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APPENDIX 8D: LIFE-CYCLE COST SENSITIVITY ANALYSIS

8D.1 DESIGN LINE 1 RESULTS

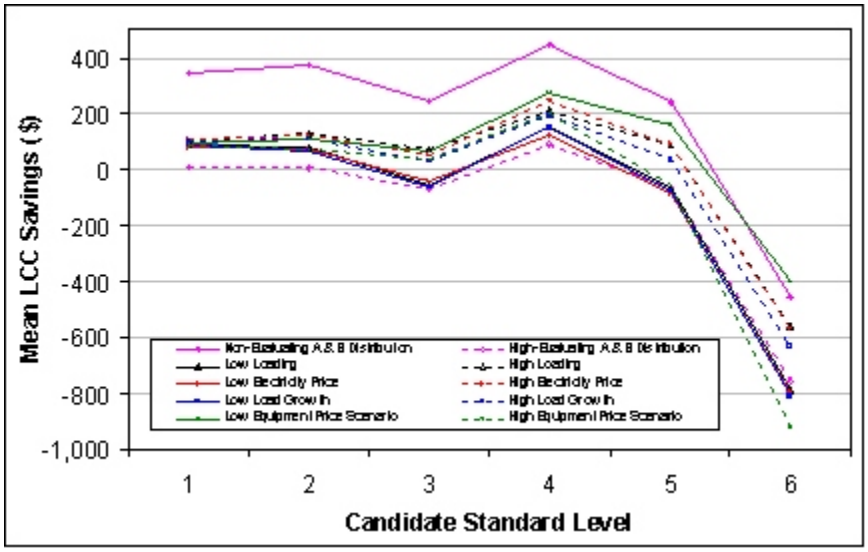

Figure 8D.1.1 Mean LCC Savings ($), by Scenario for Design Line 1

Table 8D.1.1 Mean LCC Savings ($), Summary Table for Design Line 1

Scenario	Candidate Standard Level					
	1	2	3	4	5	6
Baseline	93	98	5	180	3	-688
Non Evaluating A & B Distribution	342	375	246	446	241	-457
High Evaluating A & B Distribution	10	7	-72	90	-66	-754
Low Loading	84	76	-53	155	-62	-790
High Loading	101	130	73	213	87	-560
Low Electricity Price	77	73	-39	120	-87	-798
High Electricity Price	107	122	52	245	91	-575
Low Load Growth	86	65	-63	151	-79	-809
High Load Growth	100	112	32	192	36	-633
Low Equipment Price Scenario	96	109	65	278	164	-399
High Equipment Price Scenario	86	75	35	202	-56	-924

8D.1.1 Design Line 1; Candidate Standard Level 1

Table 8D.1.2 Candidate Standard Level: 1; Summary Table

	Transformers having LCC Savings > $0 (%)	Mean LCC Savings ($)	Mean Payback (Years)
Baseline	95.1	93	11.4
Non Evaluating A & B Distribution	95.8	342	7.2
High Evaluating A & B Distribution	95.2	10	21.9
Low Loading	94.4	84	11.8
High Loading	95.6	101	10.7
Low Electricity Price	94.5	77	12.2
High Electricity Price	95.8	107	10.2
Low Load Growth	94.5	86	11.0
High Load Growth	95.4	100	10.9
Low Equipment Price Scenario	96.8	96	9.0
High Equipment Price Scenario	89.6	86	15.1

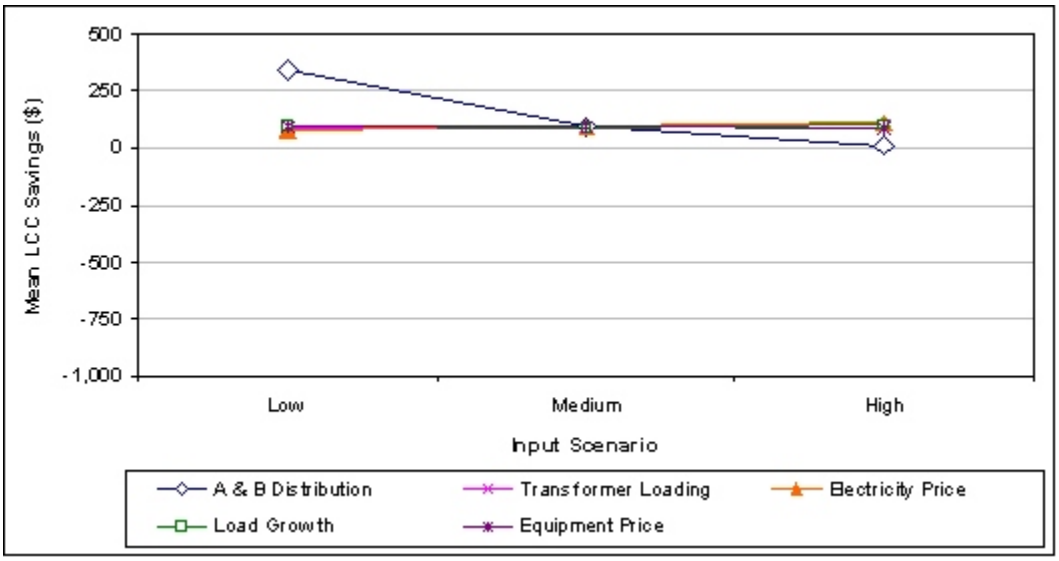

Figure 8D.1.2 Sensitivity of LCC to Input Changes for Design Line 1, Candidate Standard Level 1

8D.1.1.1 Baseline

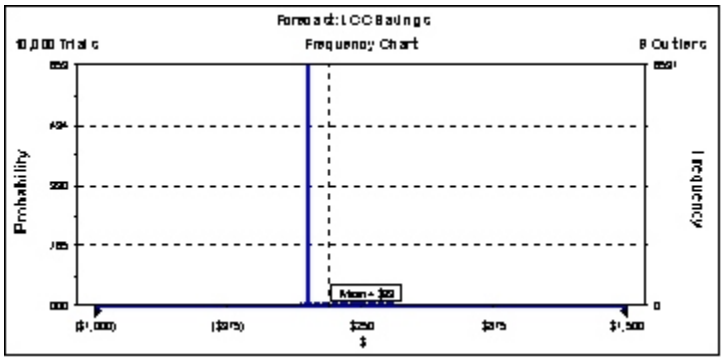

Figure 8D.1.3 **LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 1; Baseline Scenario**

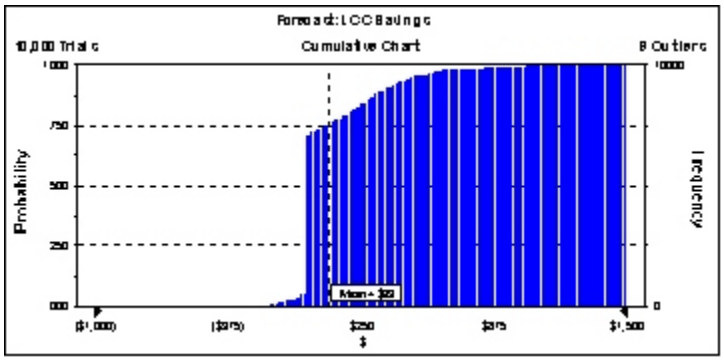

Figure 8D.1.4 **LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 1; Baseline Scenario**

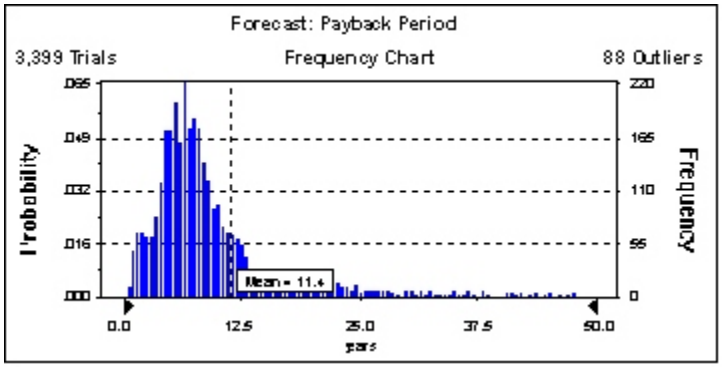

Figure 8D.1.5 **Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 1; Baseline Scenario**

8D.1.1.2 Low A & B Distribution

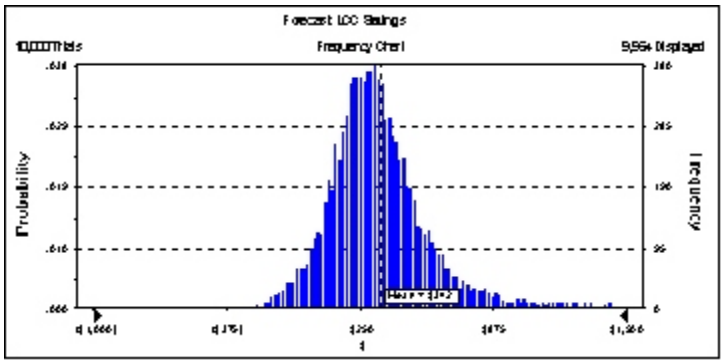

Figure 8D.1.6 **LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 1; Low A & B Distribution Scenario**

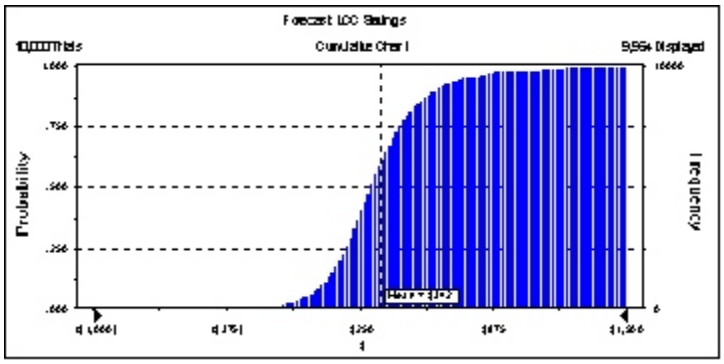

Figure 8D.1.7 **LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 1; Low A & B Distribution Scenario**

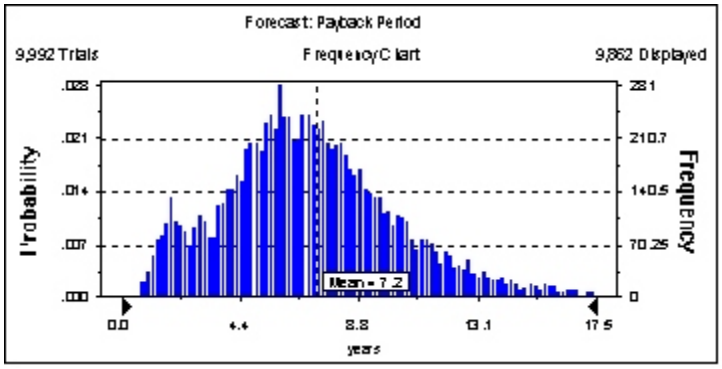

Figure 8D.1.8 **Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 1; Low A & B Distribution Scenario**

8D.1.1.3 High A & B Distribution

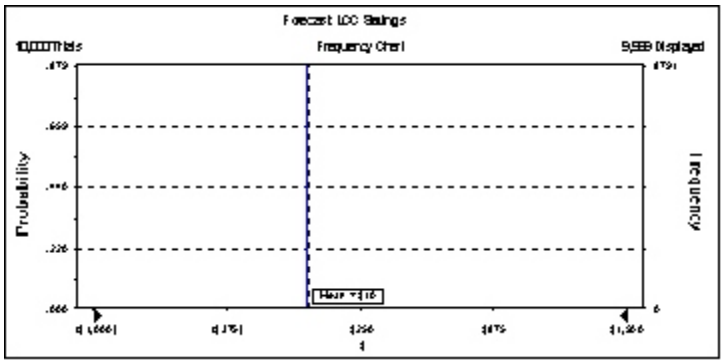

Figure 8D.1.9 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 1; High A & B Distribution Scenario

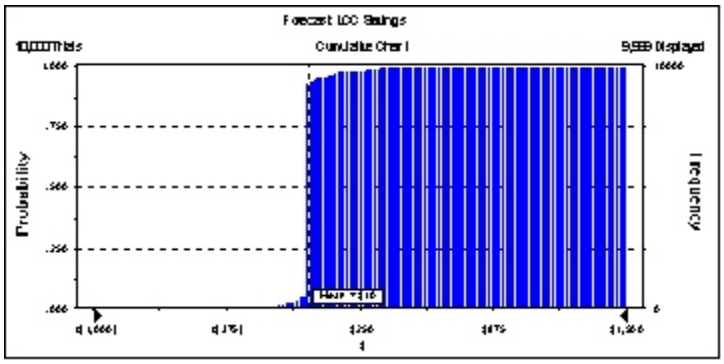

Figure 8D.1.10 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 1; High A & B Distribution Scenario

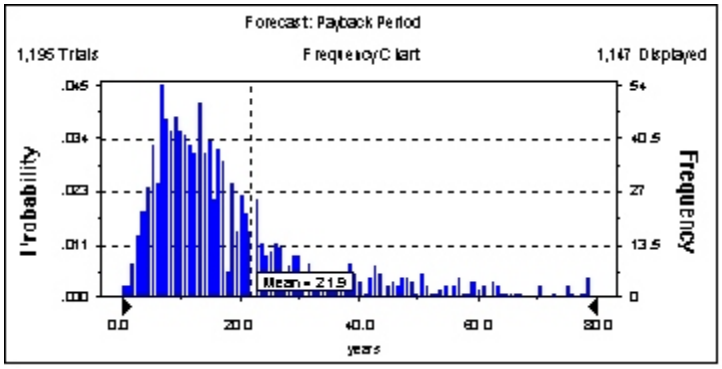

Figure 8D.1.11 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 1; High A & B Distribution Scenario

8D.1.1.4 Low Loading

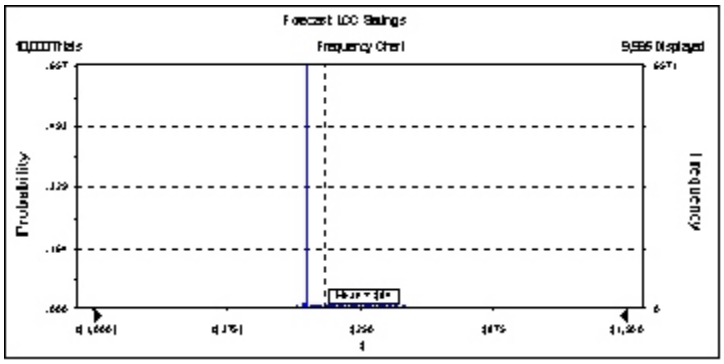

Figure 8D.1.12 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 1; Low Transformer Loading Scenario

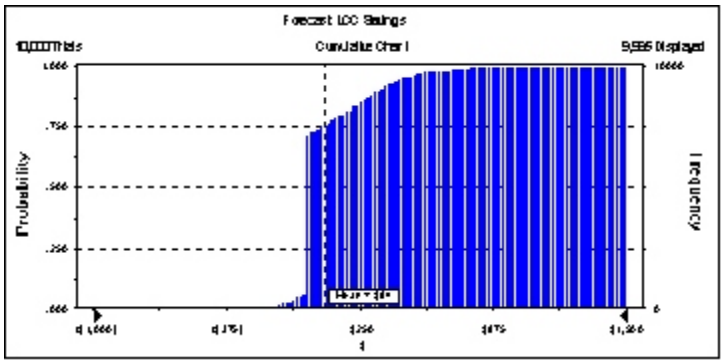

Figure 8D.1.13 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 1; Low Transformer Loading Scenario

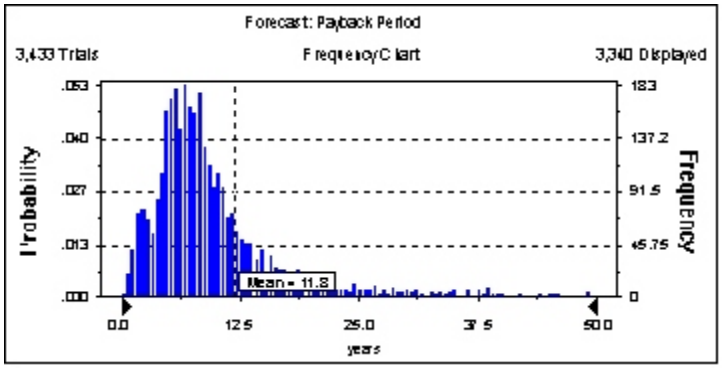

Figure 8D.1.14 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 1; Low Transformer Loading Scenario

8D.1.1.5 High Loading

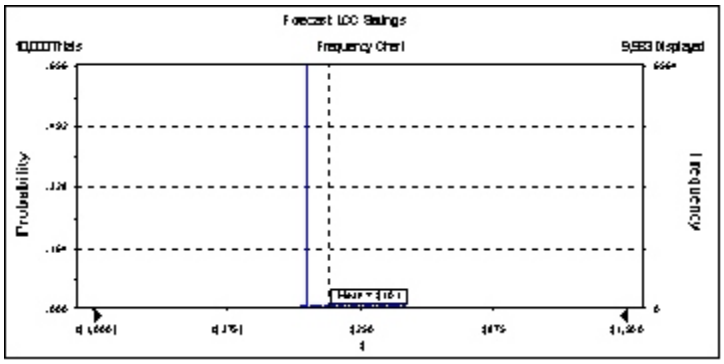

Figure 8D.1.15 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 1; High Transformer Loading Scenario

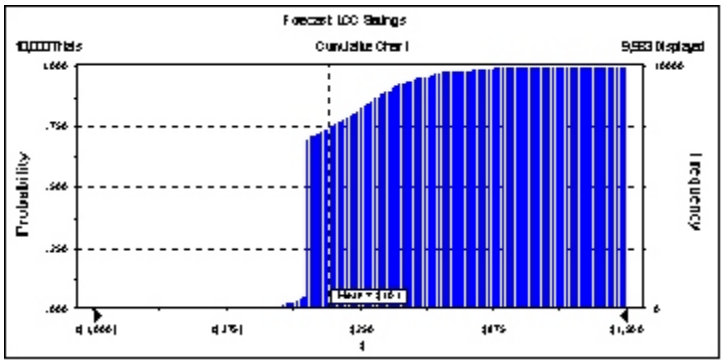

Figure 8D.1.16 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 1; High Transformer Loading Scenario

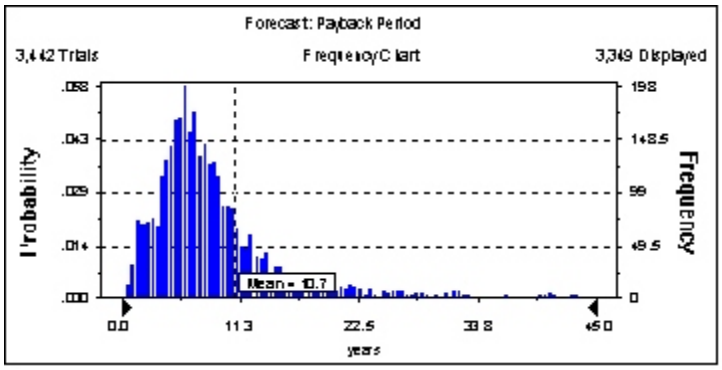

Figure 8D.1.17 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 1; High Transformer Loading Scenario

