

APPENDIX 8B. DETAILED PAYBACK PERIOD RESULTS

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APPENDIX 8B. DETAILED PAYBACK PERIOD RESULTS

8B.1 INTRODUCTION

This appendix provides detailed PBP results. The method of calculation is described in the LCC analysis (preliminary TSD chapter 8).

8B.2 DETAILED PAYBACK PERIOD RESULTS

This section presents PBP results for each combination of envelope and refrigeration system product classes that DOE analyzed, arranged by envelope and refrigeration system CSL combination. Note that in this context, CSL refers to a standard that DOE could set, rather than the efficiency of the equipment. So, for example, a cell representing envelope CSL 5 and refrigeration system CSL 6 presents the net present value of consumer savings that DOE forecasts would result from setting the WICF envelope standard at CSL 5 and the WICF refrigeration system standard at CSL 6.

The PBP represents the amount of time it would take a consumer to recover the assumed higher purchase cost of a more energy-efficient product from the lower operating costs. Numerically, the PBP is the ratio of the increase in purchase cost (i.e., from a less efficient design to a more efficient design) to the decrease in annual operating expenditures. This type of calculation is known as a “simple” PBP, because it does not take into account changes in operating cost over time or the time value of money. That is, the calculation is done at an effective discount rate of zero percent.

All results are provided in years. PBP results are not provided for the combination of CSL 0 envelope and a CSL 0 refrigeration system, because this represents the baseline.

As noted in the LCC analysis (preliminary TSD chapter 8), many of the rebuttable PBP results in this analysis are negative numbers. Again, the relative benefits of multiple different negative payback periods are not always comparable, but it is safe to say that any negative payback period represents an exceptionally financially beneficial measure.

Table 8B.2.1 PBP for Small Non-Display Cooler with Small Dedicated, Indoor Refrigeration System

Box Efficiency Level	Payback Period by Refrigeration Efficiency Level (years)							
	0	1	2	3	4	5	6	7
0		(2.5)	(2.5)	(1.8)	(0.3)	(0.2)	0.0	1.8
1	(2.8)	(2.7)	(2.7)	(2.4)	(1.7)	(1.7)	(1.6)	(0.8)
2	(2.7)	(2.7)	(2.7)	(2.4)	(1.7)	(1.6)	(1.5)	(0.8)
3	(1.9)	(2.0)	(2.0)	(1.9)	(1.4)	(1.4)	(1.3)	(0.8)
4	(1.7)	(1.9)	(1.9)	(1.7)	(1.3)	(1.3)	(1.2)	(0.7)
5	(1.7)	(1.8)	(1.9)	(1.7)	(1.3)	(1.2)	(1.2)	(0.7)
6	(1.3)	(1.6)	(1.6)	(1.5)	(1.1)	(1.0)	(1.0)	(0.5)
7	(1.2)	(1.5)	(1.5)	(1.4)	(1.0)	(0.9)	(0.9)	(0.4)
8	(0.7)	(1.0)	(1.0)	(0.9)	(0.6)	(0.6)	(0.5)	(0.1)
9	(0.2)	(0.5)	(0.6)	(0.5)	(0.2)	(0.2)	(0.1)	0.3
10	2.3	1.6	1.5	1.5	1.7	1.7	1.8	2.2
11	6.7	5.6	5.4	5.4	5.4	5.4	5.4	5.8
12	9.2	7.9	7.7	7.5	7.5	7.5	7.5	7.9
13	10.3	8.9	8.7	8.6	8.4	8.4	8.4	8.9
14	10.3	8.9	8.7	8.6	8.4	8.4	8.4	8.9
15	10.3	8.9	8.7	8.6	8.4	8.4	8.4	8.9

Table 8B.2.2 PBP for Medium Non-Display Cooler with Large Dedicated, Indoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)							
	0	1	2	3	4	5	6	7
0		(1.8)	(1.7)	(1.0)	(0.1)	(0.1)	0.2	1.7
1	(1.8)	(1.8)	(1.8)	(1.5)	(1.1)	(1.1)	(1.0)	(0.4)
2	(1.7)	(1.8)	(1.8)	(1.5)	(1.1)	(1.1)	(1.0)	(0.4)
3	(1.7)	(1.7)	(1.7)	(1.5)	(1.1)	(1.1)	(1.0)	(0.4)
4	(0.5)	(0.6)	(0.8)	(0.6)	(0.4)	(0.4)	(0.3)	0.2
5	(0.3)	(0.3)	(0.6)	(0.5)	(0.2)	(0.2)	(0.1)	0.3
6	0.0	(0.0)	(0.3)	(0.2)	(0.0)	0.0	0.1	0.5
7	0.2	0.2	(0.1)	(0.0)	0.1	0.2	0.2	0.6
8	0.8	0.7	0.4	0.4	0.6	0.6	0.6	1.0
9	1.3	1.2	0.8	0.9	1.0	1.0	1.1	1.4
10	3.6	3.4	2.8	2.8	2.8	2.8	2.9	3.2
11	8.5	8.2	7.2	7.1	6.9	6.9	6.9	7.3
12	11.2	10.9	9.7	9.5	9.2	9.2	9.2	9.6
13	12.5	12.2	11.0	10.7	10.4	10.4	10.4	10.8
14	12.5	12.2	11.0	10.7	10.4	10.4	10.4	10.8
15	12.5	12.2	11.0	10.7	10.4	10.4	10.4	10.8

Table 8B.2.3 PBP for Large Non-Display Cooler with Large Dedicated, Indoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)							
	0	1	2	3	4	5	6	7
0		(1.7)	(1.6)	(0.9)	(0.1)	(0.1)	0.1	1.5
1	(1.7)	(1.7)	(1.7)	(1.4)	(0.9)	(0.8)	(0.7)	0.0
2	(1.6)	(1.6)	(1.6)	(1.3)	(0.8)	(0.8)	(0.7)	0.0
3	(1.6)	(1.6)	(1.6)	(1.3)	(0.8)	(0.8)	(0.7)	0.0
4	(1.1)	(1.2)	(1.3)	(1.1)	(0.6)	(0.6)	(0.5)	0.2
5	(0.5)	(0.6)	(0.9)	(0.7)	(0.3)	(0.3)	(0.2)	0.5
6	1.6	1.3	0.6	0.7	0.9	0.9	1.0	1.6
7	1.9	1.6	0.9	0.9	1.1	1.1	1.2	1.8
8	2.0	1.8	1.0	1.1	1.2	1.2	1.3	1.9
9	2.7	2.5	1.6	1.6	1.7	1.7	1.8	2.3
10	3.4	3.2	2.2	2.2	2.2	2.2	2.3	2.8
11	3.5	3.3	2.3	2.2	2.3	2.3	2.3	2.9
12	5.3	4.9	3.7	3.6	3.5	3.5	3.6	4.1
13	7.4	7.0	5.4	5.2	5.0	5.0	5.1	5.6
14	13.8	13.2	10.8	10.4	9.8	9.8	9.8	10.3
15	17.3	16.6	13.8	13.2	12.5	12.5	12.5	13.0

