460	251.5			
				Comp-4	350	3,560	395	460	251.5			
				Comp-5	350	3,560	395	460	251.5			
				Comp-6	350	3,560	395	460	251.5			Standby
				Comp-BC-1	125	3,545	126	460	80.0	15.33	59.1	Lead - Freezer & Ice Cream
				Comp-BC-2	125	3,535	126	460	80.0			
				Comp-BC-3	125	3,545	126	460	80.0			' Standby
				Total (2) HP= 700				Total (2) kW = 503				
				Total (2) HP= 250				Total (2) kW = 160				
				Total HP = 950				Total kW = 662.9				

Ambient Design Conditions			
Description	1%	2.50%	5%
Dry Bulb (F) =	90	86	82
Wet Bulb (F) =	68	67	65
DTR =	21	Winter DB =	24

Refrigeration kWh/Yr = 4,934,446 (Based on field data)

High-Level Calculations

Area # & Name	Area (s.f.)	Volume Cu. Ft.	Box Tmp.	Est. Tons	Calc'd kWh/yr	88.8% Calibr't'd kWh/Yr	Electric Consumption Breakdown by Heat Contributing Factors								
							Product	Defrost	Ceiling	Wall	Floor	Infiltration	Fans	Lights	Forklift & P
(1) Bananas	2,800	56,000	60	2.5	15,453	13,728	2,334	412	1,373	412	1,236	2,883	1,785	1,373	1,922
(2) Produce & Dock	34,957	1,048,710	55	52.4	344,501	306,062	52,031	9,182	30,606	9,182	27,546	64,273	39,788	30,606	42,849
(3) Wet Box	32,570	977,100	36	58.6	503,292	447,136	76,013	13,414	44,714	13,414	40,242	93,899	58,128	44,714	62,599
(4) Deli & Dock	71,586	2,147,580	34	139.6	1,198,375	1,064,663	180,993	31,940	106,466	31,940	95,820	223,579	138,406	106,466	149,053
(5) Freezer Dock	14,000	420,000	34	27.3	234,365	208,215	35,397	6,246	20,821	6,246	18,739	43,725	27,068	20,821	29,150
(6) Meat Room	25,830	774,900	30	54.2	498,927	443,258	75,354	13,298	44,326	13,298	39,893	93,084	57,623	44,326	62,056
(7) Freezer	78,336	2,350,080	-6	152.8	2,314,975	2,056,674	349,634	61,700	205,667	61,700	185,101	431,901	267,368	205,667	287,934
(8) Ice Cream	10,045	301,350	-16	25.6	444,283	394,710	67,101	11,841	39,471	11,841	35,524	82,889	51,312	39,471	55,259
Totals =	270,124	8,075,720		513.1	5,554,171	4,934,446	838,856	148,033	493,445	148,033	444,100	1,036,234	641,478	493,445	690,822