8D.1.1.6 Low Electricity Price

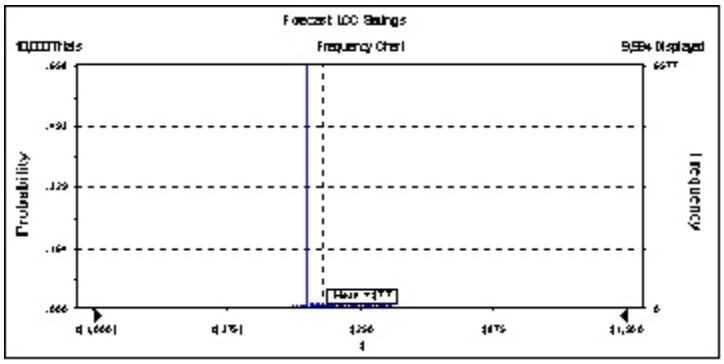

Figure 8D.1.18 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 1; Low Electricity Price Scenario

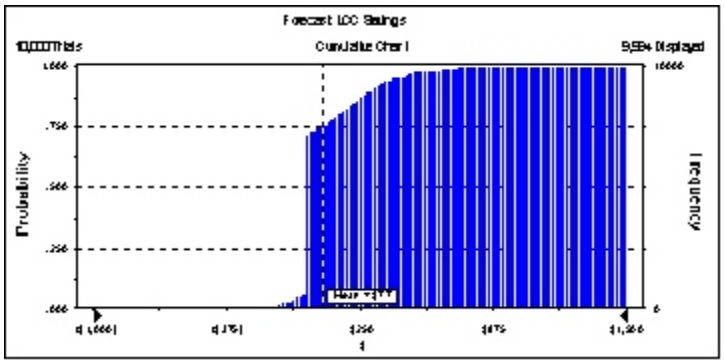

Figure 8D.1.19 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 1; Low Electricity Price Scenario

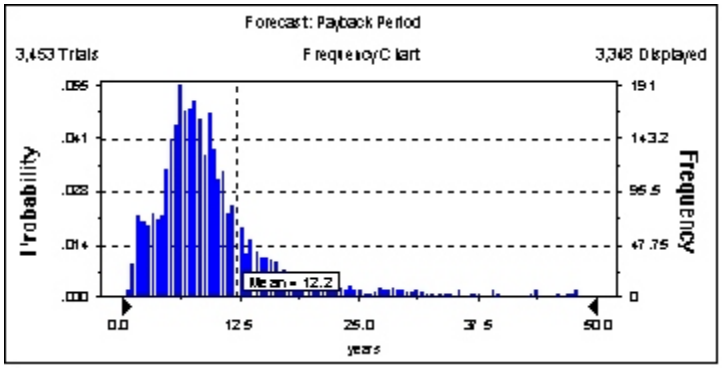

Figure 8D.1.20 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 1; Low Electricity Price Scenario

8D.1.1.7 High Electricity Price

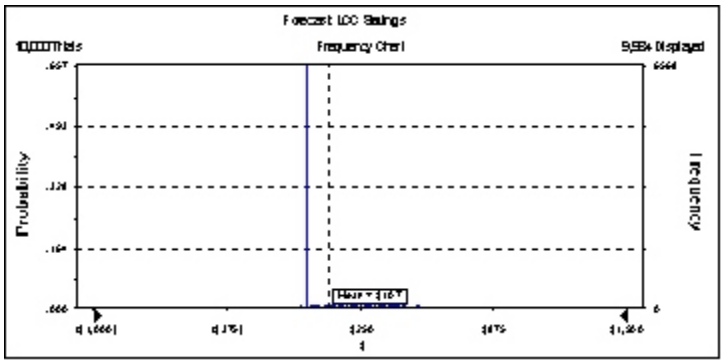

Figure 8D.1.21 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 1; High Electricity Price Scenario

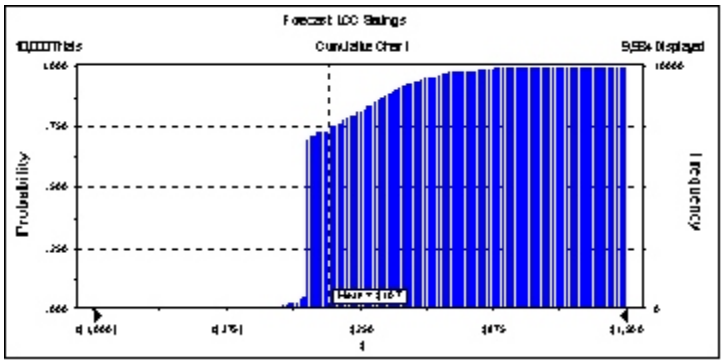

Figure 8D.1.22 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 1; High Electricity Price Scenario

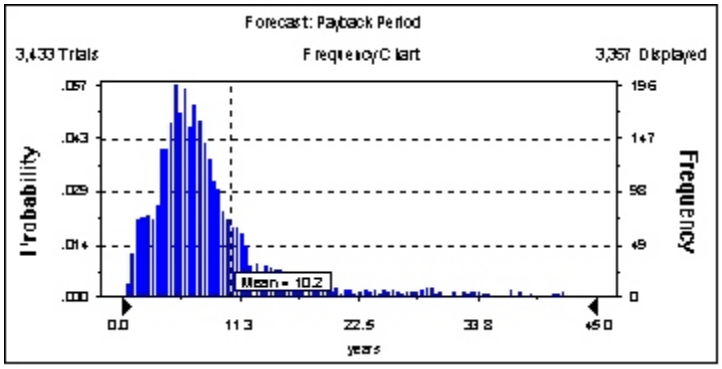

Figure 8D.1.23 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 1; High Electricity Price Scenario

8D.1.1.8 Low Load Growth

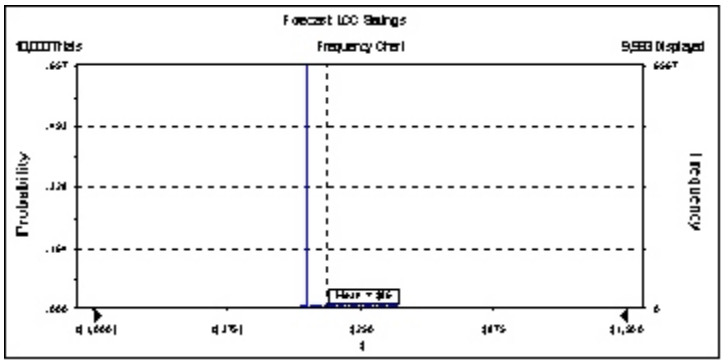

Figure 8D.1.24 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 1; Low Load Growth Scenario

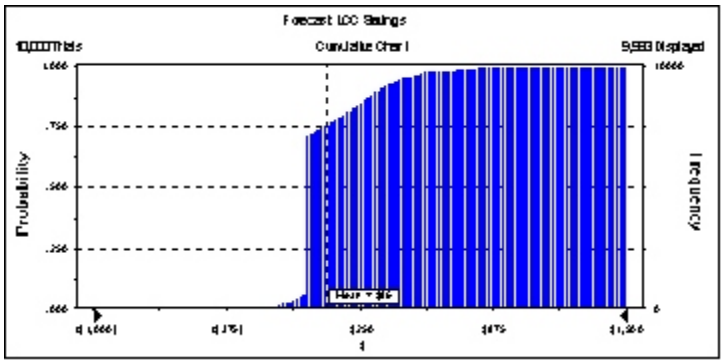

Figure 8D.1.25 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 1; Low Load Growth Scenario

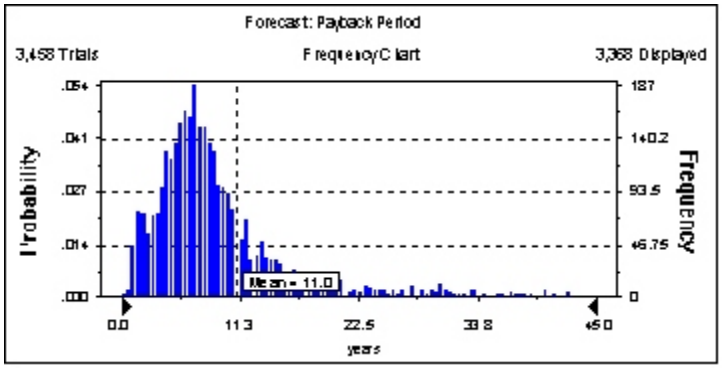

Figure 8D.1.26 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 1; Low Load Growth Scenario

8D.1.1.9 High Load Growth

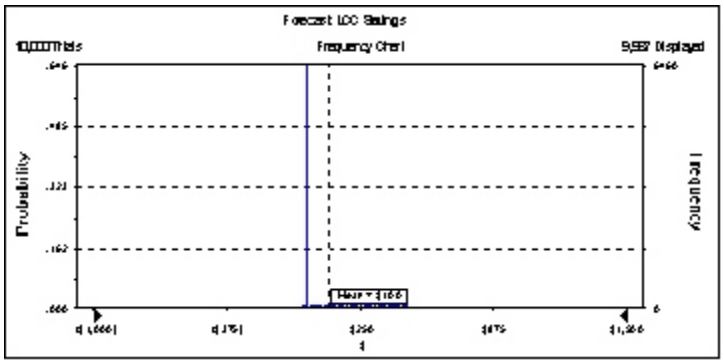

Figure 8D.1.27 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 1; High Load Growth Scenario

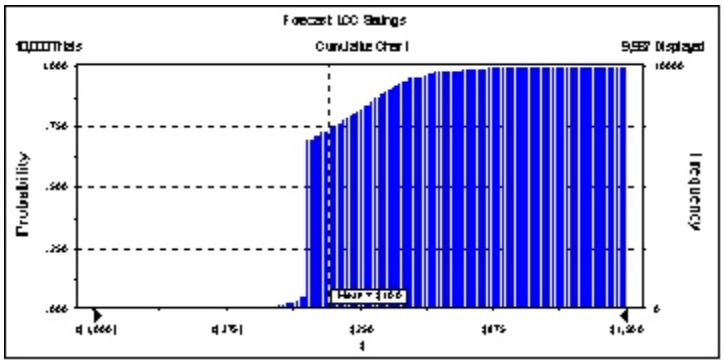

Figure 8D.1.28 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 1; High Load Growth Scenario

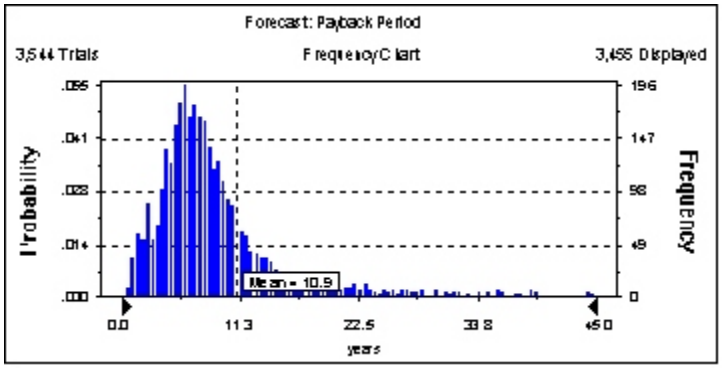

Figure 8D.1.29 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 1; High Load Growth Scenario

8D.1.1.10 Low Equipment Price

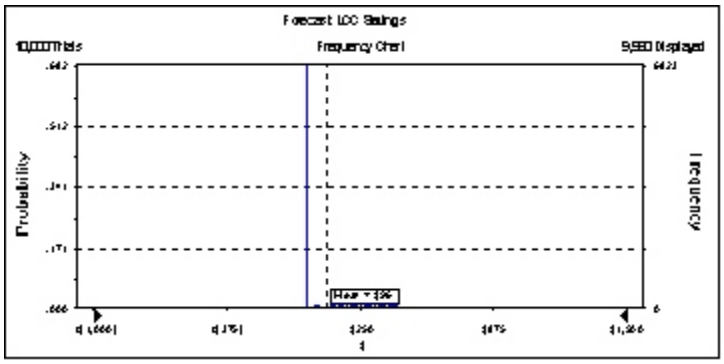

Figure 8D.1.30 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 1; Low Equipment Price Scenario

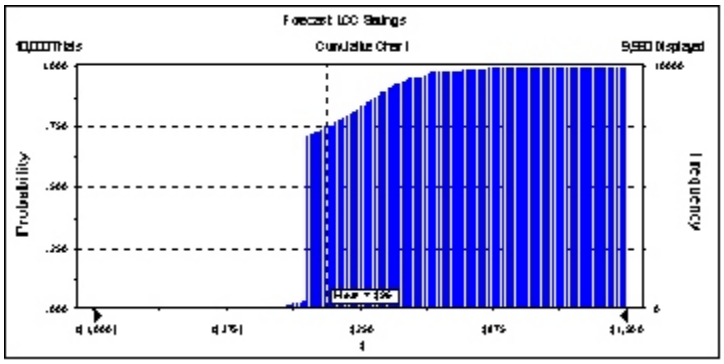

Figure 8D.1.31 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 1; Low Equipment Price Scenario

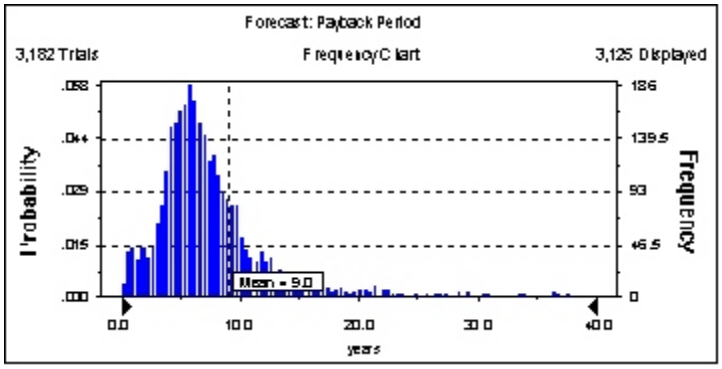

Figure 8D.1.32 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 1; Low Equipment Price Scenario

8D.1.1.11 High Equipment Price

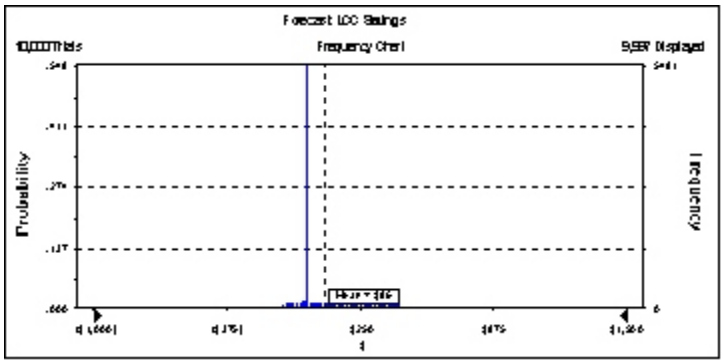

Figure 8D.1.33 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 1; High Equipment Price Scenario

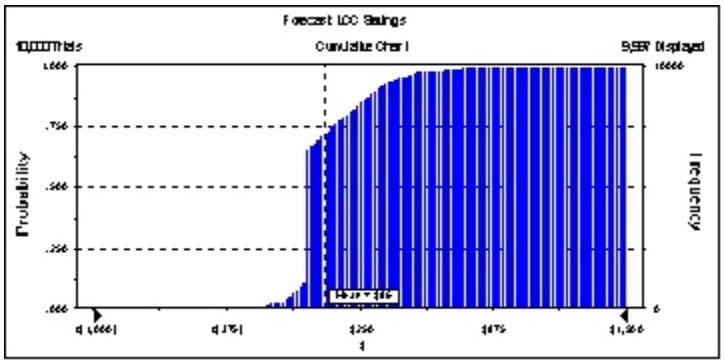

Figure 8D.1.34 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 1; High Equipment Price Scenario

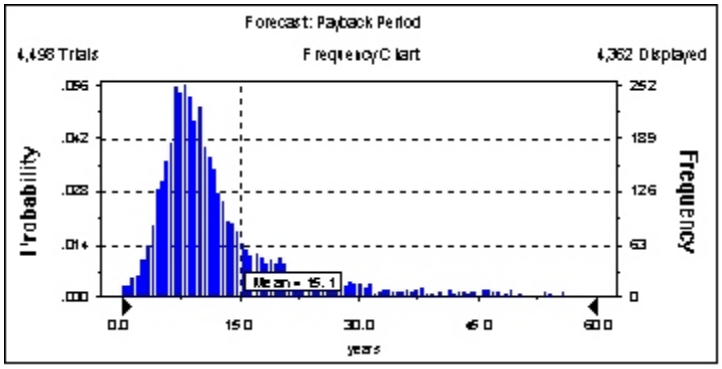

Figure 8D.1.35 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 1; High Equipment Price Scenario

8D.1.2 Design Line 1; Candidate Standard Level 2

Table 8D.1.3 Candidate Standard Level: 2; Summary Table

	Transformers having LCC Savings > $0 (%)	Mean LCC Savings ($)	Mean Payback (Years)
Baseline	83.4	98	21.9
Non Evaluating A & B Distribution	89.9	375	11.3
High Evaluating A & B Distribution	82.5	7	32.8
Low Loading	81.6	76	23.7
High Loading	86.5	130	19.4
Low Electricity Price	81.4	73	24.0
High Electricity Price	85.5	122	20.2
Low Load Growth	81.0	65	21.8
High Load Growth	85.0	112	21.5
Low Equipment Price Scenario	89.6	109	17.9
High Equipment Price Scenario	73.1	75	25.8