Table 8B.2.4 PBP for Small Display Cooler with Large Dedicated, Indoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)							
	0	1	2	3	4	5	6	7
0		(2.1)	(2.0)	(1.1)	(0.2)	(0.1)	0.2	1.7
1	(1.0)	(1.2)	(1.6)	(1.1)	(0.4)	(0.3)	(0.1)	1.1
2	(0.2)	(0.5)	(1.1)	(0.7)	(0.2)	(0.1)	0.0	1.0
3	(1.0)	(1.0)	(1.3)	(1.0)	(0.6)	(0.6)	(0.4)	0.3
4	(0.5)	(0.6)	(0.8)	(0.6)	(0.4)	(0.4)	(0.3)	0.1
5	(0.5)	(0.5)	(0.6)	(0.6)	(0.4)	(0.4)	(0.4)	(0.1)
6	(0.5)	(0.5)	(0.7)	(0.6)	(0.5)	(0.4)	(0.4)	(0.1)
7	(0.3)	(0.4)	(0.5)	(0.4)	(0.3)	(0.3)	(0.3)	0.0
8	(0.3)	(0.4)	(0.5)	(0.4)	(0.3)	(0.3)	(0.2)	0.0
9	(0.3)	(0.3)	(0.5)	(0.4)	(0.3)	(0.3)	(0.2)	0.0
10	0.7	0.6	0.5	0.5	0.6	0.6	0.6	0.8
11	0.7	0.6	0.5	0.5	0.6	0.6	0.6	0.8
12	0.7	0.6	0.5	0.5	0.6	0.6	0.6	0.8
13	0.7	0.7	0.5	0.6	0.6	0.6	0.7	0.9
14	0.8	0.8	0.6	0.6	0.7	0.7	0.7	0.9
15	1.3	1.3	1.1	1.1	1.2	1.2	1.2	1.4

Table 8B.2.5 PBP for Medium Display Cooler with Large Dedicated, Indoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)							
	0	1	2	3	4	5	6	7
0		(1.9)	(1.8)	(1.0)	(0.1)	(0.1)	0.2	1.6
1	(1.0)	(1.2)	(1.5)	(1.1)	(0.4)	(0.3)	(0.1)	0.9
2	(0.8)	(1.0)	(1.3)	(0.9)	(0.4)	(0.3)	(0.2)	0.8
3	(1.0)	(1.1)	(1.3)	(1.0)	(0.6)	(0.5)	(0.4)	0.3
4	(0.5)	(0.6)	(1.0)	(0.7)	(0.3)	(0.3)	(0.2)	0.5
5	(0.1)	(0.2)	(0.4)	(0.3)	(0.1)	(0.1)	(0.0)	0.4
6	(0.1)	(0.1)	(0.2)	(0.2)	(0.1)	(0.1)	(0.0)	0.2
7	(0.0)	(0.1)	(0.2)	(0.2)	(0.1)	(0.0)	0.0	0.2
8	(0.0)	(0.1)	(0.2)	(0.1)	(0.0)	(0.0)	0.0	0.3
9	(0.0)	(0.1)	(0.2)	(0.1)	(0.0)	(0.0)	0.0	0.3
10	0.0	(0.0)	(0.2)	(0.1)	(0.0)	(0.0)	0.0	0.3
11	1.1	1.1	0.9	0.9	1.0	1.0	1.0	1.2
12	1.1	1.1	0.9	0.9	1.0	1.0	1.0	1.2
13	1.2	1.1	0.9	1.0	1.0	1.0	1.1	1.3
14	1.2	1.2	1.0	1.0	1.1	1.1	1.1	1.3
15	1.6	1.5	1.3	1.3	1.4	1.4	1.4	1.6

Table 8B.2.6 PBP for Large Display Cooler with Large Dedicated, Indoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)							
	0	1	2	3	4	5	6	7
0		(1.9)	(1.8)	(1.0)	(0.1)	(0.1)	0.2	1.6
1	(0.7)	(1.1)	(1.6)	(1.0)	(0.2)	(0.1)	0.1	1.3
2	(1.1)	(1.3)	(1.5)	(1.1)	(0.4)	(0.4)	(0.2)	0.8
3	(0.3)	(0.5)	(1.0)	(0.7)	(0.2)	(0.1)	0.0	0.9
4	0.1	0.0	(0.3)	(0.2)	0.0	0.1	0.1	0.7
5	0.1	0.1	(0.1)	(0.0)	0.1	0.1	0.1	0.4
6	0.1	0.1	(0.1)	(0.0)	0.1	0.1	0.1	0.4
7	0.1	0.1	(0.1)	(0.0)	0.1	0.1	0.1	0.4
8	0.3	0.3	0.1	0.2	0.2	0.3	0.3	0.5
9	1.3	1.3	1.1	1.1	1.1	1.1	1.2	1.3
10	1.3	1.3	1.1	1.1	1.2	1.2	1.2	1.4
11	1.4	1.3	1.1	1.1	1.2	1.2	1.2	1.4
12	1.4	1.4	1.2	1.2	1.2	1.2	1.3	1.4
13	1.5	1.4	1.2	1.2	1.3	1.3	1.3	1.5
14	1.5	1.4	1.2	1.2	1.3	1.3	1.3	1.5
15	1.7	1.6	1.4	1.5	1.5	1.5	1.5	1.7

Table 8B.2.7 PBP for Small Non-Display Cooler with Small Dedicated, Outdoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)								
	0	1	2	3	4	5	6	7	8
0		(3.6)	(2.1)	(0.3)	(0.0)	0.2	0.4	1.1	1.2
1	(3.1)	(3.2)	(2.9)	(2.0)	(1.8)	(1.6)	(1.5)	(1.0)	(1.0)
2	(3.0)	(3.1)	(2.8)	(1.9)	(1.7)	(1.6)	(1.4)	(0.9)	(0.9)
3	(2.1)	(2.1)	(2.1)	(1.6)	(1.4)	(1.3)	(1.2)	(0.9)	(0.9)
4	(1.8)	(1.9)	(1.9)	(1.4)	(1.3)	(1.2)	(1.1)	(0.7)	(0.7)
5	(1.8)	(1.9)	(1.8)	(1.4)	(1.3)	(1.1)	(1.1)	(0.7)	(0.7)
6	(1.4)	(1.5)	(1.5)	(1.1)	(1.0)	(0.9)	(0.8)	(0.5)	(0.5)
7	(1.2)	(1.4)	(1.4)	(1.0)	(0.9)	(0.8)	(0.7)	(0.4)	(0.4)
8	(0.6)	(0.7)	(0.8)	(0.5)	(0.5)	(0.4)	(0.3)	(0.1)	(0.0)
9	0.0	(0.1)	(0.3)	(0.1)	(0.0)	0.1	0.1	0.4	0.4
10	2.9	2.7	2.3	2.2	2.3	2.3	2.3	2.5	2.5
11	8.2	7.9	7.1	6.6	6.6	6.5	6.5	6.5	6.5
12	11.2	10.8	9.8	9.2	9.1	9.0	9.0	8.9	8.9
13	12.6	12.1	11.1	10.3	10.2	10.1	10.1	10.0	10.0
14	12.6	12.1	11.1	10.3	10.2	10.1	10.1	10.0	10.0
15	12.6	12.1	11.1	10.3	10.2	10.1	10.1	10.0	10.0