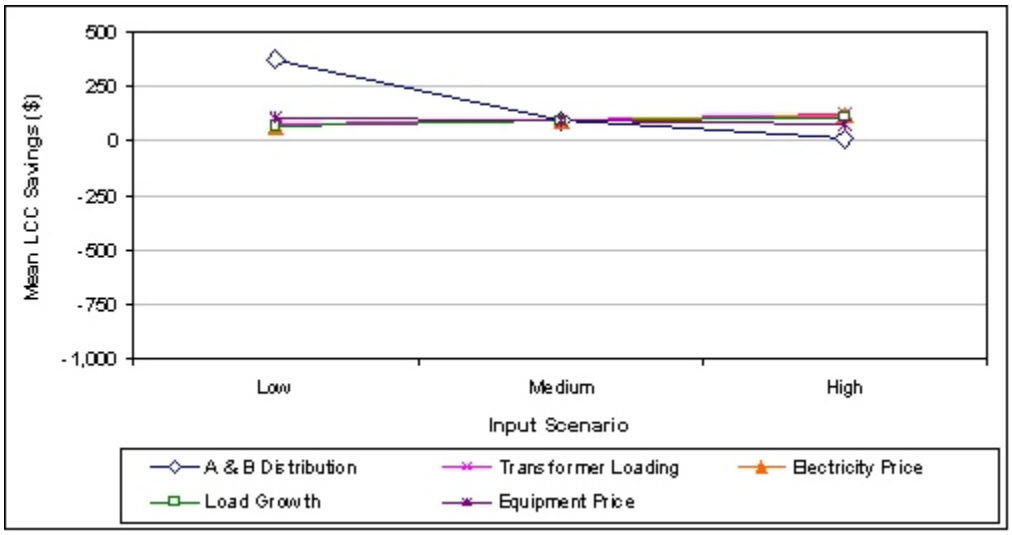

Figure 8D.1.36 Sensitivity of LCC to Input Changes for Design Line 1, Candidate Standard Level 2

8D.1.2.1 Baseline

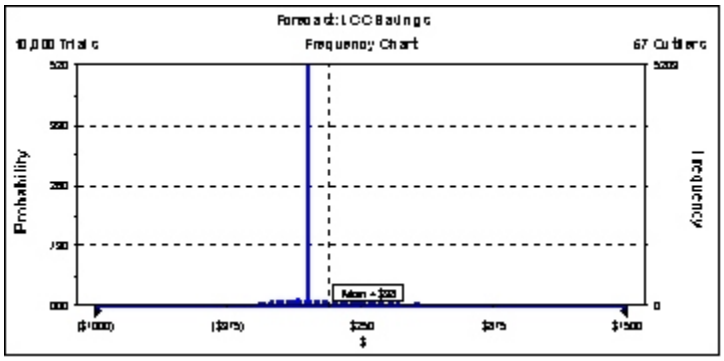

Figure 8D.1.37 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 2; Baseline Scenario

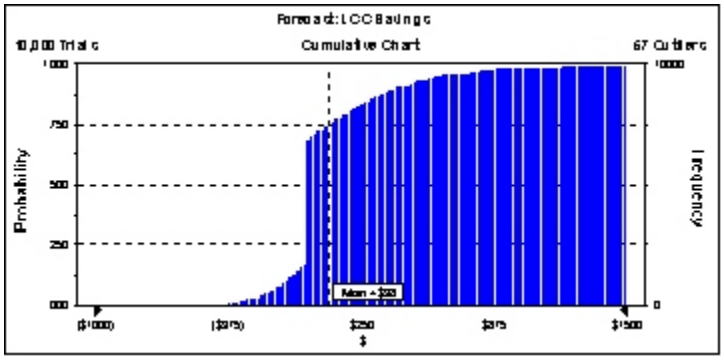

Figure 8D.1.38 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 2; Baseline Scenario

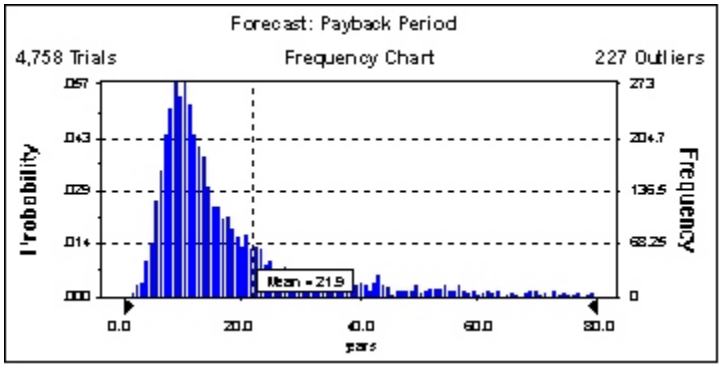

Figure 8D.1.39 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 2; Baseline Scenario

8D.1.2.2 Low A & B Distribution

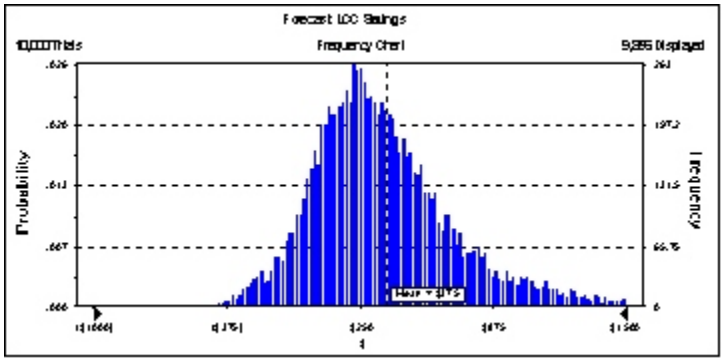

Figure 8D.1.40 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 2; Low A & B Distribution Scenario

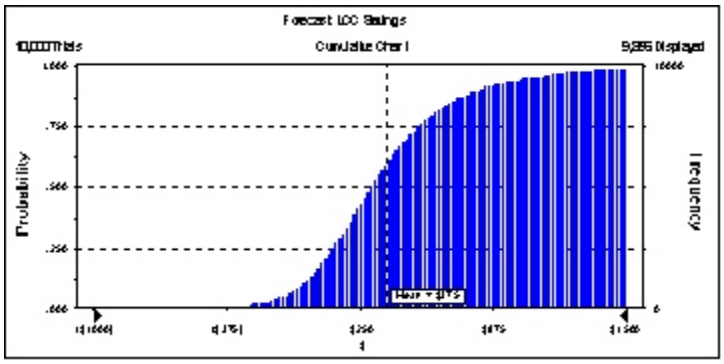

Figure 8D.1.41 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 2; Low A & B Distribution Scenario

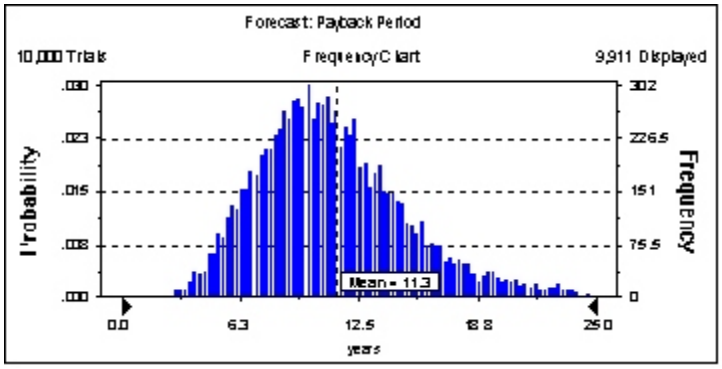

Figure 8D.1.42 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 2; Low A & B Distribution Scenario

8D.1.2.3 High A & B Distribution

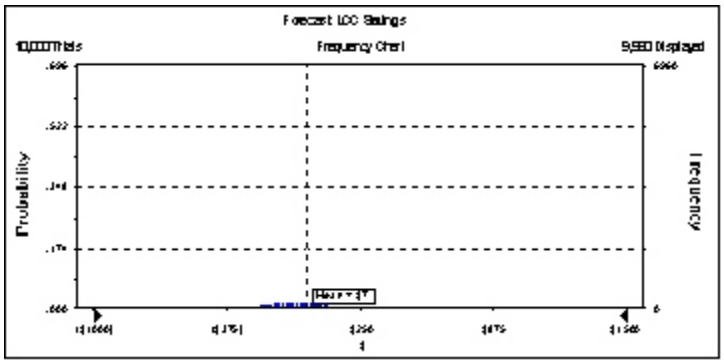

Figure 8D.1.43 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 2; High A & B Distribution Scenario

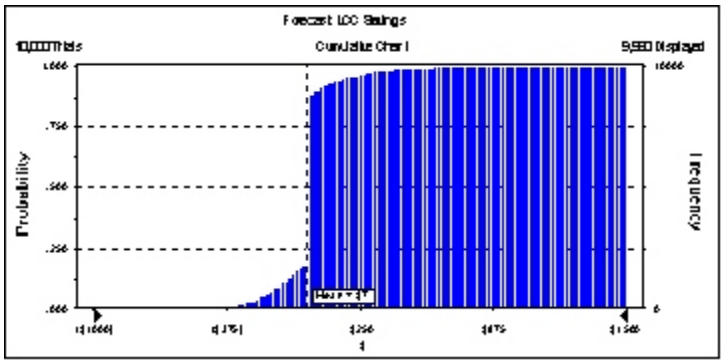

Figure 8D.1.44 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 2; High A & B Distribution Scenario

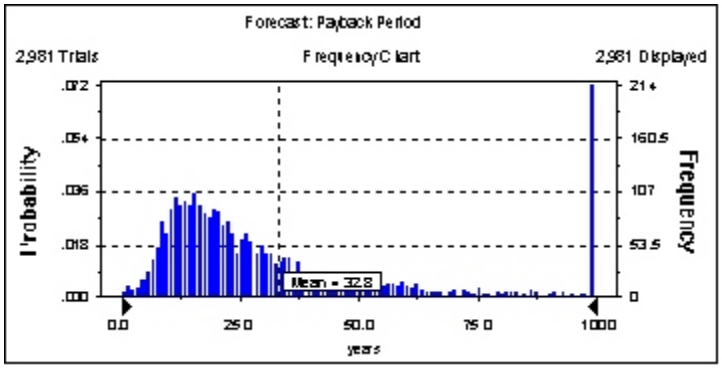

Figure 8D.1.45 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 2; High A & B Distribution Scenario

8D.1.2.4 Low Loading

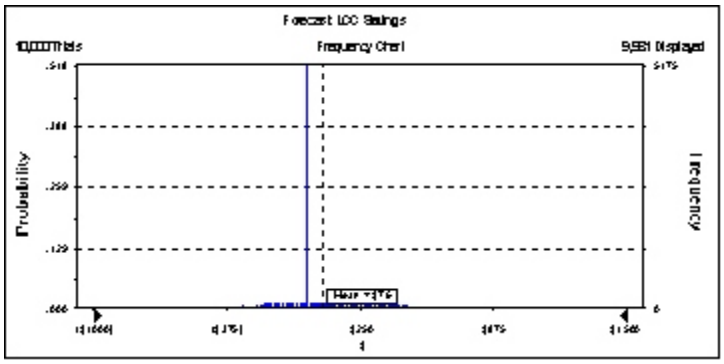

Figure 8D.1.46 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 2; Low Transformer Loading Scenario

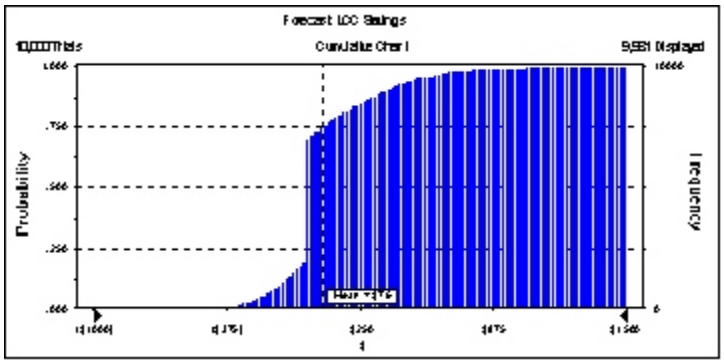

Figure 8D.1.47 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 2; Low Transformer Loading Scenario

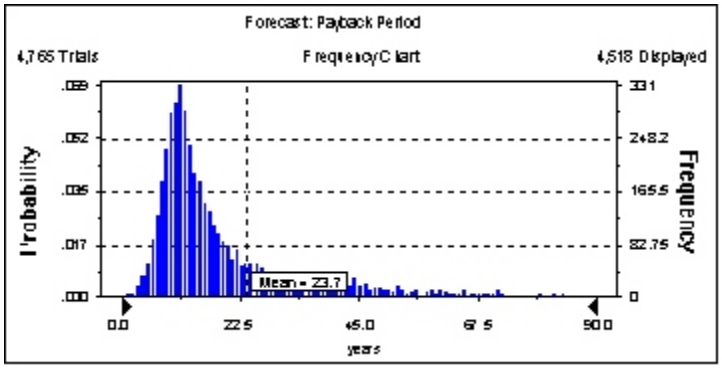

Figure 8D.1.48 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 2; Low Transformer Loading Scenario

8D.1.2.5 High Loading

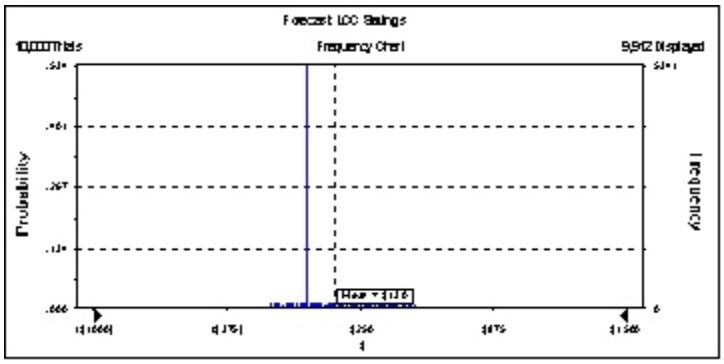

Figure 8D.1.49 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 2; High Transformer Loading Scenario

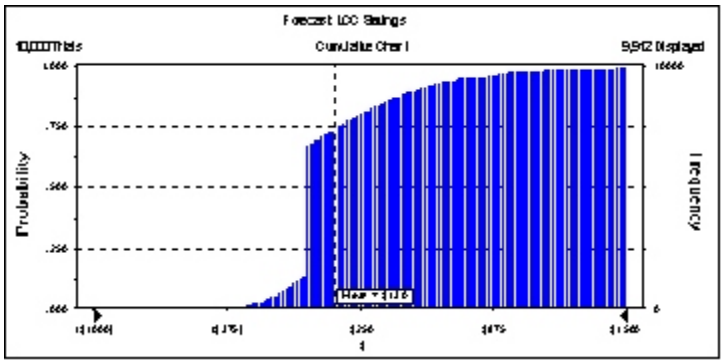

Figure 8D.1.50 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 2; High Transformer Loading Scenario

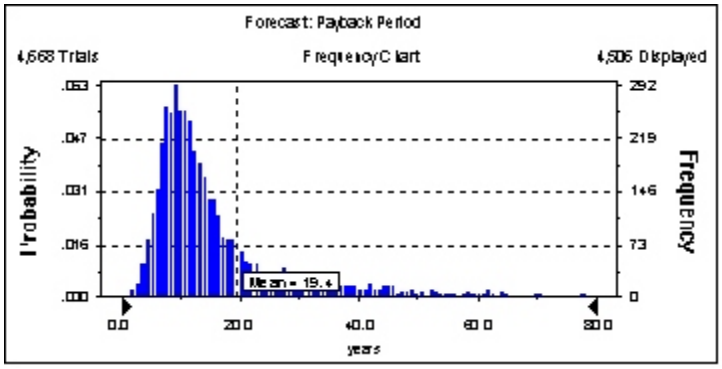

Figure 8D.1.51 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 2; High Transformer Loading Scenario

8D.1.2.6 Low Electricity Price

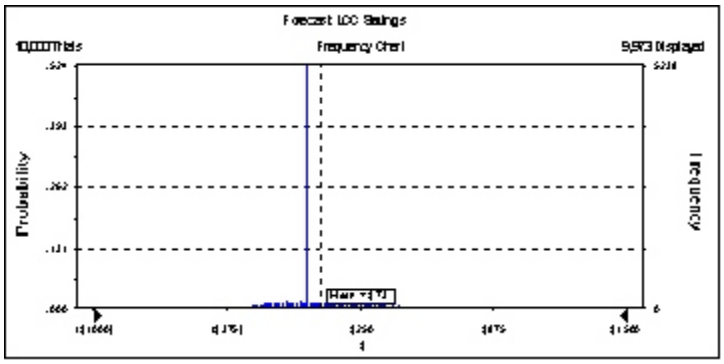

Figure 8D.1.52 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 2; Low Electricity Price Scenario

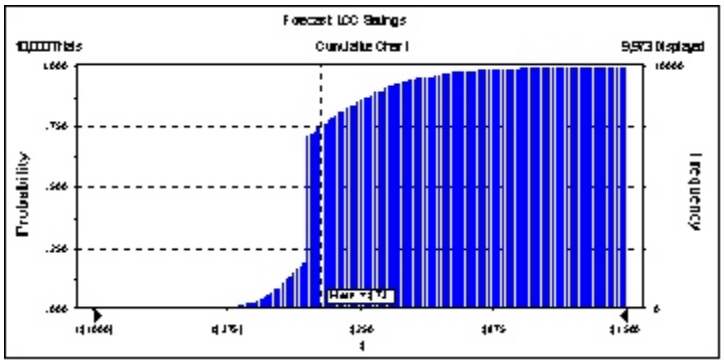

Figure 8D.1.53 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 2; Low Electricity Price Scenario

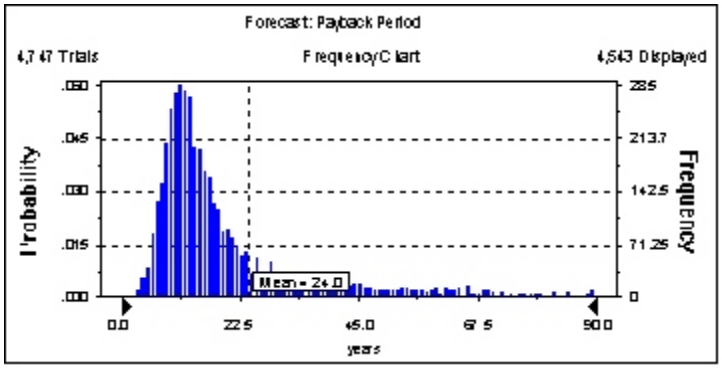

Figure 8D.1.54 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 2; Low Electricity Price Scenario

8D.1.2.7 High Electricity Price

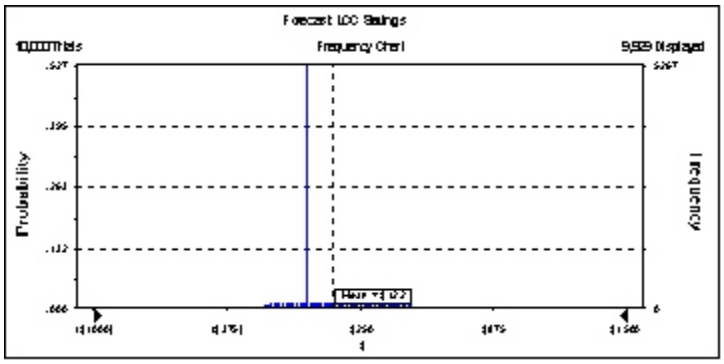

Figure 8D.1.55 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 2; High Electricity Price Scenario

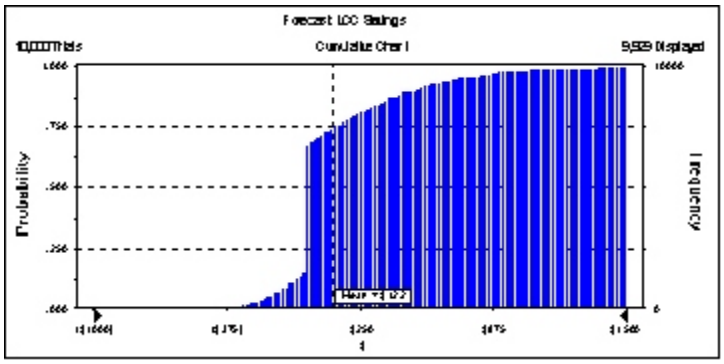

Figure 8D.1.56 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 2; High Electricity Price Scenario

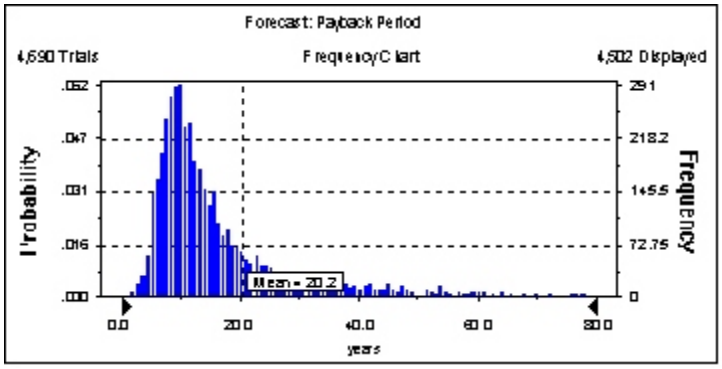

Figure 8D.1.57 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 2; High Electricity Price Scenario

8D.1.2.8 Low Load Growth

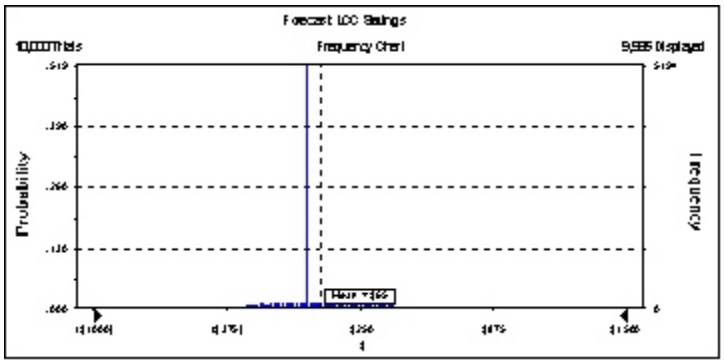

Figure 8D.1.58 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 2; Low Load Growth Scenario

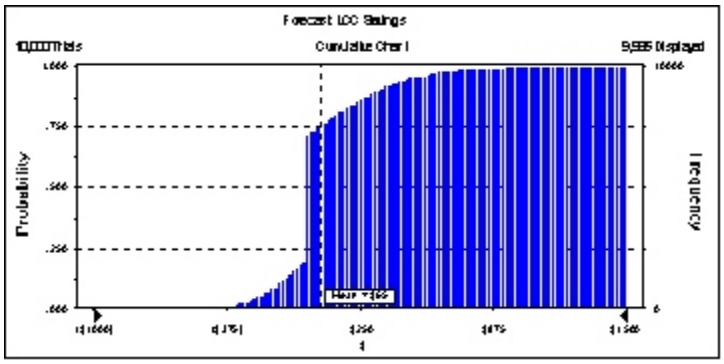

Figure 8D.1.59 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 2; Low Load Growth Scenario

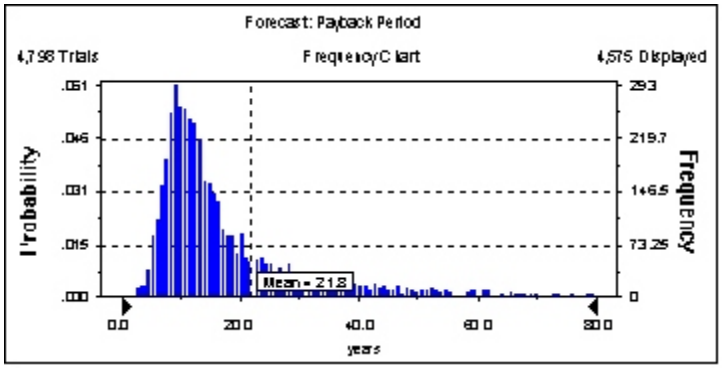

Figure 8D.1.60 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 2; Low Load Growth Scenario

8D.1.2.9 High Load Growth

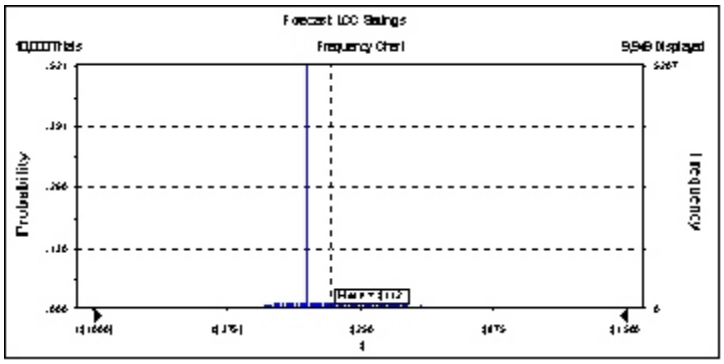

Figure 8D.1.61 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 2; High Load Growth Scenario

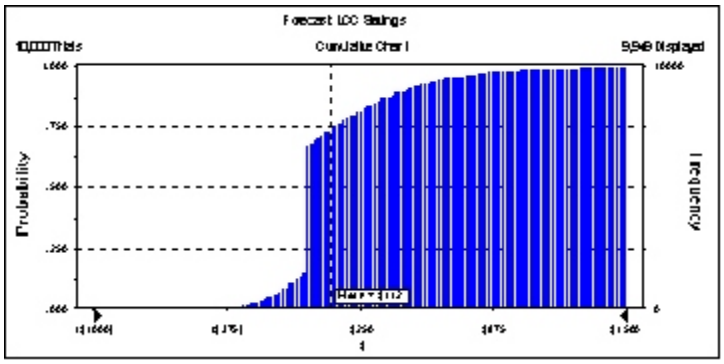

Figure 8D.1.62 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 2; High Load Growth Scenario

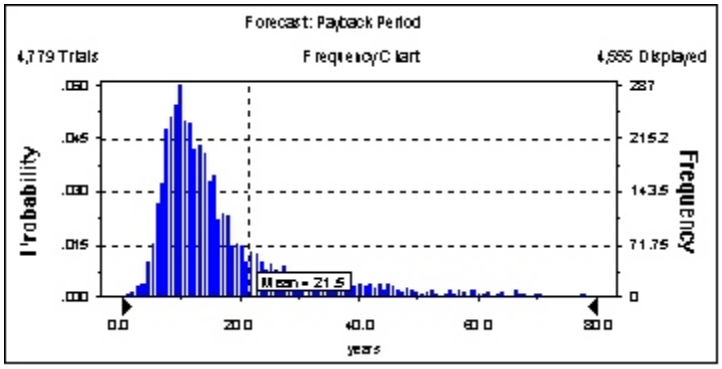

Figure 8D.1.63 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 2; High Load Growth Scenario

8D.1.2.10 Low Equipment Price

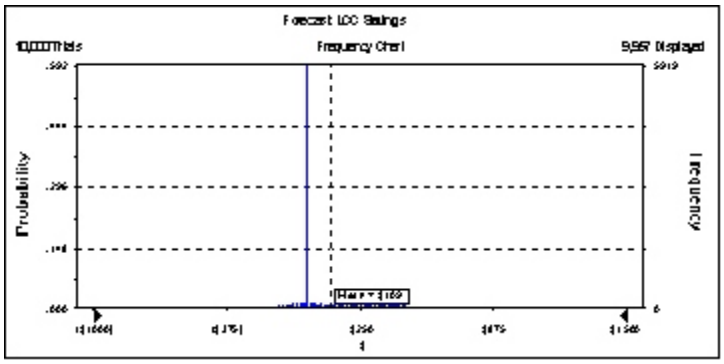

Figure 8D.1.64 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 2; Low Equipment Price Scenario

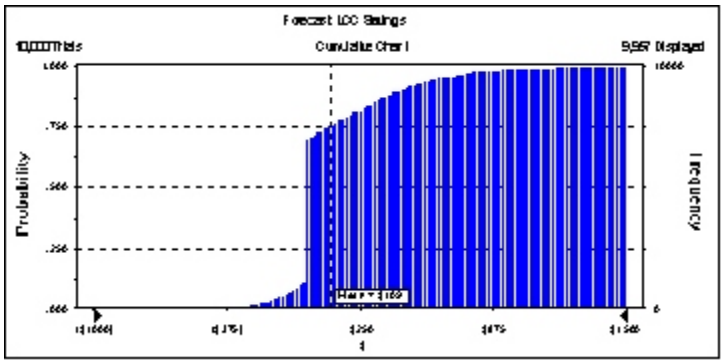

Figure 8D.1.65 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 2; Low Equipment Price Scenario

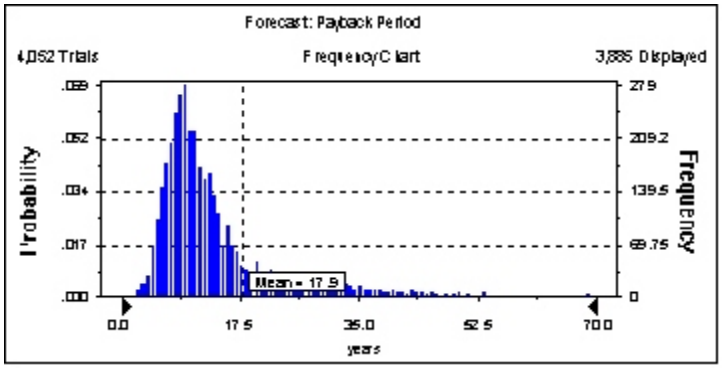

Figure 8D.1.66 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 2; Low Equipment Price Scenario

8D.1.2.11 High Equipment Price

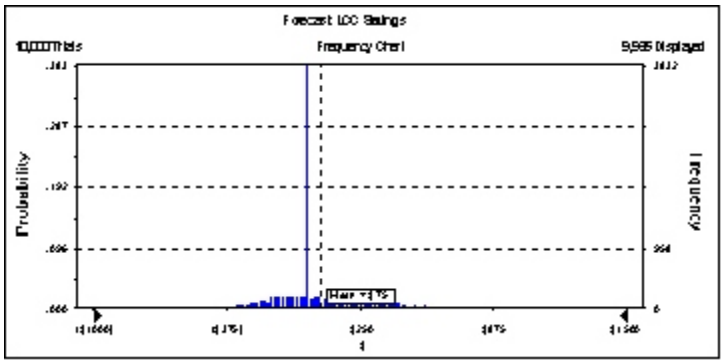

Figure 8D.1.67 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 2; High Equipment Price Scenario

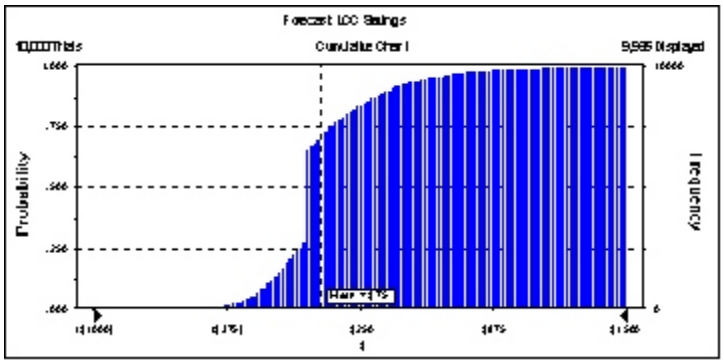

Figure 8D.1.68 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 2; High Equipment Price Scenario

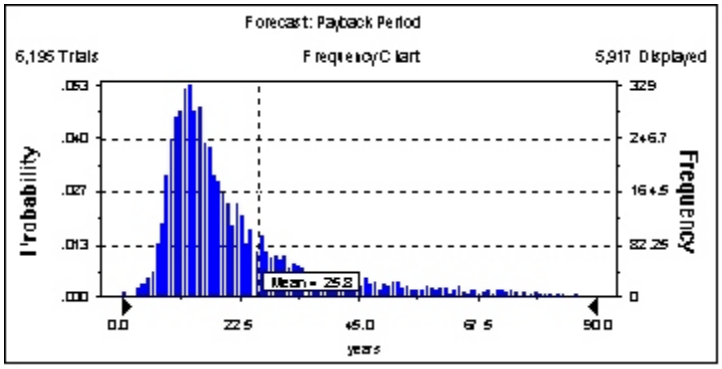

Figure 8D.1.69 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 2; High Equipment Price Scenario

8D.1.3 Design Line 1; Candidate Standard Level 3

Table 8D.1.4 Candidate Standard Level: 3; Summary Table

	Transformers having LCC Savings > $0 (%)	Mean LCC Savings ($)	Mean Payback (Years)
Baseline	47.2	5	36.0
Non Evaluating A & B Distribution	62.3	246	19.1
High Evaluating A & B Distribution	42.9	-72	43.1
Low Loading	41.8	-53	38.8
High Loading	53.1	73	32.5
Low Electricity Price	43.1	-39	38.4
High Electricity Price	51.7	52	33.5
Low Load Growth	41.9	-63	35.5
High Load Growth	50.0	32	35.8
Low Equipment Price Scenario	64.3	65	29.8
High Equipment Price Scenario	56.5	35	25.7

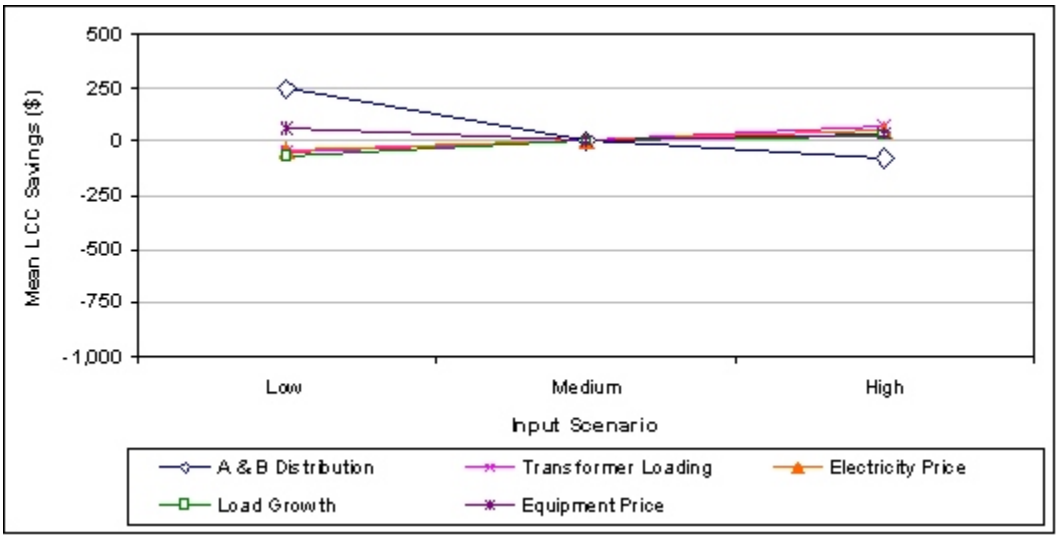

Figure 8D.1.70 Sensitivity of LCC to Input Changes for Design Line 1, Candidate Standard Level 3

8D.1.3.1 Baseline

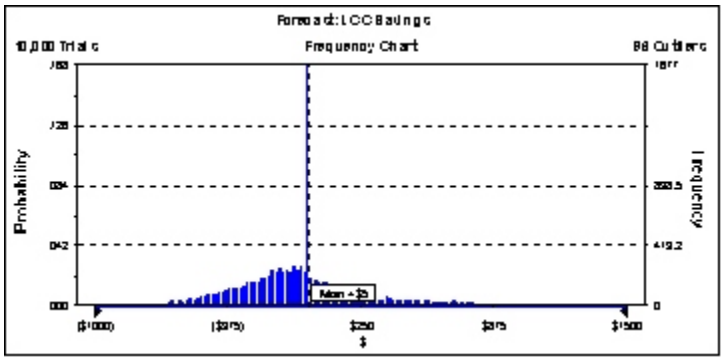

Figure 8D.1.71 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 3; Baseline Scenario

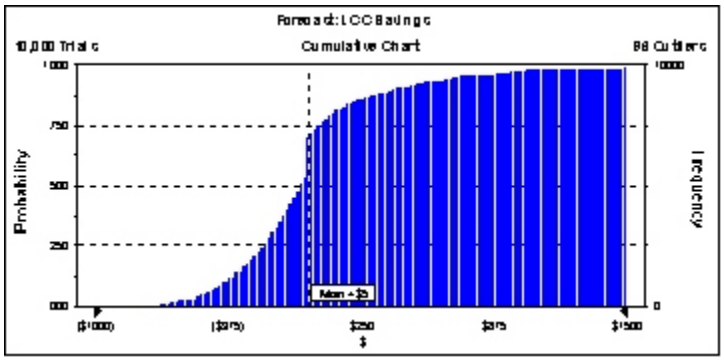

Figure 8D.1.72 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 3; Baseline Scenario

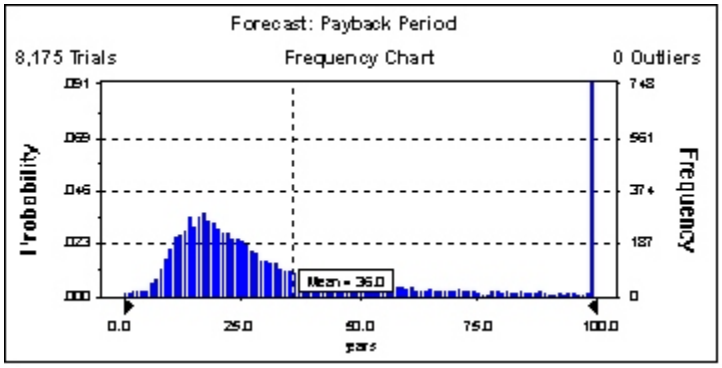

Figure 8D.1.73 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 3; Baseline Scenario

8D.1.3.2 Low A & B Distribution

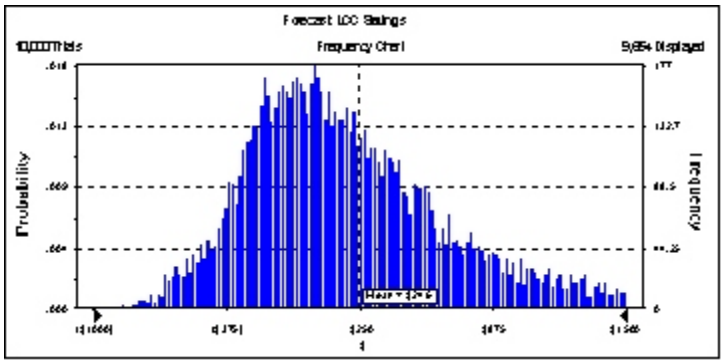

Figure 8D.1.74 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 3; Low A & B Distribution Scenario