Table 8B.2.8 PBP for Medium Non-Display Cooler with Large Dedicated, Outdoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)								
	0	1	2	3	4	5	6	7	8
0		(2.4)	(1.9)	(1.3)	(0.4)	0.1	0.3	0.4	0.5
1	(2.0)	(2.0)	(2.0)	(1.8)	(1.4)	(1.0)	(0.9)	(0.9)	(0.8)
2	(2.0)	(2.0)	(2.0)	(1.8)	(1.4)	(1.0)	(0.9)	(0.8)	(0.7)
3	(1.9)	(2.0)	(1.9)	(1.8)	(1.3)	(1.0)	(0.9)	(0.8)	(0.7)
4	(0.6)	(0.7)	(0.8)	(0.8)	(0.6)	(0.3)	(0.3)	(0.2)	(0.2)
5	(0.4)	(0.5)	(0.6)	(0.6)	(0.4)	(0.2)	(0.1)	(0.1)	(0.0)
6	(0.0)	(0.1)	(0.3)	(0.3)	(0.1)	0.0	0.1	0.1	0.2
7	0.2	0.1	(0.1)	(0.1)	(0.0)	0.2	0.2	0.2	0.3
8	0.8	0.7	0.5	0.4	0.5	0.6	0.6	0.7	0.7
9	1.4	1.2	1.0	0.9	0.9	1.0	1.1	1.1	1.1
10	3.8	3.6	3.3	3.0	2.9	2.9	2.9	2.9	2.9
11	9.0	8.8	8.3	7.7	7.2	7.0	7.0	7.0	7.0
12	12.0	11.7	11.0	10.4	9.8	9.5	9.4	9.4	9.4
13	13.5	13.1	12.4	11.7	11.0	10.7	10.6	10.6	10.6
14	13.5	13.1	12.4	11.7	11.0	10.7	10.6	10.6	10.6
15	13.5	13.1	12.4	11.7	11.0	10.7	10.6	10.6	10.6

Table 8B.2.9 PBP for Large Non-Display Cooler with Large Dedicated, Outdoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)								
	0	1	2	3	4	5	6	7	8
0		(2.2)	(1.8)	(1.2)	(0.4)	0.1	0.3	0.4	0.5
1	(1.9)	(2.0)	(1.9)	(1.6)	(1.1)	(0.7)	(0.6)	(0.5)	(0.4)
2	(1.8)	(1.9)	(1.8)	(1.6)	(1.1)	(0.7)	(0.5)	(0.5)	(0.4)
3	(1.8)	(1.9)	(1.8)	(1.6)	(1.1)	(0.7)	(0.5)	(0.5)	(0.4)
4	(1.3)	(1.4)	(1.4)	(1.3)	(0.8)	(0.5)	(0.3)	(0.3)	(0.2)
5	(0.6)	(0.7)	(0.9)	(0.8)	(0.5)	(0.2)	(0.1)	(0.0)	0.0
6	1.6	1.4	1.0	0.7	0.8	0.9	1.0	1.0	1.1
7	1.9	1.7	1.2	1.0	1.0	1.1	1.2	1.2	1.3
8	2.1	1.8	1.4	1.1	1.1	1.2	1.3	1.3	1.4
9	2.9	2.6	2.1	1.7	1.6	1.7	1.7	1.7	1.8
10	3.6	3.3	2.8	2.3	2.2	2.2	2.2	2.2	2.3
11	3.8	3.4	2.9	2.4	2.3	2.3	2.3	2.3	2.4
12	5.6	5.2	4.6	4.0	3.6	3.5	3.5	3.5	3.5
13	7.9	7.4	6.6	5.8	5.2	5.0	4.9	4.9	5.0
14	14.8	14.1	12.8	11.4	10.3	9.7	9.6	9.6	9.6
15	18.6	17.8	16.3	14.6	13.2	12.5	12.3	12.3	12.3

Table 8B.2.10 PBP for Small Display Cooler with Large Dedicated, Outdoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)								
	0	1	2	3	4	5	6	7	8
0		(2.7)	(2.2)	(1.5)	(0.5)	0.1	0.4	0.4	0.6
1	(1.0)	(1.4)	(1.6)	(1.4)	(0.6)	(0.1)	0.1	0.1	0.3
2	(0.3)	(0.6)	(1.0)	(0.9)	(0.4)	0.0	0.2	0.2	0.3
3	(1.1)	(1.2)	(1.3)	(1.2)	(0.8)	(0.5)	(0.3)	(0.3)	(0.2)
4	(0.6)	(0.7)	(0.8)	(0.8)	(0.6)	(0.4)	(0.3)	(0.2)	(0.2)
5	(0.6)	(0.6)	(0.7)	(0.7)	(0.6)	(0.5)	(0.4)	(0.4)	(0.3)
6	(0.6)	(0.7)	(0.7)	(0.8)	(0.6)	(0.5)	(0.4)	(0.4)	(0.4)
7	(0.5)	(0.5)	(0.6)	(0.6)	(0.5)	(0.3)	(0.3)	(0.3)	(0.2)
8	(0.4)	(0.5)	(0.5)	(0.6)	(0.5)	(0.3)	(0.3)	(0.3)	(0.2)
9	(0.4)	(0.5)	(0.5)	(0.5)	(0.4)	(0.3)	(0.2)	(0.2)	(0.2)
10	0.6	0.6	0.5	0.4	0.5	0.6	0.6	0.6	0.6
11	0.6	0.6	0.5	0.4	0.5	0.6	0.6	0.6	0.6
12	0.6	0.6	0.5	0.5	0.5	0.6	0.6	0.6	0.6
13	0.7	0.7	0.6	0.5	0.6	0.6	0.7	0.7	0.7
14	0.8	0.7	0.6	0.6	0.6	0.7	0.7	0.7	0.8
15	1.4	1.3	1.2	1.1	1.1	1.2	1.2	1.2	1.3

Table 8B.2.11 PBP for Medium Display Cooler with Large Dedicated, Outdoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)								
	0	1	2	3	4	5	6	7	8
0		(2.5)	(2.0)	(1.4)	(0.4)	0.1	0.3	0.4	0.5
1	(1.1)	(1.4)	(1.6)	(1.3)	(0.6)	(0.1)	0.0	0.1	0.2
2	(0.9)	(1.1)	(1.3)	(1.2)	(0.6)	(0.2)	(0.0)	0.0	0.2
3	(1.1)	(1.3)	(1.4)	(1.3)	(0.8)	(0.4)	(0.3)	(0.2)	(0.1)
4	(0.6)	(0.7)	(0.9)	(0.9)	(0.5)	(0.2)	(0.1)	(0.1)	0.0
5	(0.2)	(0.2)	(0.4)	(0.4)	(0.2)	(0.1)	0.0	0.0	0.1
6	(0.1)	(0.2)	(0.2)	(0.3)	(0.2)	(0.1)	(0.0)	(0.0)	0.0
7	(0.1)	(0.2)	(0.2)	(0.3)	(0.2)	(0.1)	(0.0)	(0.0)	0.0
8	(0.1)	(0.2)	(0.2)	(0.3)	(0.2)	(0.1)	(0.0)	(0.0)	0.0
9	(0.1)	(0.2)	(0.2)	(0.2)	(0.2)	(0.1)	(0.0)	(0.0)	0.0
10	(0.1)	(0.1)	(0.2)	(0.2)	(0.1)	(0.0)	0.0	0.0	0.1
11	1.1	1.1	1.0	0.9	0.9	1.0	1.0	1.0	1.1
12	1.2	1.1	1.0	0.9	1.0	1.0	1.0	1.0	1.1
13	1.2	1.1	1.1	1.0	1.0	1.0	1.1	1.1	1.1
14	1.2	1.2	1.1	1.0	1.0	1.1	1.1	1.1	1.1
15	1.6	1.6	1.5	1.4	1.4	1.4	1.4	1.4	1.5