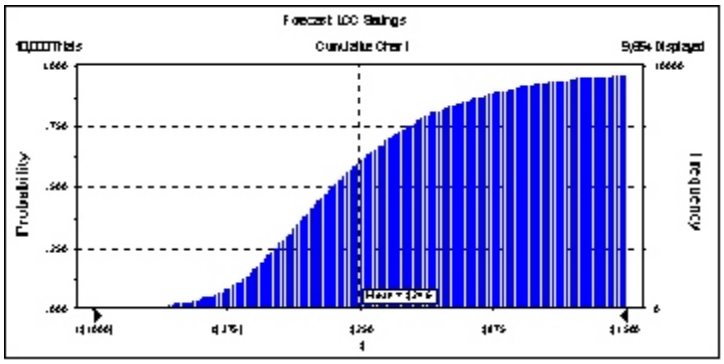

Figure 8D.1.75 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 3; Low A & B Distribution Scenario

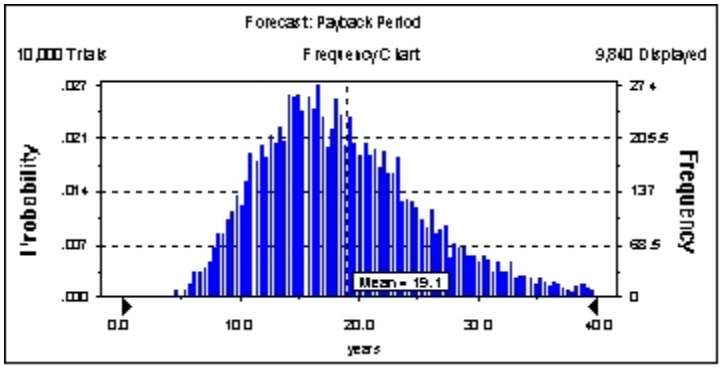

Figure 8D.1.76 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 3; Low A & B Distribution Scenario

8D.1.3.3 High A & B Distribution

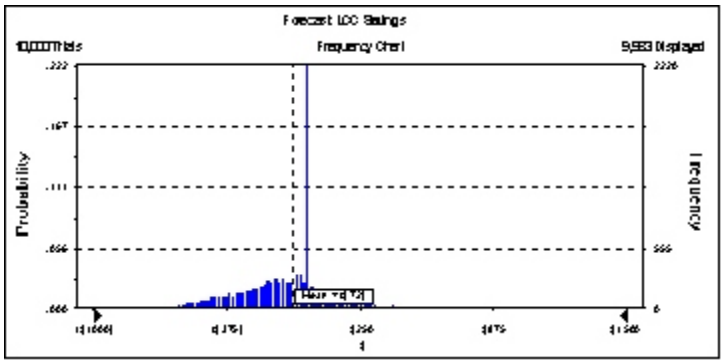

Figure 8D.1.77 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 3; High A & B Distribution Scenario

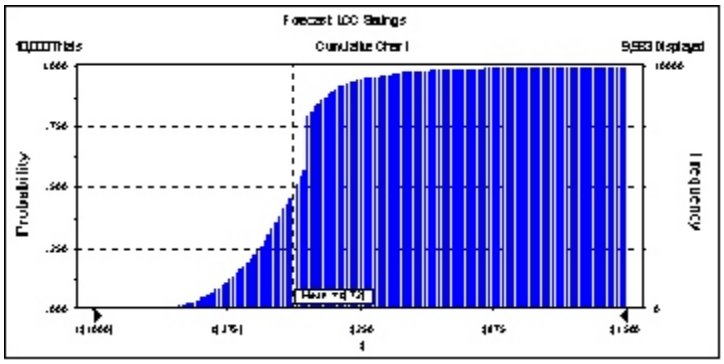

Figure 8D.1.78 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 3; High A & B Distribution Scenario

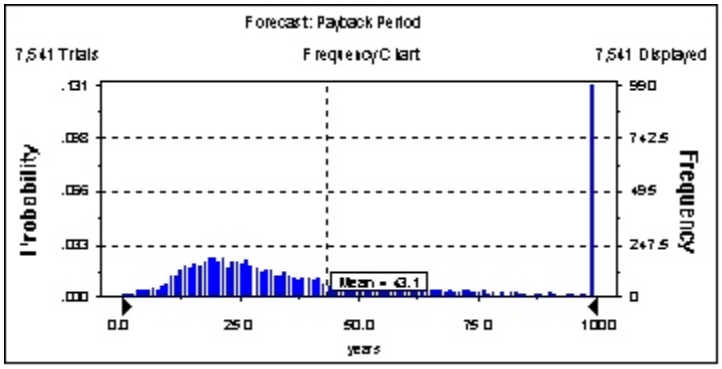

Figure 8D.1.79 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 3; High A & B Distribution Scenario

8D.1.3.4 Low Loading

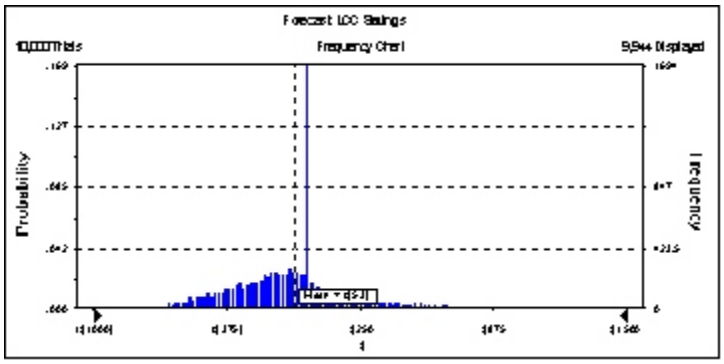

Figure 8D.1.80 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 3; Low Transformer Loading Scenario

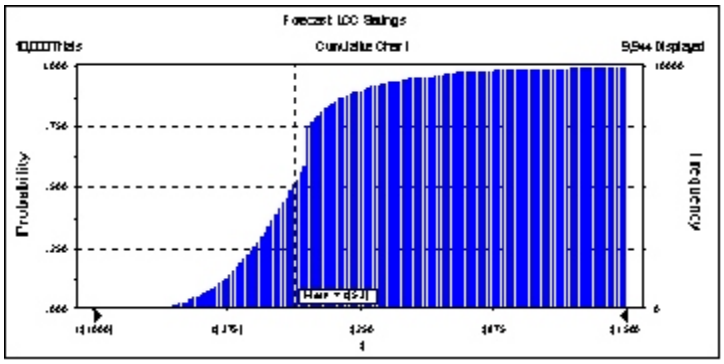

Figure 8D.1.81 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 3; Low Transformer Loading Scenario

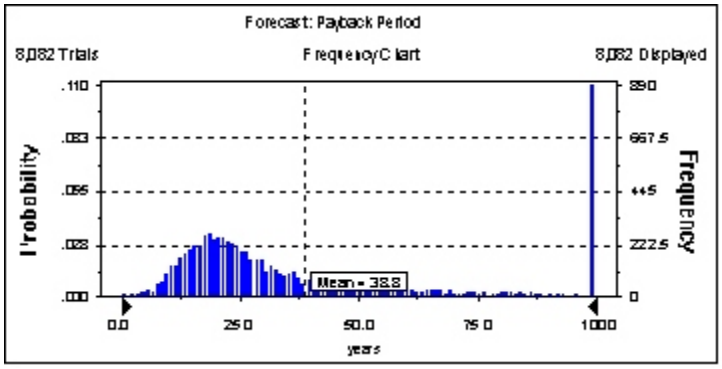

Figure 8D.1.82 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 3; Low Transformer Loading Scenario

8D.1.3.5 High Loading

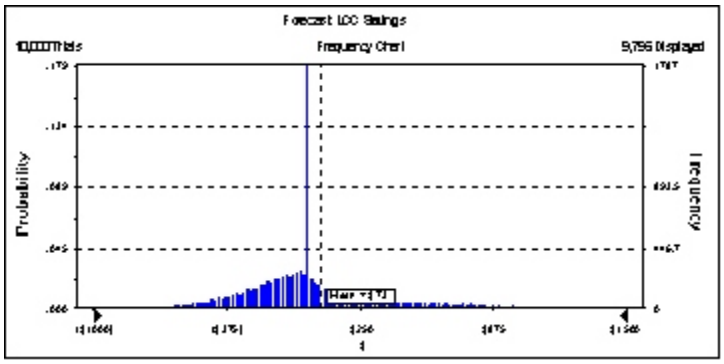

Figure 8D.1.83 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 3; High Transformer Loading Scenario

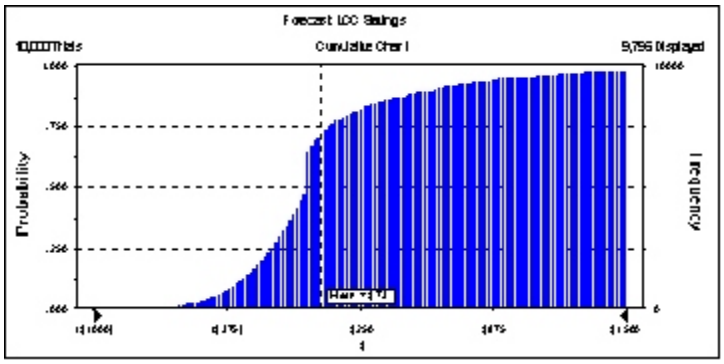

Figure 8D.1.84 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 3; High Transformer Loading Scenario

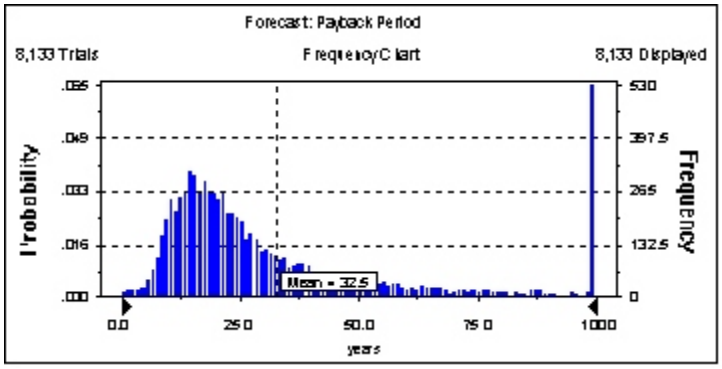

Figure 8D.1.85 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 3; High Transformer Loading Scenario

8D.1.3.6 Low Electricity Price

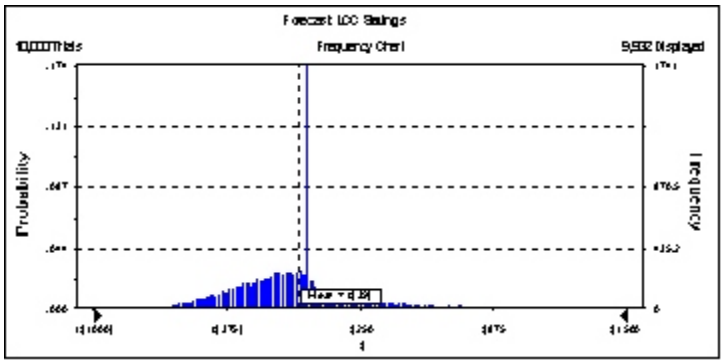

Figure 8D.1.86 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 3; Low Electricity Price Scenario

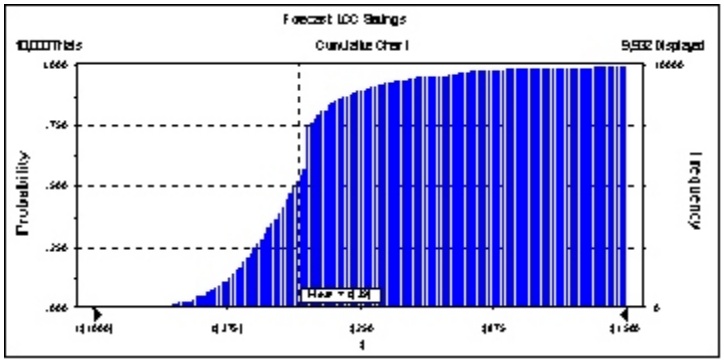

Figure 8D.1.87 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 3; Low Electricity Price Scenario

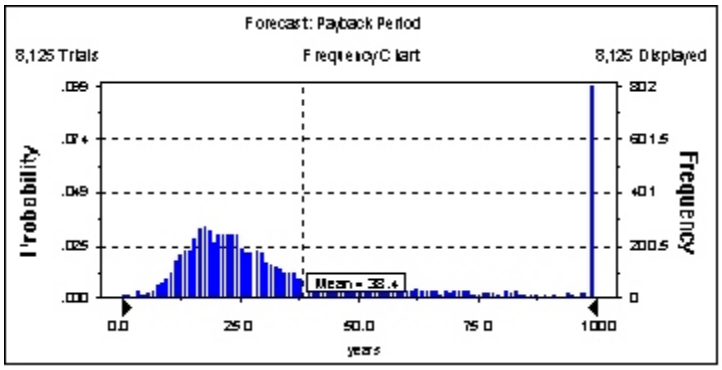

Figure 8D.1.88 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 3; Low Electricity Price Scenario

8D.1.3.7 High Electricity Price

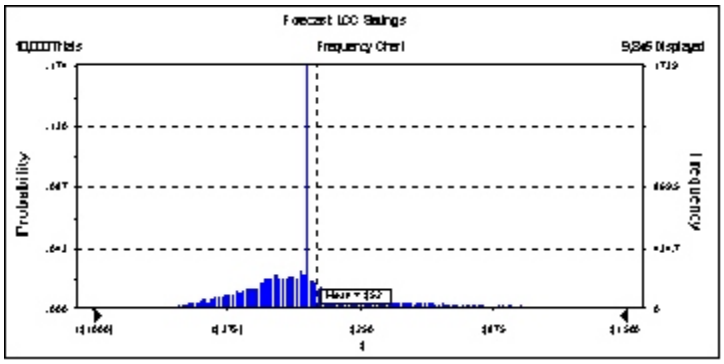

Figure 8D.1.89 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 3; High Electricity Price Scenario

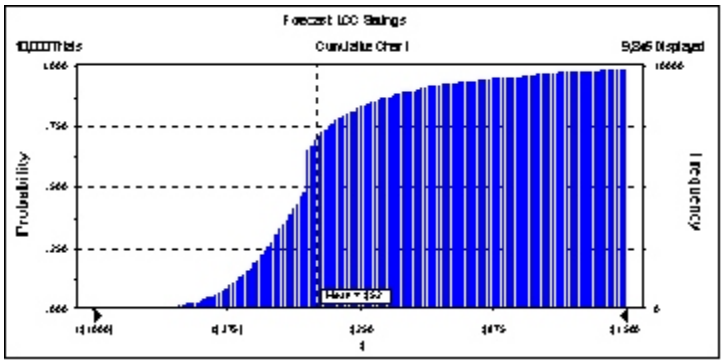

Figure 8D.1.90 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 3; High Electricity Price Scenario

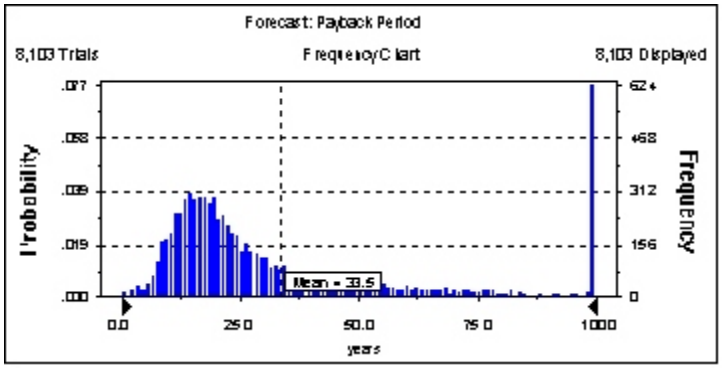

Figure 8D.1.91 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 3; High Electricity Price Scenario

8D.1.3.8 Low Load Growth

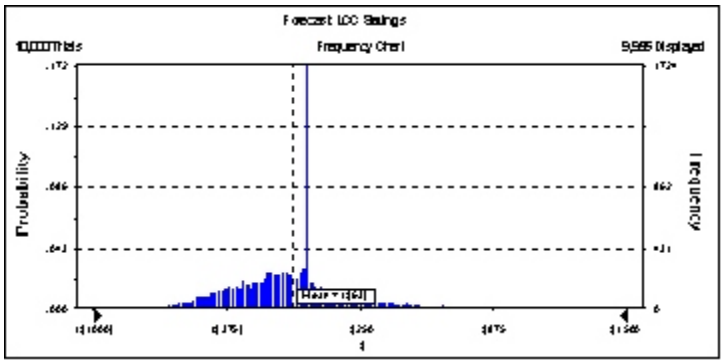

Figure 8D.1.92 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 3; Low Load Growth Scenario

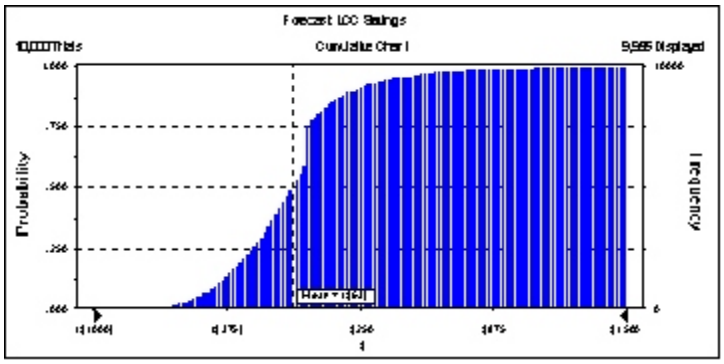

Figure 8D.1.93 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 3; Low Load Growth Scenario

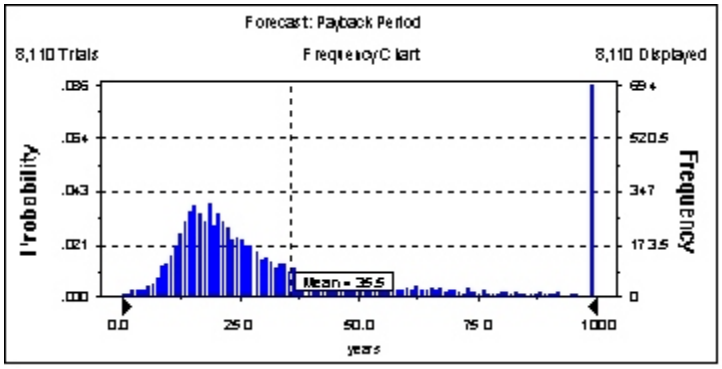

Figure 8D.1.94 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 3; Low Load Growth Scenario