Table 8B.2.12 PBP for Large Display Cooler with Large Dedicated, Outdoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)								
	0	1	2	3	4	5	6	7	8
0		(2.5)	(2.0)	(1.4)	(0.4)	0.1	0.3	0.4	0.5
1	(0.7)	(1.4)	(1.6)	(1.3)	(0.5)	0.0	0.2	0.3	0.4
2	(1.3)	(1.5)	(1.6)	(1.3)	(0.7)	(0.2)	(0.1)	(0.0)	0.1
3	(0.3)	(0.6)	(0.9)	(0.9)	(0.4)	(0.0)	0.1	0.2	0.3
4	0.1	(0.1)	(0.2)	(0.3)	(0.1)	0.1	0.2	0.2	0.3
5	0.0	(0.0)	(0.1)	(0.1)	(0.0)	0.1	0.1	0.1	0.2
6	0.0	(0.0)	(0.1)	(0.1)	(0.0)	0.1	0.1	0.1	0.2
7	0.1	0.0	(0.1)	(0.1)	(0.0)	0.1	0.1	0.1	0.2
8	0.3	0.2	0.1	0.1	0.2	0.2	0.3	0.3	0.3
9	1.3	1.3	1.2	1.1	1.1	1.1	1.2	1.2	1.2
10	1.4	1.3	1.2	1.1	1.1	1.2	1.2	1.2	1.2
11	1.4	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2
12	1.4	1.4	1.3	1.2	1.2	1.2	1.3	1.3	1.3
13	1.5	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3
14	1.5	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3
15	1.7	1.7	1.6	1.5	1.5	1.5	1.5	1.5	1.6

Table 8B.2.13 PBP for Small Non-Display Cooler with Small Multiplex System Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)			
	0	1	2	3
0		0.4	1.5	11.4
1	(3.1)	(2.7)	(2.5)	0.6
2	(2.8)	(2.5)	(2.2)	0.8
3	(0.6)	(0.5)	(0.4)	1.4
4	(0.0)	0.0	0.1	1.8
5	0.0	0.1	0.2	1.9
6	0.9	0.9	0.9	2.5
7	1.3	1.2	1.3	2.8
8	2.7	2.6	2.6	3.9
9	4.1	3.9	3.9	5.1
10	10.6	10.2	10.2	10.8
11	22.6	21.8	21.7	21.7
12	29.4	28.3	28.2	27.9
13	32.4	31.3	31.1	30.7
14	32.4	31.3	31.1	30.7
15	32.4	31.3	31.1	30.7

Table 8B.2.14 PBP for Medium Non-Display Cooler with Large Multiplex System Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)			
	0	1	2	3
0		0.6	1.2	2.9
1	(1.0)	(0.8)	(0.7)	0.1
2	(0.8)	(0.7)	(0.6)	0.2
3	(0.8)	(0.7)	(0.6)	0.3
4	2.5	2.4	2.4	2.7
5	3.1	3.0	3.0	3.1
6	4.0	3.8	3.8	3.8
7	4.5	4.3	4.3	4.3
8	6.0	5.7	5.7	5.5
9	7.5	7.2	7.1	6.8
10	13.5	13.0	12.9	12.2
11	26.6	25.7	25.5	23.9
12	33.9	32.8	32.6	30.6
13	37.5	36.4	36.1	34.0
14	37.5	36.4	36.1	34.0
15	37.5	36.4	36.1	34.0

Table 8B.2.15 PBP for Large Non-Display Cooler with Large Multiplex System Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)			
	0	1	2	3
0		0.5	1.1	2.7
1	(1.0)	(0.8)	(0.6)	0.5
2	(0.8)	(0.6)	(0.4)	0.6
3	(0.7)	(0.5)	(0.4)	0.7
4	0.6	0.6	0.7	1.4
5	2.3	2.1	2.2	2.5
6	7.8	7.1	7.0	6.4
7	8.6	7.9	7.7	7.0
8	9.0	8.3	8.1	7.4
9	10.9	10.0	9.9	8.9
10	12.8	11.8	11.6	10.4
11	13.1	12.1	11.9	10.7
12	17.7	16.5	16.2	14.5
13	23.3	21.8	21.5	19.1
14	40.5	38.1	37.6	33.4
15	49.8	47.1	46.4	41.4

Table 8B.2.16 PBP for Small Display Cooler with Large Multiplex System Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)			
	0	1	2	3
0		0.4	0.7	1.9
1	(0.2)	(0.0)	0.1	1.0
2	0.6	0.6	0.7	1.2
3	0.3	0.3	0.3	0.7
4	1.1	1.1	1.1	1.2
5	1.6	1.6	1.6	1.6
6	1.9	1.9	1.9	1.9
7	2.1	2.1	2.1	2.1
8	2.2	2.1	2.1	2.2
9	2.2	2.2	2.2	2.2
10	4.8	4.7	4.7	4.6
11	4.8	4.7	4.7	4.6
12	4.8	4.7	4.7	4.6
13	4.9	4.8	4.8	4.7
14	5.0	4.9	4.9	4.8
15	6.0	5.9	5.9	5.7

Table 8B.2.17 PBP for Medium Display Cooler with Large Multiplex System Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)			
	0	1	2	3
0		0.3	0.7	1.7
1	(0.3)	(0.2)	(0.0)	0.8
2	(0.0)	0.0	0.1	0.7
3	0.0	0.0	0.1	0.6
4	0.6	0.6	0.6	0.9
5	1.4	1.4	1.4	1.5
6	2.0	2.0	2.0	2.0
7	2.4	2.4	2.4	2.4
8	2.5	2.4	2.4	2.4
9	2.5	2.4	2.4	2.4
10	2.5	2.4	2.4	2.4
11	5.6	5.5	5.4	5.3
12	5.6	5.5	5.5	5.3
13	5.7	5.6	5.5	5.4
14	5.7	5.6	5.6	5.4
15	6.4	6.2	6.2	6.0

Table 8B.2.18 PBP for Large Display Cooler with Large Multiplex System Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)			
	0	1	2	3
0		0.3	0.7	1.7
1	0.1	0.2	0.4	1.3
2	0.3	0.3	0.4	1.0
3	1.2	1.1	1.1	1.4
4	2.1	2.0	2.0	2.0
5	2.2	2.2	2.2	2.2
6	2.2	2.2	2.2	2.2
7	2.3	2.2	2.2	2.2
8	2.6	2.5	2.5	2.5
9	4.0	4.0	4.0	3.9
10	4.1	4.0	4.0	3.9
11	4.1	4.1	4.0	4.0
12	4.2	4.1	4.1	4.0
13	4.3	4.2	4.2	4.1
14	4.3	4.2	4.2	4.1
15	4.6	4.5	4.5	4.4

Table 8B.2.19 PBP for Small Non-Display Freezer with Small Dedicated, Indoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)								
	0	1	2	3	4	5	6	7	8
0		(2.3)	(2.1)	(1.5)	(1.1)	(1.0)	(0.9)	(0.5)	0.1
1	(2.3)	(2.3)	(2.3)	(2.2)	(2.1)	(2.0)	(2.0)	(1.9)	(1.8)
2	(2.2)	(2.3)	(2.2)	(2.1)	(2.0)	(2.0)	(2.0)	(1.9)	(1.7)
3	(2.2)	(2.2)	(2.2)	(2.1)	(2.0)	(2.0)	(1.9)	(1.8)	(1.7)
4	(2.1)	(2.1)	(2.1)	(2.0)	(1.9)	(1.9)	(1.9)	(1.8)	(1.7)
5	(2.1)	(2.1)	(2.1)	(2.0)	(1.9)	(1.9)	(1.9)	(1.8)	(1.7)
6	(2.1)	(2.1)	(2.1)	(2.0)	(1.9)	(1.9)	(1.9)	(1.8)	(1.7)
7	(2.0)	(2.0)	(2.0)	(1.9)	(1.9)	(1.8)	(1.8)	(1.7)	(1.6)
8	(2.0)	(2.0)	(2.0)	(1.9)	(1.8)	(1.8)	(1.8)	(1.7)	(1.6)
9	(1.9)	(1.9)	(1.9)	(1.8)	(1.8)	(1.7)	(1.7)	(1.6)	(1.5)
10	(1.6)	(1.6)	(1.6)	(1.6)	(1.6)	(1.5)	(1.5)	(1.5)	(1.4)
11	(0.7)	(0.8)	(0.8)	(0.8)	(0.8)	(0.8)	(0.8)	(0.7)	(0.6)
12	(0.2)	(0.3)	(0.3)	(0.4)	(0.3)	(0.3)	(0.3)	(0.3)	(0.2)
13	(0.0)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.0)
14	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.5
15	0.7	0.7	0.6	0.5	0.6	0.6	0.6	0.6	0.7