8D.1.3.9 High Load Growth

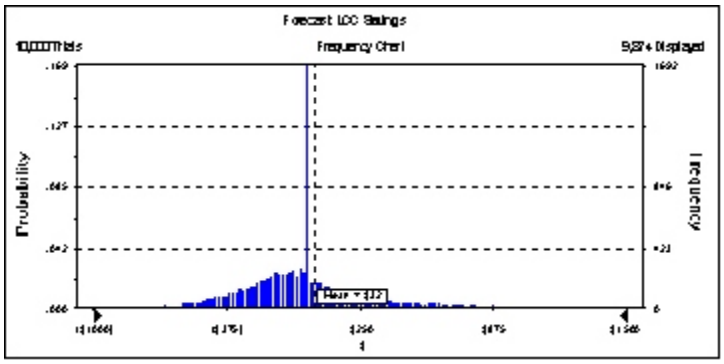

Figure 8D.1.95 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 3; High Load Growth Scenario

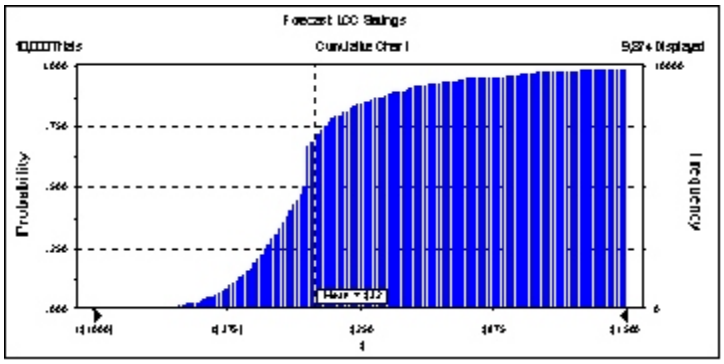

Figure 8D.1.96 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 3; High Load Growth Scenario

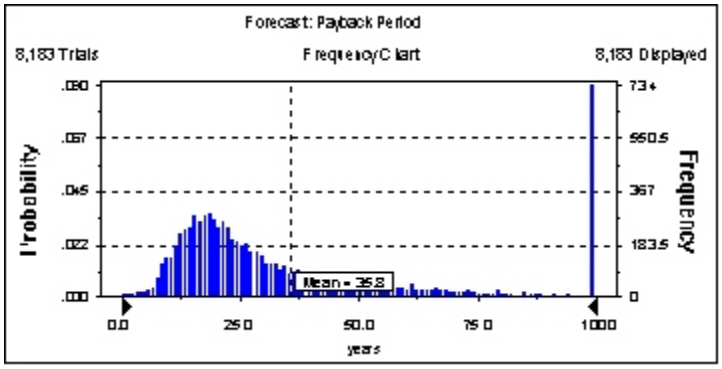

Figure 8D.1.97 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 3; High Load Growth Scenario

8D.1.3.10 Low Equipment Price

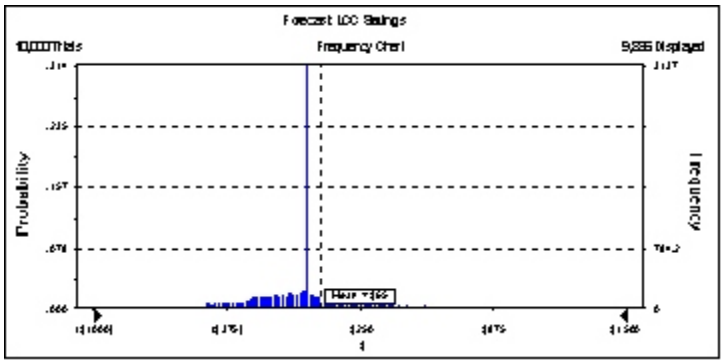

Figure 8D.1.98 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 3; Low Equipment Price Scenario

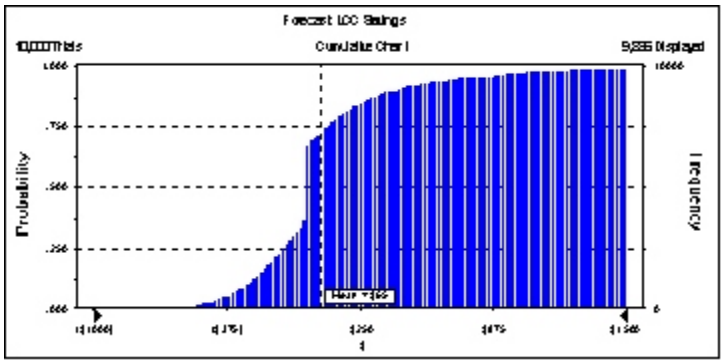

Figure 8D.1.99 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 3; Low Equipment Price Scenario

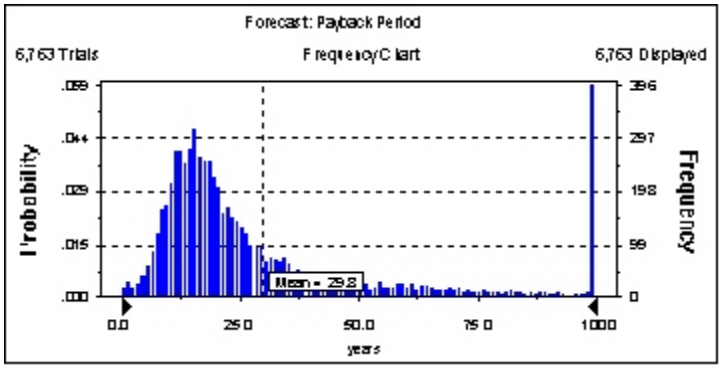

Figure 8D.1.100 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 3; Low Equipment Price Scenario

8D.1.3.11 High Equipment Price

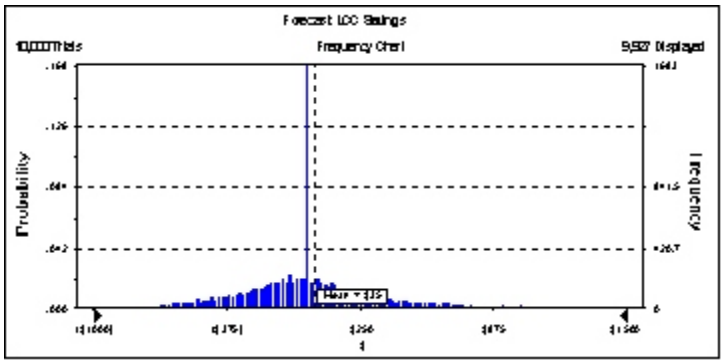

Figure 8D.1.101 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 3; High Equipment Price Scenario

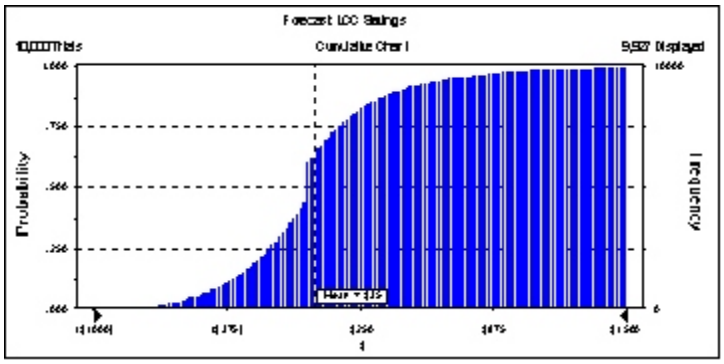

Figure 8D.1.102 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 3; High Equipment Price Scenario

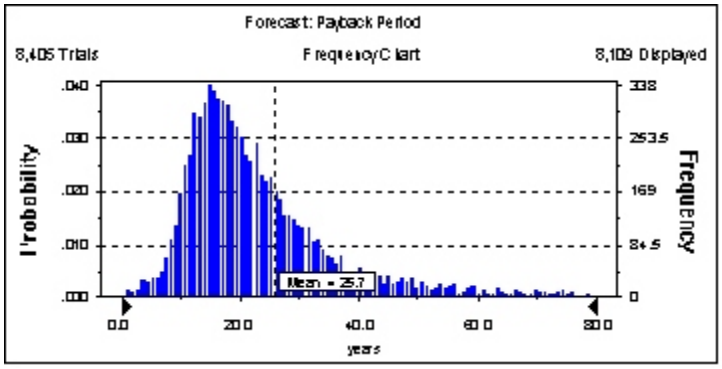

Figure 8D.1.103 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 3; High Equipment Price Scenario

8D.1.4 Design Line 1; Candidate Standard Level 4

Table 8D.1.5 Candidate Standard Level: 4; Summary Table

	Transformers having LCC Savings > $0 (%)	Mean LCC Savings ($)	Mean Payback (Years)
Baseline	72.3	180	15.5
Non Evaluating A & B Distribution	85.7	446	13.4
High Evaluating A & B Distribution	68.4	90	16.1
Low Loading	71.1	155	15.7
High Loading	73.9	213	15.1
Low Electricity Price	65.4	120	17.0
High Electricity Price	78.5	245	14.1
Low Load Growth	71.2	151	15.4
High Load Growth	73.8	192	15.3
Low Equipment Price Scenario	91.1	278	11.0
High Equipment Price Scenario	76.9	202	15.9

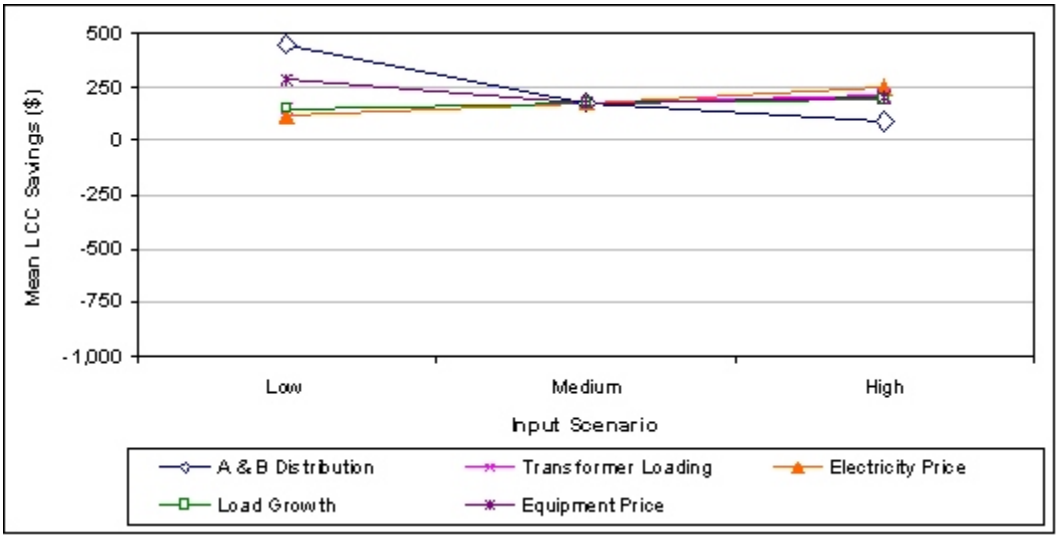

Figure 8D.1.104 Sensitivity of LCC to Input Changes for Design Line 1, Candidate Standard Level 4

8D.1.4.1 Baseline

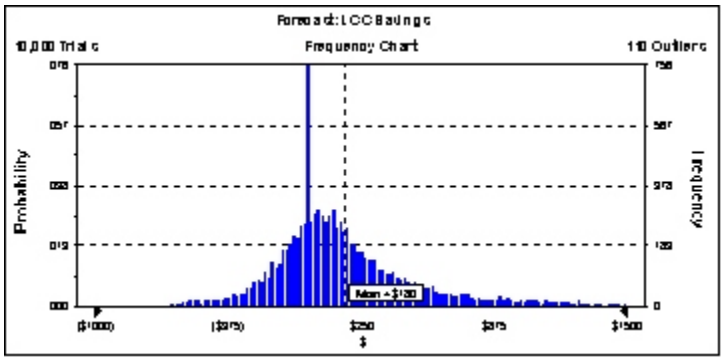

Figure 8D.1.105 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 4; Baseline Scenario

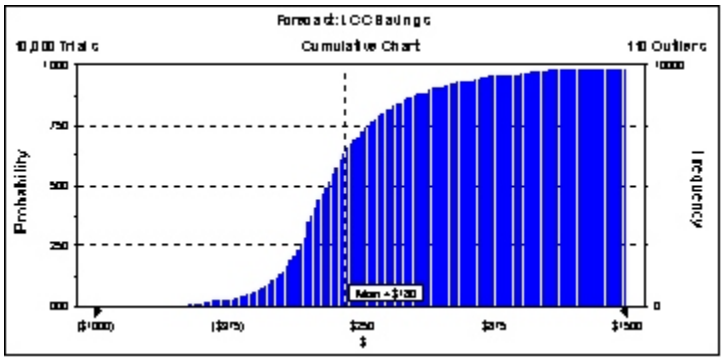

Figure 8D.1.106 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 4; Baseline Scenario

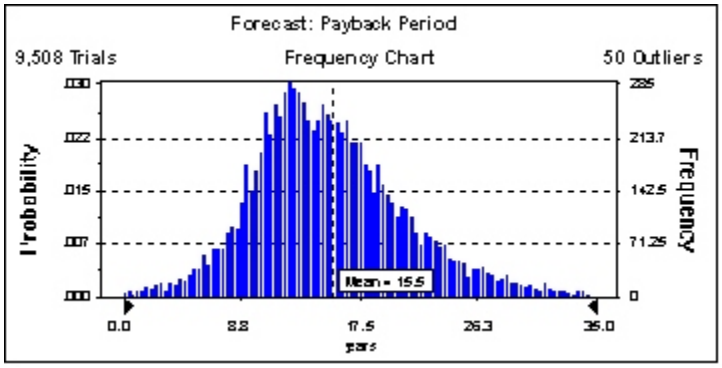

Figure 8D.1.107 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 4; Baseline Scenario

8D.1.4.2 Low A & B Distribution

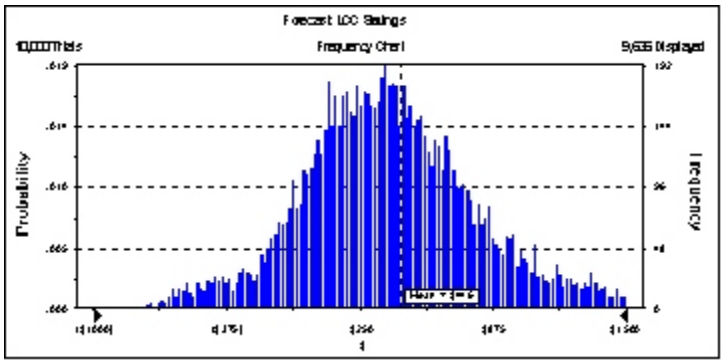

Figure 8D.1.108 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 4; Low A & B Distribution Scenario

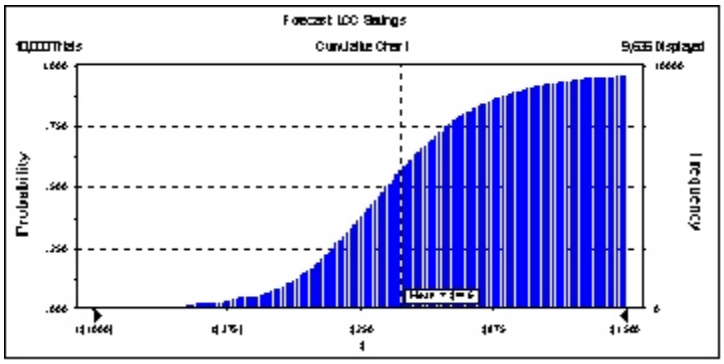

Figure 8D.1.109 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 4; Low A & B Distribution Scenario

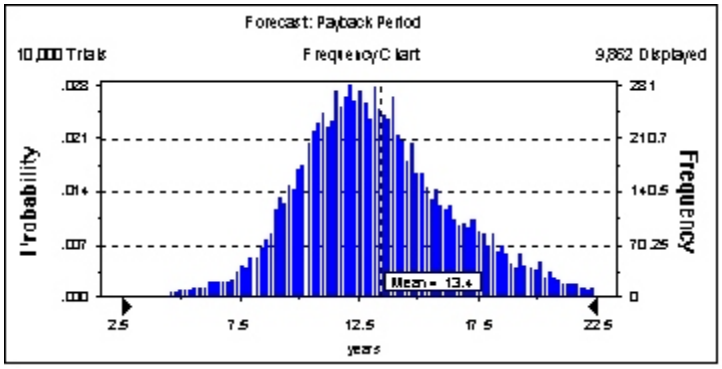

Figure 8D.1.110 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 4; Low A & B Distribution Scenario

8D.1.4.3 High A & B Distribution

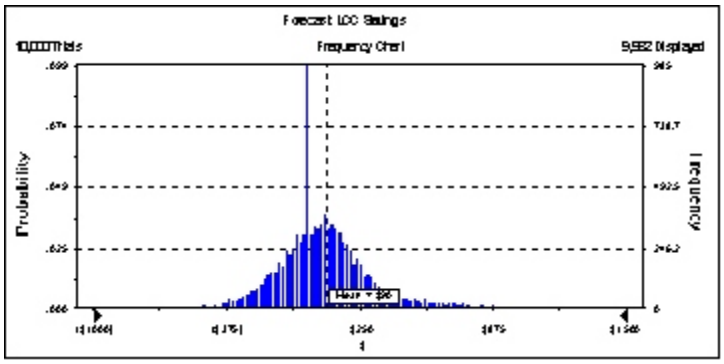

Figure 8D.1.111 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 4; High A & B Distribution Scenario

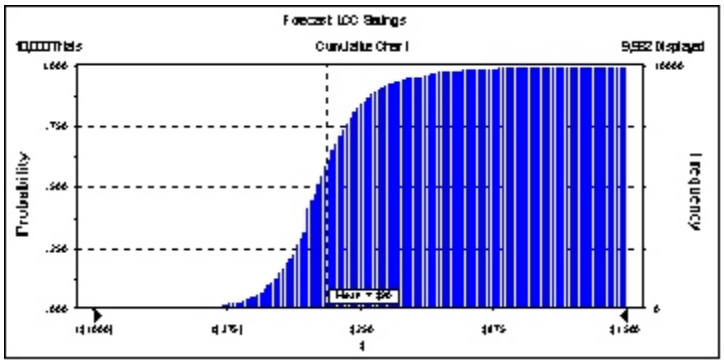

Figure 8D.1.112 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 4; High A & B Distribution Scenario