Table 8B.2.20 PBP for Medium Non-Display Freezer with Large Dedicated, Indoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)								
	0	1	2	3	4	5	6	7	8
0		(1.7)	(1.1)	(0.6)	(0.3)	(0.2)	(0.1)	0.1	0.5
1	(1.4)	(1.4)	(1.4)	(1.3)	(1.2)	(1.2)	(1.2)	(1.1)	(1.0)
2	(1.4)	(1.4)	(1.4)	(1.3)	(1.2)	(1.2)	(1.1)	(1.1)	(1.0)
3	(1.4)	(1.4)	(1.4)	(1.3)	(1.2)	(1.2)	(1.1)	(1.1)	(1.0)
4	(1.3)	(1.3)	(1.3)	(1.2)	(1.1)	(1.1)	(1.1)	(1.0)	(1.0)
5	(1.2)	(1.2)	(1.2)	(1.1)	(1.1)	(1.1)	(1.0)	(1.0)	(0.9)
6	(1.2)	(1.2)	(1.2)	(1.1)	(1.1)	(1.0)	(1.0)	(1.0)	(0.9)
7	(1.1)	(1.1)	(1.1)	(1.0)	(1.0)	(0.9)	(0.9)	(0.9)	(0.8)
8	(1.0)	(1.1)	(1.0)	(1.0)	(0.9)	(0.9)	(0.9)	(0.9)	(0.8)
9	(0.8)	(0.8)	(0.8)	(0.8)	(0.7)	(0.7)	(0.7)	(0.7)	(0.6)
10	(0.7)	(0.7)	(0.7)	(0.7)	(0.7)	(0.6)	(0.6)	(0.6)	(0.6)
11	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4
12	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
13	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4
14	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7
15	1.9	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.8

Table 8B.2.21 PBP for Large Non-Display Freezer with Large Dedicated, Indoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)								
	0	1	2	3	4	5	6	7	8
0		(1.7)	(1.1)	(0.6)	(0.3)	(0.2)	(0.1)	0.1	0.4
1	(1.4)	(1.4)	(1.4)	(1.2)	(1.1)	(1.1)	(1.1)	(1.0)	(0.9)
2	(1.4)	(1.4)	(1.3)	(1.2)	(1.1)	(1.1)	(1.1)	(1.0)	(0.9)
3	(1.3)	(1.3)	(1.3)	(1.2)	(1.1)	(1.0)	(1.0)	(1.0)	(0.9)
4	(1.2)	(1.2)	(1.2)	(1.1)	(1.0)	(1.0)	(1.0)	(0.9)	(0.8)
5	(1.1)	(1.1)	(1.1)	(1.0)	(1.0)	(0.9)	(0.9)	(0.9)	(0.8)
6	(1.1)	(1.1)	(1.1)	(1.0)	(0.9)	(0.9)	(0.9)	(0.8)	(0.7)
7	(0.9)	(0.9)	(0.9)	(0.9)	(0.8)	(0.8)	(0.8)	(0.7)	(0.7)
8	(0.7)	(0.7)	(0.7)	(0.7)	(0.7)	(0.6)	(0.6)	(0.6)	(0.5)
9	(0.7)	(0.7)	(0.7)	(0.7)	(0.6)	(0.6)	(0.6)	(0.5)	(0.5)
10	(0.5)	(0.6)	(0.6)	(0.5)	(0.5)	(0.5)	(0.5)	(0.4)	(0.4)
11	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.4)	(0.4)	(0.4)
12	(0.1)	(0.1)	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.0)
13	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.0)	0.0
14	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1
15	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.8

Table 8B.2.22 PBP for Small Display Freezer with Large Dedicated, Indoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)								
	0	1	2	3	4	5	6	7	8
0		(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)
1	(23.6)	(25.7)	(26.5)	(26.3)	(25.7)	(25.3)	(25.0)	(20.2)	(32.6)
2	(25.2)	(25.4)	(25.7)	(25.6)	(25.4)	(25.4)	(25.3)	(25.1)	(24.6)
3	(20.2)	(20.7)	(21.3)	(21.1)	(20.7)	(20.6)	(20.5)	(19.9)	(18.9)
4	(85.5)	(71.9)	(62.0)	(65.6)	(72.2)	(75.6)	(78.0)	(95.0)	(177.3)
5	(46.8)	(43.9)	(41.4)	(42.3)	(44.0)	(44.8)	(45.3)	(48.6)	(57.7)
6	17.9	20.8	24.9	23.1	20.7	19.8	19.2	16.6	13.0
7	17.8	20.7	24.9	23.0	20.6	19.7	19.2	16.6	12.9
8	16.1	18.9	22.9	21.1	18.8	17.9	17.4	14.9	11.4
9	16.0	18.8	22.8	21.0	18.8	17.9	17.3	14.8	11.3
10	16.0	18.8	22.8	21.0	18.7	17.8	17.3	14.8	11.3
11	6.0	6.7	7.8	7.3	6.7	6.5	6.3	5.6	4.5
12	3.1	3.8	4.6	4.2	3.8	3.6	3.4	2.9	1.9
13	3.1	3.7	4.5	4.2	3.7	3.5	3.4	2.8	1.9
14	2.8	3.4	4.2	3.9	3.4	3.2	3.1	2.5	1.7
15	(4.2)	(3.8)	(3.2)	(3.4)	(3.8)	(3.9)	(4.0)	(4.4)	(5.0)

Table 8B.2.23 PBP for Medium Display Freezer with Large Dedicated, Indoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)								
	0	1	2	3	4	5	6	7	8
0		(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)
1	(25.8)	(26.7)	(27.1)	(27.0)	(26.7)	(26.5)	(26.3)	(24.6)	(32.0)
2	(24.8)	(25.2)	(25.5)	(25.3)	(25.2)	(25.1)	(25.0)	(24.7)	(23.9)
3	(23.6)	(24.0)	(24.4)	(24.3)	(24.0)	(23.9)	(23.8)	(23.4)	(22.5)
4	(17.7)	(18.5)	(19.3)	(19.0)	(18.5)	(18.2)	(18.1)	(17.2)	(15.5)
5	(256.6)	(117.0)	(78.8)	(90.1)	(118.5)	(139.5)	(158.1)	(856.6)	79.7
6	6.2	7.5	9.3	8.6	7.5	7.1	6.8	5.6	3.8
7	4.0	5.0	6.4	5.8	5.0	4.7	4.5	3.6	2.2
8	4.0	5.0	6.4	5.8	5.0	4.7	4.5	3.6	2.2
9	3.9	4.9	6.3	5.7	4.9	4.6	4.4	3.5	2.1
10	3.9	4.9	6.2	5.6	4.9	4.5	4.4	3.4	2.1
11	3.7	4.7	6.0	5.4	4.6	4.3	4.1	3.2	1.9
12	(1.0)	(0.6)	(0.2)	(0.4)	(0.7)	(0.8)	(0.8)	(1.1)	(1.6)
13	(1.0)	(0.7)	(0.3)	(0.5)	(0.7)	(0.8)	(0.9)	(1.2)	(1.6)
14	(1.1)	(0.8)	(0.4)	(0.6)	(0.8)	(0.9)	(1.0)	(1.3)	(1.8)
15	(6.3)	(6.1)	(5.8)	(5.9)	(6.1)	(6.2)	(6.2)	(6.4)	(6.8)