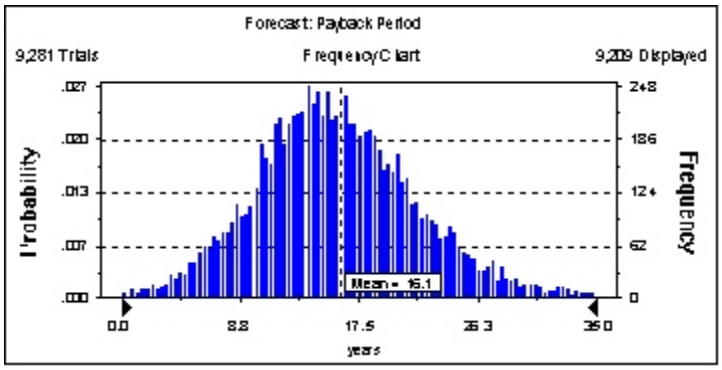

Figure 8D.1.113 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 4; High A & B Distribution Scenario

8D.1.4.4 Low Loading

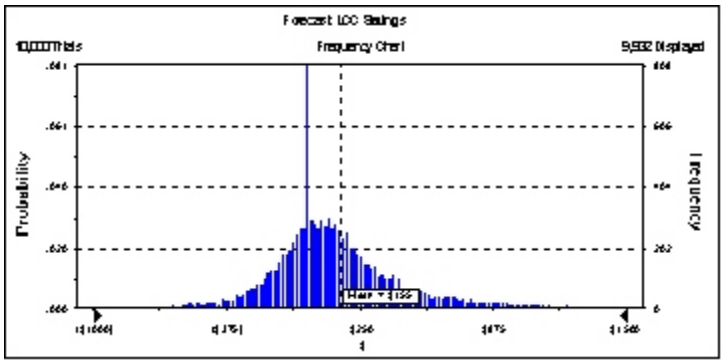

Figure 8D.1.114 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 4; Low Transformer Loading Scenario

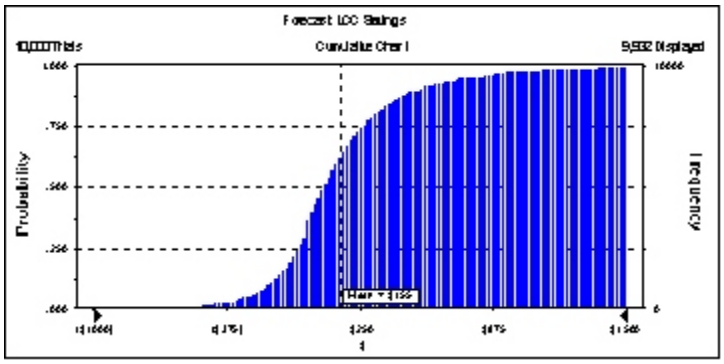

Figure 8D.1.115 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 4; Low Transformer Loading Scenario

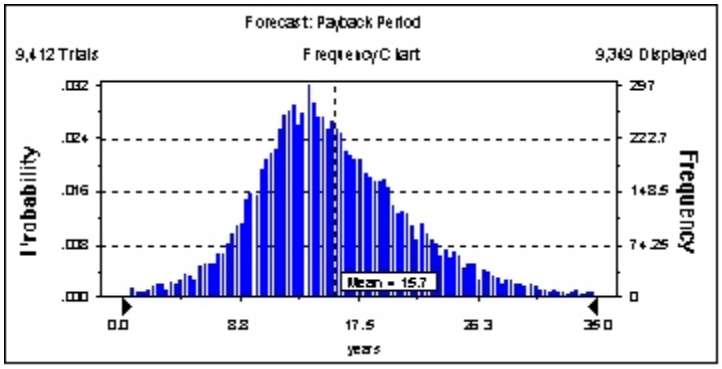

Figure 8D.1.116 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 4; Low Transformer Loading Scenario

8D.1.4.5 High Loading

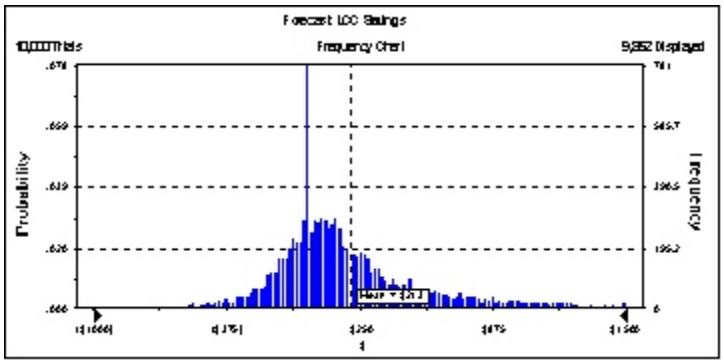

Figure 8D.1.117 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 4; High Transformer Loading Scenario

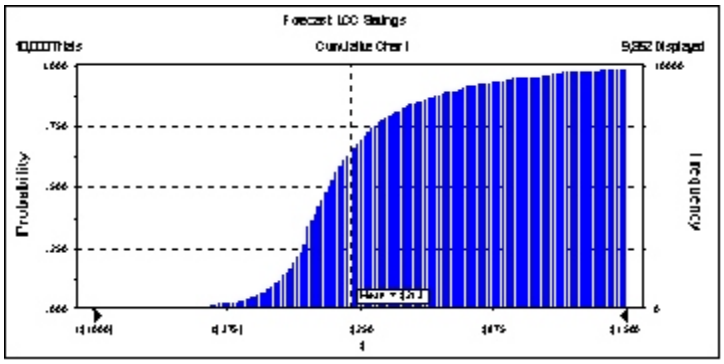

Figure 8D.1.118 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 4; High Transformer Loading Scenario

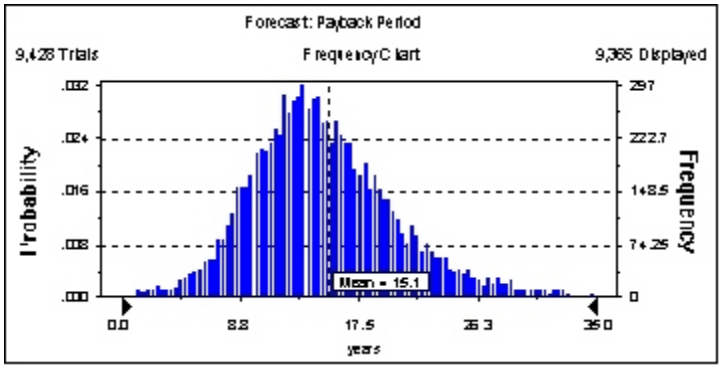

Figure 8D.1.119 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 4; High Transformer Loading Scenario

8D.1.4.6 Low Electricity Price

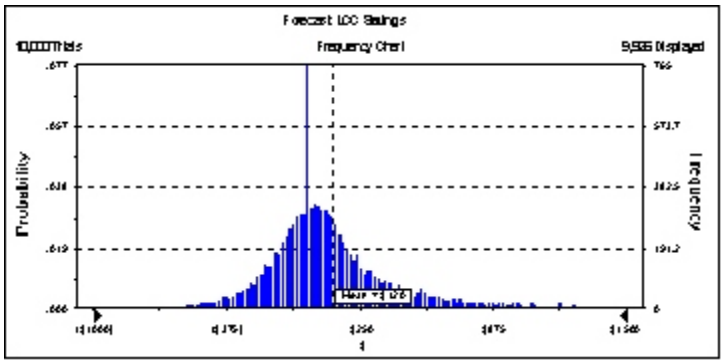

Figure 8D.1.120 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 4; Low Electricity Price Scenario

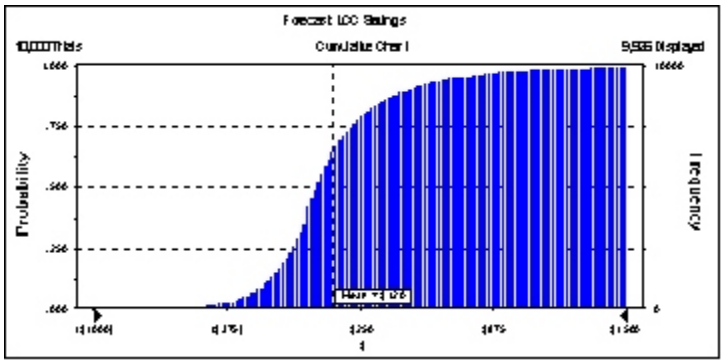

Figure 8D.1.121 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 4; Low Electricity Price Scenario

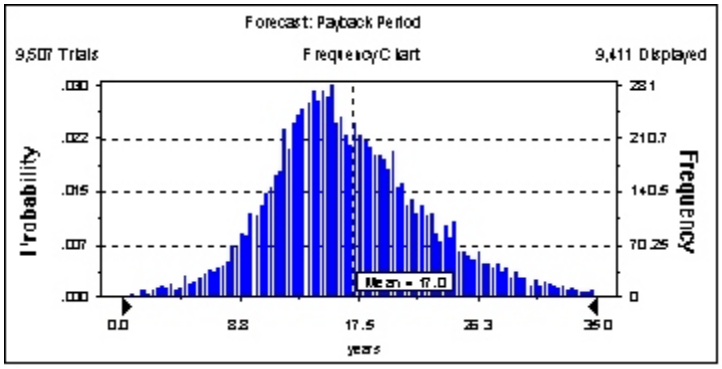

Figure 8D.1.122 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 4; Low Electricity Price Scenario

8D.1.4.7 High Electricity Price

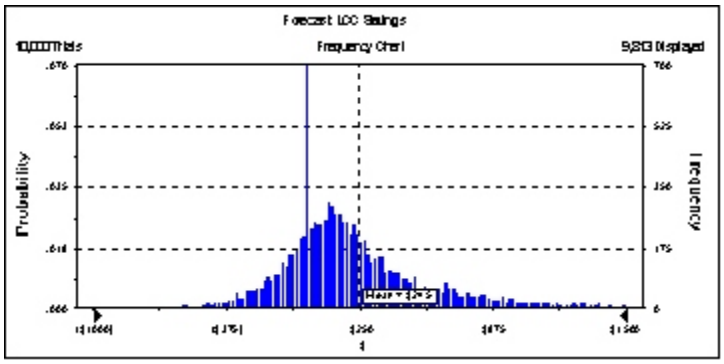

Figure 8D.1.123 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 4; High Electricity Price Scenario

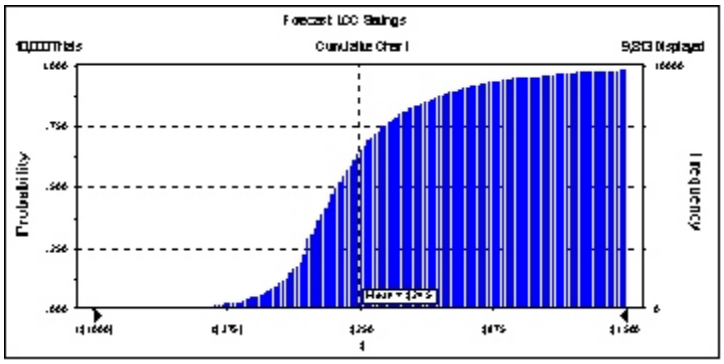

Figure 8D.1.124 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 4; High Electricity Price Scenario

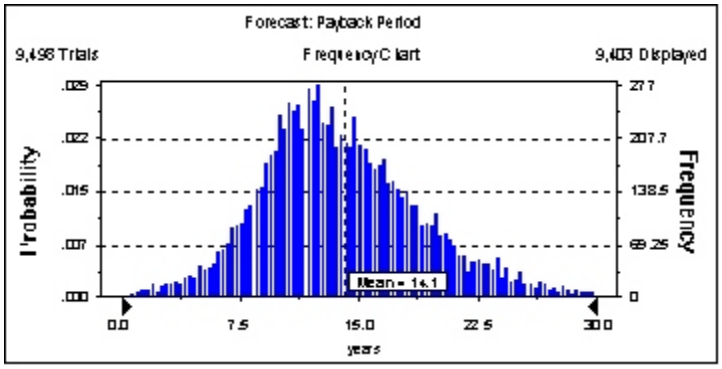

Figure 8D.1.125 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 4; High Electricity Price Scenario

8D.1.4.8 Low Load Growth

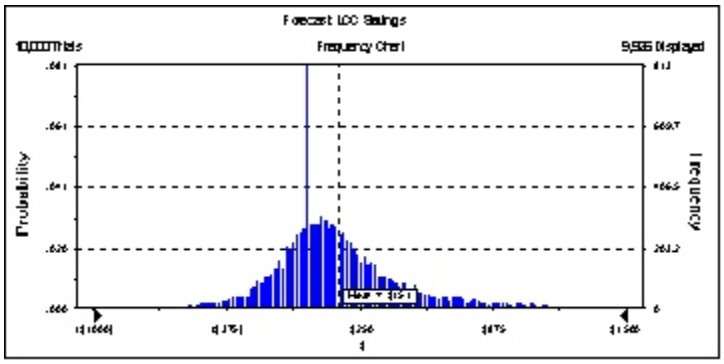

Figure 8D.1.126 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 4; Low Load Growth Scenario

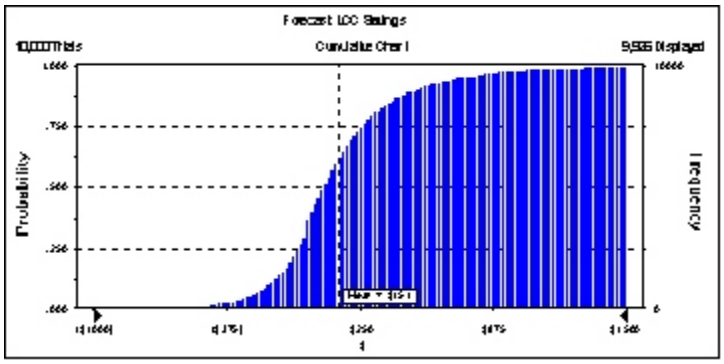

Figure 8D.1.127 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 4; Low Load Growth Scenario

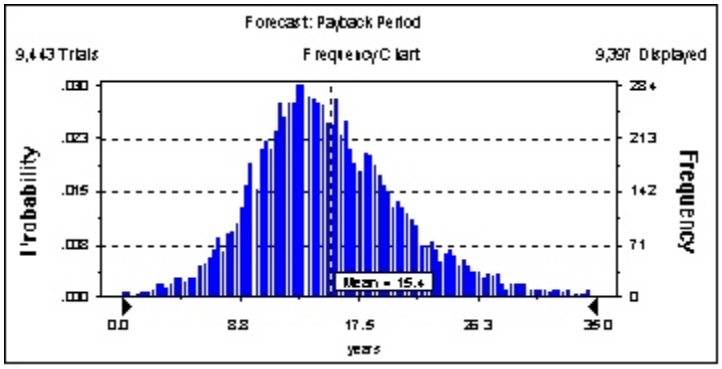

Figure 8D.1.128 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 4; Low Load Growth Scenario

8D.1.4.9 High Load Growth

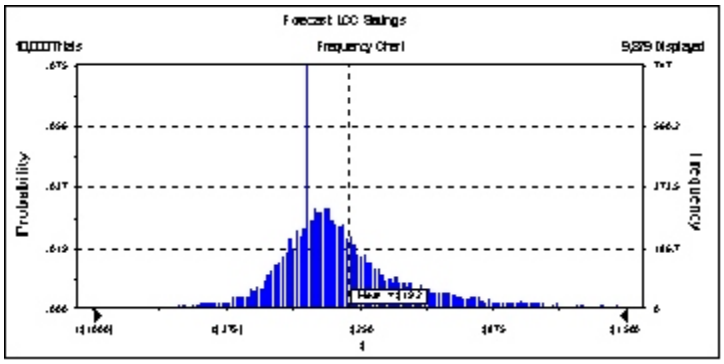

Figure 8D.1.129 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 4; High Load Growth Scenario

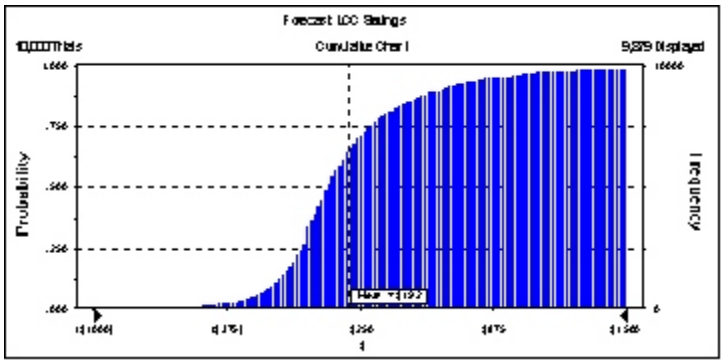

Figure 8D.1.130 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 4; High Load Growth Scenario

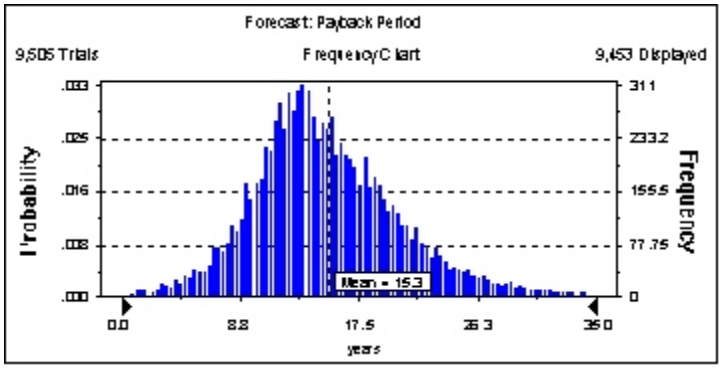

Figure 8D.1.131 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 4; High Load Growth Scenario

8D.1.4.10 Low Equipment Price

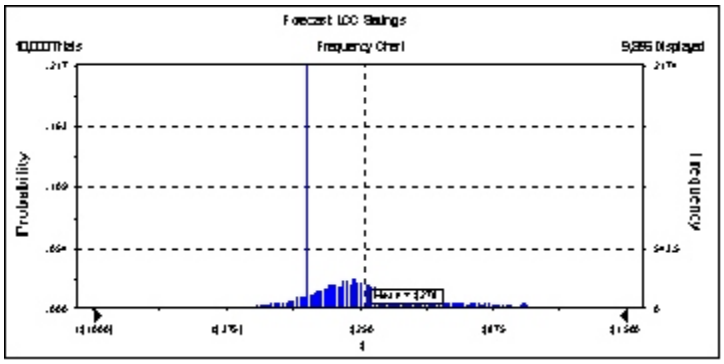

Figure 8D.1.132 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 4; Low Equipment Price Scenario

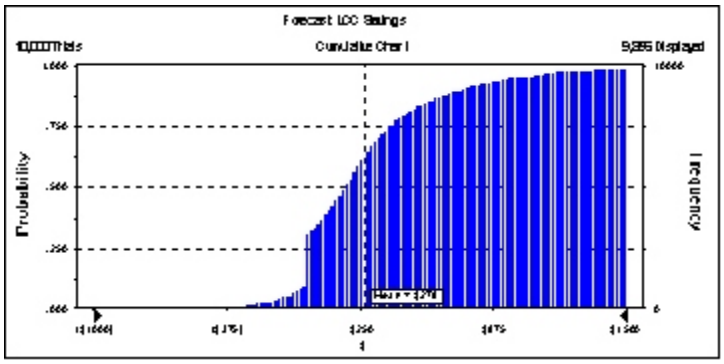

Figure 8D.1.133 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 4; Low Equipment Price Scenario