Table 8B.2.24 PBP for Large Display Freezer with Large Dedicated, Indoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)								
	0	1	2	3	4	5	6	7	8
0		(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)
1	(14.8)	(23.8)	(25.7)	(25.1)	(23.7)	(22.6)	(21.5)	(1,158.6)	(31.8)
2	(22.7)	(23.4)	(24.0)	(23.8)	(23.4)	(23.2)	(23.1)	(22.3)	(20.5)
3	(22.7)	(23.4)	(24.0)	(23.8)	(23.4)	(23.2)	(23.1)	(22.3)	(20.4)
4	(14.8)	(16.2)	(17.5)	(17.0)	(16.2)	(15.8)	(15.5)	(14.1)	(10.9)
5	17.8	33.4	77.4	52.9	32.8	27.2	24.2	13.0	2.4
6	(0.9)	(0.3)	0.5	0.1	(0.3)	(0.5)	(0.7)	(1.2)	(2.1)
7	(1.0)	(0.4)	0.4	0.0	(0.4)	(0.6)	(0.7)	(1.3)	(2.2)
8	(1.2)	(0.6)	0.2	(0.1)	(0.6)	(0.8)	(0.9)	(1.4)	(2.3)
9	(1.3)	(0.7)	0.0	(0.3)	(0.7)	(0.9)	(1.0)	(1.6)	(2.4)
10	(1.6)	(1.0)	(0.3)	(0.6)	(1.0)	(1.2)	(1.3)	(1.9)	(2.7)
11	(3.6)	(3.4)	(3.1)	(3.2)	(3.4)	(3.4)	(3.5)	(3.7)	(4.0)
12	(3.7)	(3.5)	(3.2)	(3.3)	(3.5)	(3.6)	(3.6)	(3.8)	(4.1)
13	(3.9)	(3.7)	(3.4)	(3.5)	(3.7)	(3.7)	(3.8)	(4.0)	(4.3)
14	(3.9)	(3.7)	(3.4)	(3.5)	(3.7)	(3.8)	(3.8)	(4.0)	(4.4)
15	(4.8)	(4.6)	(4.3)	(4.4)	(4.6)	(4.7)	(4.7)	(4.9)	(5.2)

Table 8B.2.25 PBP for Small Non-Display Freezer with Small Dedicated, Outdoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)									
	0	1	2	3	4	5	6	7	8	9
0		(2.8)	(2.4)	(1.7)	(1.2)	(0.5)	(0.4)	(0.4)	0.2	0.6
1	(2.6)	(2.6)	(2.6)	(2.5)	(2.4)	(2.1)	(2.1)	(2.1)	(1.9)	(1.8)
2	(2.6)	(2.6)	(2.6)	(2.5)	(2.3)	(2.1)	(2.1)	(2.0)	(1.9)	(1.8)
3	(2.5)	(2.5)	(2.5)	(2.4)	(2.3)	(2.0)	(2.0)	(2.0)	(1.8)	(1.7)
4	(2.4)	(2.4)	(2.4)	(2.3)	(2.2)	(2.0)	(2.0)	(2.0)	(1.8)	(1.7)
5	(2.4)	(2.4)	(2.4)	(2.3)	(2.2)	(2.0)	(2.0)	(2.0)	(1.8)	(1.7)
6	(2.4)	(2.4)	(2.4)	(2.3)	(2.2)	(2.0)	(2.0)	(2.0)	(1.8)	(1.7)
7	(2.3)	(2.3)	(2.3)	(2.2)	(2.1)	(1.9)	(1.9)	(1.9)	(1.8)	(1.7)
8	(2.2)	(2.3)	(2.3)	(2.2)	(2.1)	(1.9)	(1.9)	(1.9)	(1.8)	(1.7)
9	(2.1)	(2.2)	(2.2)	(2.1)	(2.0)	(1.9)	(1.8)	(1.8)	(1.7)	(1.6)
10	(1.8)	(1.9)	(1.9)	(1.8)	(1.8)	(1.7)	(1.6)	(1.6)	(1.5)	(1.5)
11	(0.9)	(0.9)	(1.0)	(1.0)	(0.9)	(0.8)	(0.8)	(0.8)	(0.7)	(0.7)
12	(0.3)	(0.4)	(0.5)	(0.5)	(0.4)	(0.4)	(0.4)	(0.4)	(0.3)	(0.2)
13	(0.1)	(0.2)	(0.2)	(0.2)	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)	(0.0)
14	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.6
15	0.7	0.7	0.6	0.5	0.6	0.6	0.6	0.6	0.7	0.7

Table 8B.2.26 PBP for Medium Non-Display Freezer with Large Dedicated, Outdoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)									
	0	1	2	3	4	5	6	7	8	9
0		(2.1)	(1.0)	(0.6)	(0.1)	0.1	0.2	0.2	0.4	0.7
1	(1.7)	(1.7)	(1.6)	(1.5)	(1.4)	(1.3)	(1.2)	(1.2)	(1.2)	(1.1)
2	(1.7)	(1.7)	(1.6)	(1.5)	(1.3)	(1.3)	(1.2)	(1.2)	(1.2)	(1.0)
3	(1.7)	(1.7)	(1.6)	(1.5)	(1.3)	(1.3)	(1.2)	(1.2)	(1.2)	(1.0)
4	(1.6)	(1.6)	(1.5)	(1.4)	(1.3)	(1.2)	(1.2)	(1.2)	(1.1)	(1.0)
5	(1.5)	(1.5)	(1.4)	(1.4)	(1.2)	(1.2)	(1.1)	(1.1)	(1.1)	(1.0)
6	(1.4)	(1.5)	(1.4)	(1.3)	(1.2)	(1.1)	(1.1)	(1.1)	(1.0)	(1.0)
7	(1.3)	(1.3)	(1.3)	(1.2)	(1.1)	(1.0)	(1.0)	(1.0)	(1.0)	(0.9)
8	(1.2)	(1.3)	(1.2)	(1.2)	(1.1)	(1.0)	(1.0)	(1.0)	(0.9)	(0.9)
9	(1.0)	(1.0)	(1.0)	(1.0)	(0.9)	(0.8)	(0.8)	(0.8)	(0.8)	(0.7)
10	(0.9)	(0.9)	(0.9)	(0.9)	(0.8)	(0.7)	(0.7)	(0.7)	(0.7)	(0.6)
11	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4
12	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0
13	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
14	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
15	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9

Table 8B.2.27 PBP for Large Non-Display Freezer with Large Dedicated, Outdoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)									
	0	1	2	3	4	5	6	7	8	9
0		(2.0)	(0.9)	(0.5)	(0.1)	0.1	0.2	0.2	0.4	0.7
1	(1.7)	(1.7)	(1.6)	(1.5)	(1.3)	(1.2)	(1.2)	(1.2)	(1.1)	(1.0)
2	(1.7)	(1.7)	(1.6)	(1.5)	(1.3)	(1.2)	(1.2)	(1.2)	(1.1)	(1.0)
3	(1.6)	(1.6)	(1.5)	(1.4)	(1.2)	(1.1)	(1.1)	(1.1)	(1.0)	(0.9)
4	(1.5)	(1.5)	(1.4)	(1.3)	(1.2)	(1.1)	(1.1)	(1.1)	(1.0)	(0.9)
5	(1.4)	(1.4)	(1.3)	(1.3)	(1.1)	(1.0)	(1.0)	(1.0)	(0.9)	(0.8)
6	(1.3)	(1.3)	(1.3)	(1.2)	(1.1)	(1.0)	(1.0)	(1.0)	(0.9)	(0.8)
7	(1.1)	(1.2)	(1.1)	(1.1)	(1.0)	(0.9)	(0.9)	(0.9)	(0.8)	(0.7)
8	(0.9)	(0.9)	(0.9)	(0.9)	(0.8)	(0.7)	(0.7)	(0.7)	(0.7)	(0.6)
9	(0.9)	(0.9)	(0.9)	(0.8)	(0.7)	(0.7)	(0.7)	(0.7)	(0.6)	(0.6)
10	(0.7)	(0.7)	(0.7)	(0.7)	(0.6)	(0.6)	(0.6)	(0.6)	(0.5)	(0.5)
11	(0.7)	(0.7)	(0.7)	(0.7)	(0.6)	(0.5)	(0.5)	(0.5)	(0.5)	(0.4)
12	(0.2)	(0.2)	(0.3)	(0.2)	(0.2)	(0.2)	(0.2)	(0.1)	(0.1)	(0.1)
13	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)	(0.0)
14	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2
15	2.0	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.9

Table 8B.2.28 PBP for Small Display Freezer with Large Dedicated, Outdoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)									
	0	1	2	3	4	5	6	7	8	9
0		(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)
1	(24.5)	(26.2)	(26.5)	(26.4)	(25.3)	(22.4)	(17.9)	(7.1)	(32.5)	(29.4)
2	(26.0)	(26.1)	(26.2)	(26.2)	(26.0)	(25.9)	(25.8)	(25.8)	(25.6)	(25.1)
3	(21.0)	(21.5)	(21.7)	(21.6)	(21.2)	(20.8)	(20.6)	(20.5)	(20.0)	(18.8)
4	(80.5)	(68.5)	(64.4)	(66.3)	(76.3)	(87.4)	(93.3)	(97.7)	(134.6)	(765.5)
5	(46.5)	(43.7)	(42.6)	(43.1)	(45.6)	(47.9)	(49.0)	(49.8)	(54.8)	(70.9)
6	22.0	25.8	27.9	26.9	23.1	20.7	19.8	19.3	16.6	13.0
7	22.0	25.8	27.9	26.9	23.1	20.7	19.8	19.3	16.6	13.0
8	20.3	24.0	26.0	25.0	21.3	19.0	18.2	17.6	15.1	11.6
9	20.3	23.9	25.9	25.0	21.3	19.0	18.1	17.6	15.1	11.5
10	20.3	23.9	25.9	25.0	21.3	19.0	18.1	17.6	15.1	11.5
11	7.2	8.2	8.6	8.4	7.5	6.9	6.7	6.5	5.8	4.6
12	4.5	5.3	5.6	5.5	4.7	4.2	4.0	3.9	3.3	2.4
13	4.5	5.2	5.6	5.4	4.7	4.2	4.0	3.9	3.3	2.3
14	4.2	4.9	5.3	5.1	4.4	3.9	3.7	3.6	3.0	2.1
15	(3.0)	(2.4)	(2.2)	(2.3)	(2.8)	(3.2)	(3.3)	(3.4)	(3.8)	(4.5)

Table 8B.2.29 PBP for Medium Display Freezer with Large Dedicated, Outdoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)									
	0	1	2	3	4	5	6	7	8	9
0		(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)
1	(26.2)	(26.9)	(27.1)	(27.0)	(26.5)	(25.4)	(24.2)	(22.7)	(32.5)	(29.0)
2	(25.6)	(25.8)	(25.9)	(25.9)	(25.7)	(25.5)	(25.4)	(25.3)	(24.9)	(24.1)
3	(24.4)	(24.8)	(24.9)	(24.9)	(24.5)	(24.3)	(24.1)	(24.1)	(23.6)	(22.5)
4	(18.6)	(19.3)	(19.7)	(19.5)	(18.8)	(18.2)	(18.0)	(17.8)	(16.8)	(14.8)
5	(164.2)	(97.5)	(84.0)	(89.8)	(134.4)	(246.6)	(399.8)	(710.6)	183.3	39.7
6	7.2	8.8	9.6	9.2	7.7	6.7	6.3	6.0	4.9	3.1
7	5.9	7.1	7.8	7.5	6.3	5.5	5.2	5.0	4.0	2.6
8	5.9	7.1	7.8	7.5	6.3	5.5	5.2	5.0	4.0	2.6
9	5.8	7.0	7.7	7.4	6.2	5.4	5.1	4.9	3.9	2.5
10	5.8	7.0	7.6	7.3	6.1	5.3	5.0	4.8	3.9	2.5
11	5.6	6.8	7.4	7.1	5.9	5.1	4.8	4.7	3.7	2.3
12	(0.0)	0.3	0.5	0.4	0.1	(0.2)	(0.3)	(0.3)	(0.7)	(1.2)
13	(0.1)	0.3	0.5	0.4	0.0	(0.2)	(0.3)	(0.4)	(0.7)	(1.2)
14	(0.2)	0.2	0.3	0.3	(0.1)	(0.4)	(0.5)	(0.5)	(0.8)	(1.3)
15	(5.5)	(5.2)	(5.0)	(5.1)	(5.4)	(5.6)	(5.6)	(5.7)	(5.9)	(6.3)

Table 8B.2.30 PBP for Large Display Freezer with Large Dedicated, Outdoor Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)									
	0	1	2	3	4	5	6	7	8	9
0		(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)	(27.9)
1	(15.6)	(24.2)	(25.1)	(24.7)	(20.6)	105.0	(51.2)	(41.1)	(32.0)	(29.8)
2	(23.2)	(23.9)	(24.2)	(24.0)	(23.5)	(22.9)	(22.7)	(22.5)	(21.5)	(18.4)
3	(23.2)	(23.9)	(24.1)	(24.0)	(23.4)	(22.9)	(22.7)	(22.5)	(21.4)	(18.4)
4	(15.5)	(16.9)	(17.4)	(17.2)	(15.9)	(14.9)	(14.4)	(14.1)	(12.2)	(7.6)
5	23.8	46.8	67.7	56.4	28.9	18.2	15.1	13.2	5.9	(1.6)
6	(0.1)	0.6	1.0	0.8	0.1	(0.4)	(0.6)	(0.7)	(1.2)	(2.1)
7	(0.2)	0.5	0.9	0.7	0.0	(0.4)	(0.6)	(0.7)	(1.3)	(2.2)
8	(0.3)	0.4	0.7	0.6	(0.1)	(0.6)	(0.7)	(0.9)	(1.4)	(2.3)
9	(0.5)	0.2	0.6	0.4	(0.3)	(0.7)	(0.9)	(1.0)	(1.6)	(2.4)
10	(0.8)	(0.1)	0.3	0.1	(0.6)	(1.0)	(1.2)	(1.3)	(1.8)	(2.7)
11	(3.1)	(2.8)	(2.7)	(2.8)	(3.0)	(3.2)	(3.3)	(3.3)	(3.5)	(3.9)
12	(3.2)	(3.0)	(2.8)	(2.9)	(3.1)	(3.3)	(3.4)	(3.4)	(3.6)	(4.0)
13	(3.4)	(3.1)	(3.0)	(3.1)	(3.3)	(3.5)	(3.6)	(3.6)	(3.8)	(4.2)
14	(3.4)	(3.2)	(3.1)	(3.1)	(3.4)	(3.5)	(3.6)	(3.6)	(3.9)	(4.2)
15	(4.3)	(4.1)	(4.0)	(4.0)	(4.2)	(4.4)	(4.5)	(4.5)	(4.7)	(5.0)

Table 8B.2.31 PBP for Small Non-Display Freezer with Small Multiplex System Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)				
	0	1	2	3	4
0		2.4	3.6	9.4	15.1
1	(2.3)	(2.2)	(2.1)	(1.7)	(1.0)
2	(2.2)	(2.2)	(2.0)	(1.6)	(0.9)
3	(2.0)	(2.0)	(1.8)	(1.4)	(0.8)
4	(1.8)	(1.8)	(1.7)	(1.3)	(0.7)
5	(1.8)	(1.8)	(1.6)	(1.3)	(0.7)
6	(1.7)	(1.7)	(1.6)	(1.2)	(0.7)
7	(1.4)	(1.4)	(1.3)	(1.0)	(0.5)
8	(1.4)	(1.4)	(1.3)	(0.9)	(0.5)
9	(1.1)	(1.1)	(1.0)	(0.7)	(0.2)
10	(0.3)	(0.3)	(0.2)	(0.0)	0.3
11	2.2	2.2	2.2	2.4	2.7
12	3.6	3.6	3.6	3.8	4.0
13	4.3	4.3	4.3	4.4	4.7
14	6.0	6.0	6.0	6.1	6.3
15	6.4	6.4	6.4	6.5	6.7

Table 8B.2.32 PBP for Medium Non-Display Freezer with Large Multiplex System Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)				
	0	1	2	3	4
0		0.3	1.5	3.3	3.8
1	(0.8)	(0.8)	(0.7)	(0.5)	(0.4)
2	(0.8)	(0.7)	(0.6)	(0.5)	(0.4)
3	(0.8)	(0.7)	(0.6)	(0.5)	(0.4)
4	(0.6)	(0.6)	(0.5)	(0.3)	(0.3)
5	(0.4)	(0.3)	(0.2)	(0.1)	(0.1)
6	(0.2)	(0.2)	(0.1)	(0.0)	0.0
7	0.1	0.1	0.2	0.3	0.4
8	0.2	0.2	0.3	0.4	0.5
9	1.0	1.0	1.0	1.1	1.1
10	1.3	1.3	1.3	1.4	1.4
11	4.5	4.4	4.4	4.4	4.5
12	6.3	6.2	6.2	6.2	6.2
13	7.9	7.8	7.7	7.8	7.8
14	8.7	8.6	8.6	8.6	8.6
15	8.9	8.8	8.8	8.8	8.8

Table 8B.2.33 PBP for Large Non-Display Freezer with Large Multiplex System Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)				
	0	1	2	3	4
0		0.3	1.4	3.1	3.6
1	(0.8)	(0.8)	(0.6)	(0.5)	(0.4)
2	(0.8)	(0.8)	(0.6)	(0.4)	(0.4)
3	(0.7)	(0.6)	(0.5)	(0.3)	(0.3)
4	(0.5)	(0.4)	(0.3)	(0.2)	(0.1)
5	(0.2)	(0.2)	(0.1)	0.0	0.1
6	(0.0)	(0.0)	0.1	0.2	0.2
7	0.4	0.4	0.5	0.6	0.6
8	1.0	1.0	1.0	1.1	1.2
9	1.1	1.1	1.2	1.2	1.3
10	1.5	1.5	1.5	1.6	1.6
11	1.6	1.6	1.6	1.7	1.7
12	2.8	2.7	2.8	2.8	2.9
13	2.9	2.8	2.8	2.9	2.9
14	6.5	6.4	6.4	6.4	6.4
15	8.5	8.4	8.3	8.4	8.4

Table 8B.2.34 PBP for Small Display Freezer with Large Multiplex System Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)				
	0	1	2	3	4
0		(24.1)	(24.1)	(24.1)	(24.1)
1	(8.3)	(3.4)	(40.7)	(28.3)	(27.2)
2	(13.8)	(13.5)	(11.3)	(4.8)	1.6
3	(3.7)	(3.4)	(1.0)	4.4	8.2
4	2.6	2.3	0.3	(2.4)	(3.5)
5	(10.2)	(10.3)	(11.4)	(12.7)	(13.3)
6	(7.4)	(7.5)	(7.7)	(8.0)	(8.1)
7	(7.6)	(7.6)	(7.8)	(8.1)	(8.3)
8	(8.5)	(8.5)	(8.7)	(9.0)	(9.2)
9	(8.6)	(8.6)	(8.8)	(9.1)	(9.2)
10	(8.6)	(8.6)	(8.8)	(9.1)	(9.3)
11	(5.4)	(5.4)	(5.5)	(5.7)	(5.8)
12	(7.9)	(7.9)	(8.0)	(8.1)	(8.2)
13	(7.9)	(7.9)	(8.0)	(8.2)	(8.2)
14	(8.1)	(8.1)	(8.2)	(8.3)	(8.4)
15	(12.2)	(12.2)	(12.2)	(12.3)	(12.4)

Table 8B.2.35 PBP for Medium Display Freezer with Large Multiplex System Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)				
	0	1	2	3	4
0		(24.1)	(24.1)	(24.1)	(24.1)
1	(16.9)	(15.2)	(37.1)	(26.7)	(26.0)
2	(12.9)	(12.6)	(9.3)	3.0	22.1
3	(9.0)	(8.6)	(4.8)	7.8	23.0
4	1.4	1.8	5.3	13.6	19.6
5	(11.2)	(11.3)	(11.9)	(12.9)	(13.3)
6	(2.9)	(3.0)	(3.3)	(3.7)	(3.9)
7	(8.1)	(8.1)	(8.3)	(8.5)	(8.6)
8	(8.1)	(8.2)	(8.3)	(8.5)	(8.6)
9	(8.2)	(8.2)	(8.4)	(8.6)	(8.7)
10	(8.3)	(8.3)	(8.4)	(8.7)	(8.8)
11	(8.4)	(8.5)	(8.6)	(8.8)	(8.9)
12	(7.7)	(7.7)	(7.8)	(7.9)	(7.9)
13	(7.7)	(7.7)	(7.8)	(7.9)	(8.0)
14	(7.8)	(7.8)	(7.9)	(8.0)	(8.1)
15	(11.2)	(11.2)	(11.3)	(11.3)	(11.4)

Table 8B.2.36 PBP for Large Display Freezer with Large Multiplex System Refrigeration System

Box Efficiency Level	PBP by Refrigeration Efficiency Level (years)				
	0	1	2	3	4
0		(24.1)	(24.1)	(24.1)	(24.1)
1	17.9	67.8	(36.1)	(28.3)	(27.3)
2	(7.2)	(6.6)	0.5	47.2	1,131.1
3	(7.2)	(6.5)	0.6	46.8	936.7
4	4.9	5.5	10.6	24.2	35.7
5	(10.8)	(10.9)	(11.4)	(12.2)	(12.6)
6	(8.0)	(8.0)	(8.2)	(8.3)	(8.4)
7	(8.1)	(8.1)	(8.2)	(8.4)	(8.5)
8	(8.2)	(8.2)	(8.4)	(8.5)	(8.6)
9	(8.4)	(8.4)	(8.5)	(8.7)	(8.8)
10	(8.6)	(8.6)	(8.7)	(8.9)	(9.0)
11	(7.8)	(7.8)	(7.9)	(8.0)	(8.0)
12	(7.9)	(7.9)	(8.0)	(8.1)	(8.1)
13	(8.1)	(8.1)	(8.1)	(8.2)	(8.2)
14	(8.1)	(8.1)	(8.1)	(8.2)	(8.3)
15	(8.7)	(8.7)	(8.7)	(8.8)	(8.9)