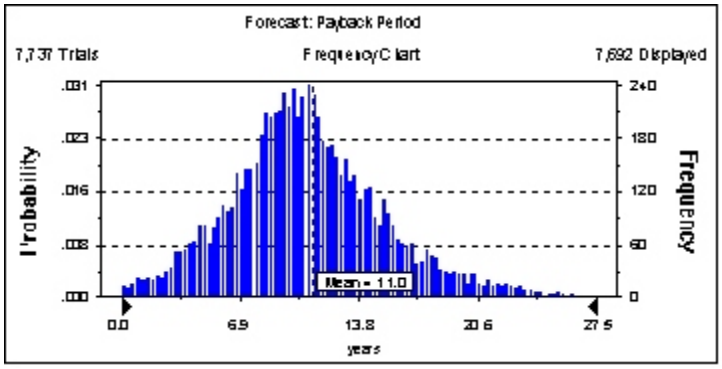

Figure 8D.1.134 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 4; Low Equipment Price Scenario

8D.1.4.11 High Equipment Price

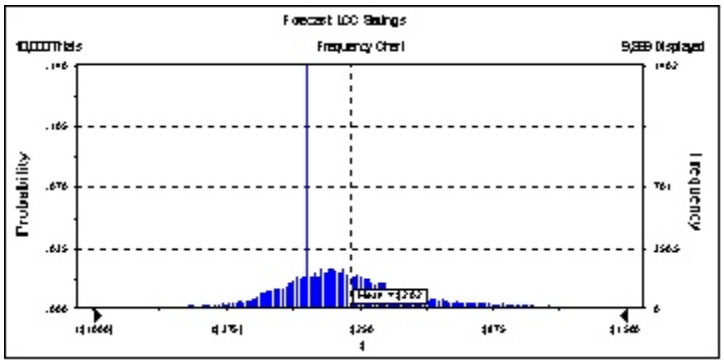

Figure 8D.1.135 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 4; High Equipment Price Scenario

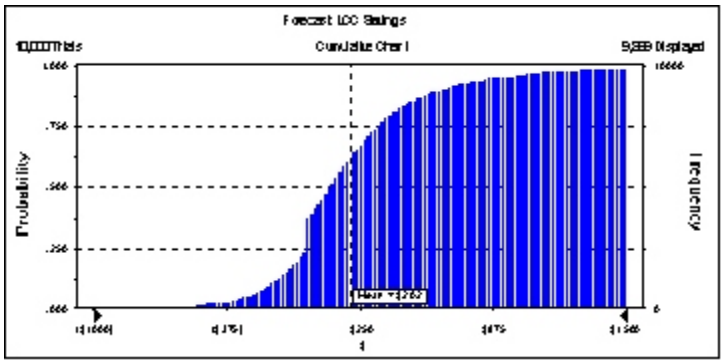

Figure 8D.1.136 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 4; High Equipment Price Scenario

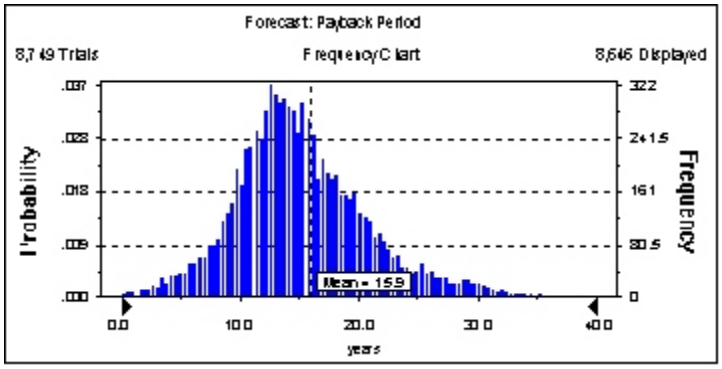

Figure 8D.1.137 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 4; High Equipment Price Scenario

8D.1.5 Design Line 1; Candidate Standard Level 5

Table 8D.1.6 Candidate Standard Level: 5; Summary Table

	Transformers having LCC Savings > $0 (%)	Mean LCC Savings ($)	Mean Payback (Years)
Baseline	42.1	3	24.4
Non Evaluating A & B Distribution	57.4	241	19.4
High Evaluating A & B Distribution	36.9	-66	25.9
Low Loading	36.8	-62	25.6
High Loading	47.4	87	23.0
Low Electricity Price	32.4	-87	26.8
High Electricity Price	50.1	91	22.3
Low Load Growth	35.4	-79	24.2
High Load Growth	44.7	36	24.5
Low Equipment Price Scenario	63.4	164	23.6
High Equipment Price Scenario	37.9	-56	30.2

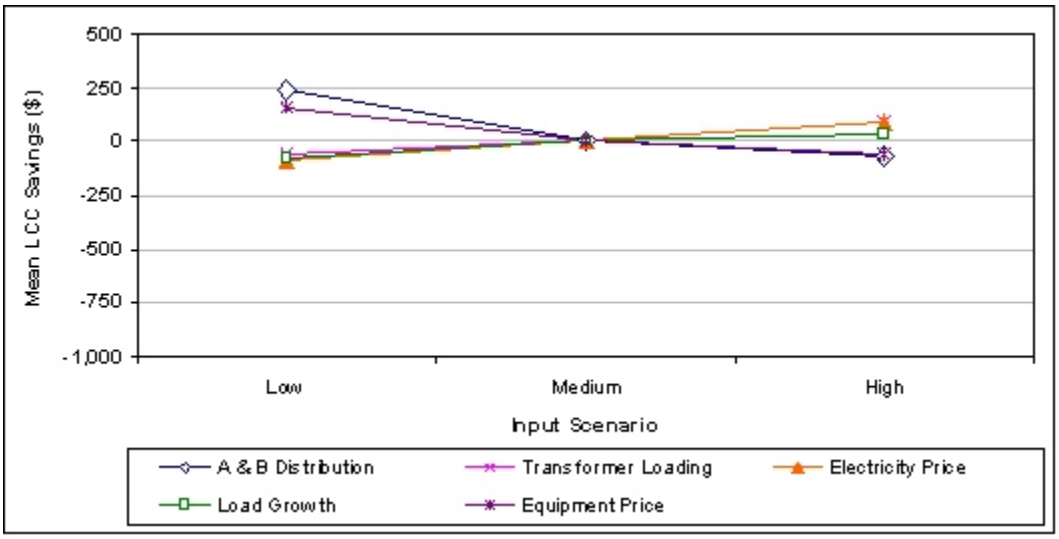

Figure 8D.1.138 Sensitivity of LCC to Input Changes for Design Line 1, Candidate Standard Level 5

8D.1.5.1 Baseline

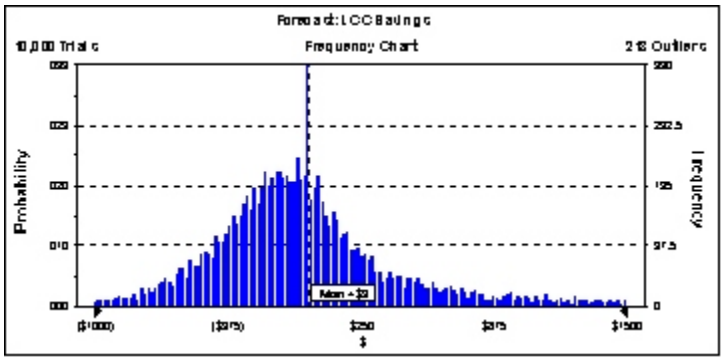

Figure 8D.1.139 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 5; Baseline Scenario

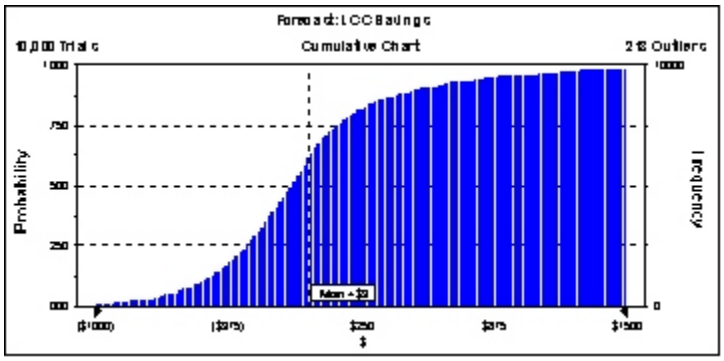

Figure 8D.1.140 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 5; Baseline Scenario

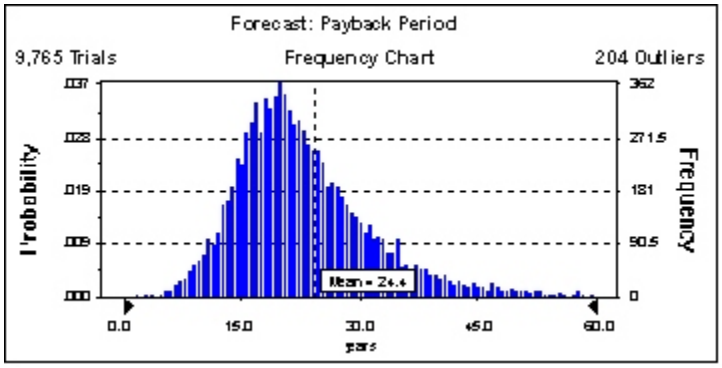

Figure 8D.1.141 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 5; Baseline Scenario

8D.1.5.2 Low A & B Distribution

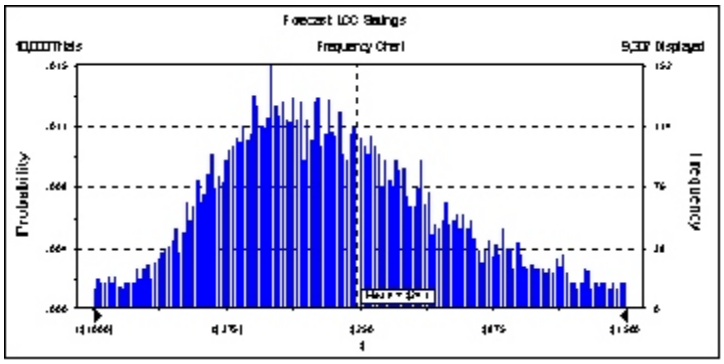

Figure 8D.1.142 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 5; Low A & B Distribution Scenario

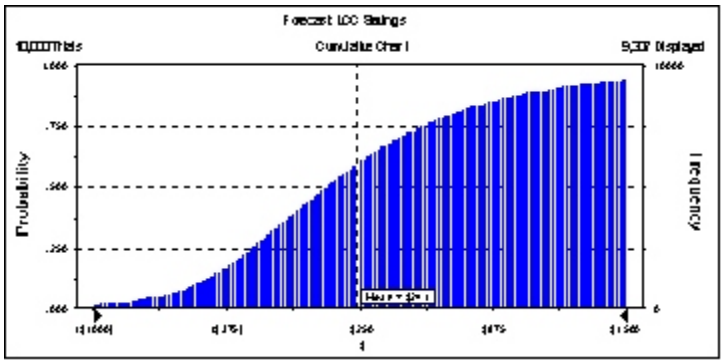

Figure 8D.1.143 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 5; Low A & B Distribution Scenario

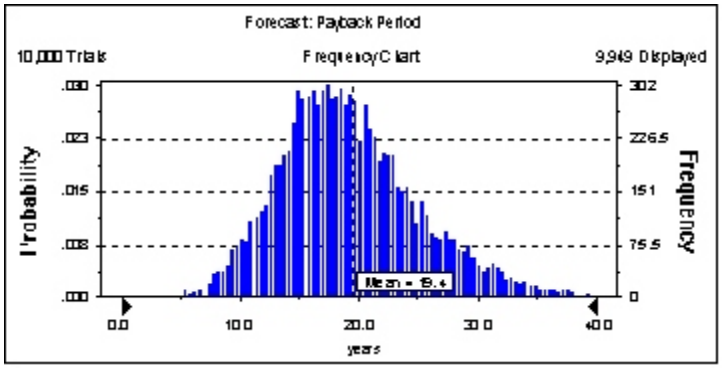

Figure 8D.1.144 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 5; Low A & B Distribution Scenario

8D.1.5.3 High A & B Distribution

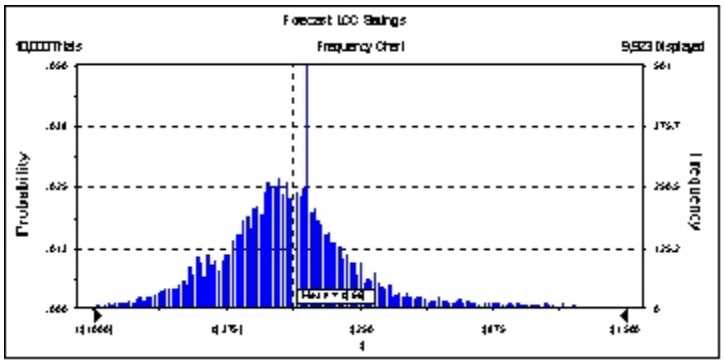

Figure 8D.1.145 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 5; High A & B Distribution Scenario

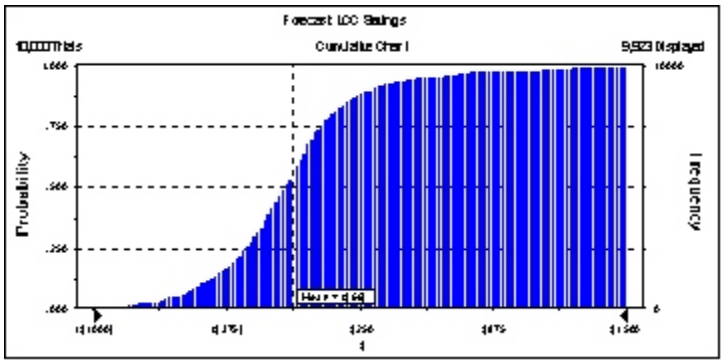

Figure 8D.1.146 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 5; High A & B Distribution Scenario

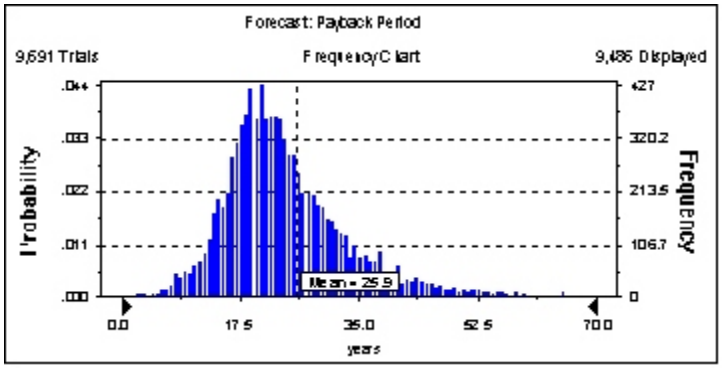

Figure 8D.1.147 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 5; High A & B Distribution Scenario

8D.1.5.4 Low Loading

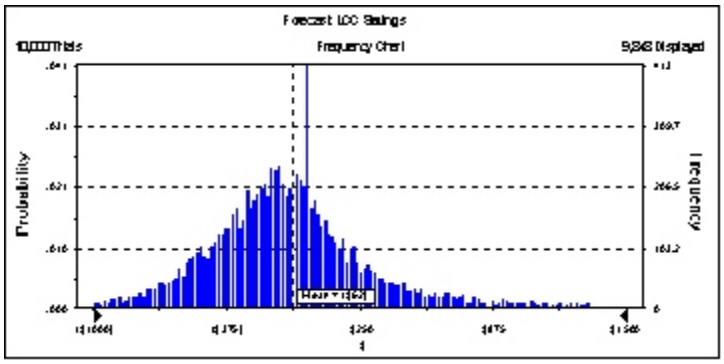

Figure 8D.1.148 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 5; Low Transformer Loading Scenario

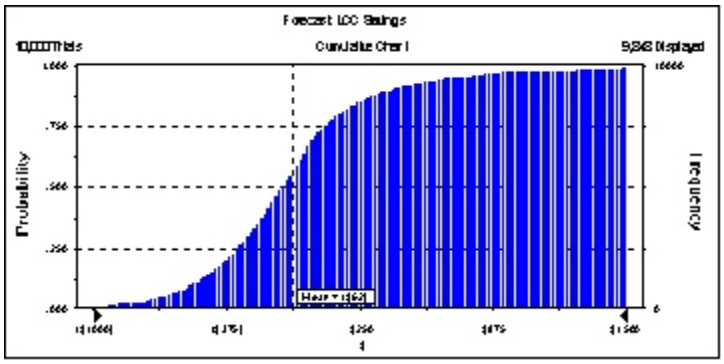

Figure 8D.1.149 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 5; Low Transformer Loading Scenario

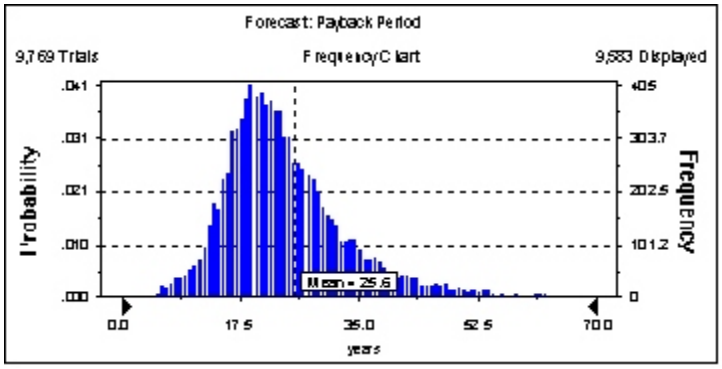

Figure 8D.1.150 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 5; Low Transformer Loading Scenario

8D.1.5.5 High Loading

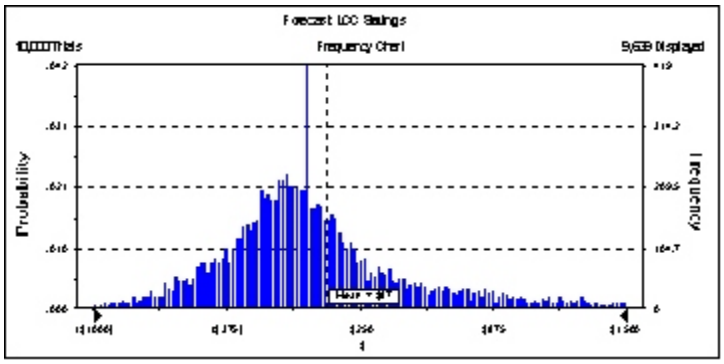

Figure 8D.1.151 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 5; High Transformer Loading Scenario

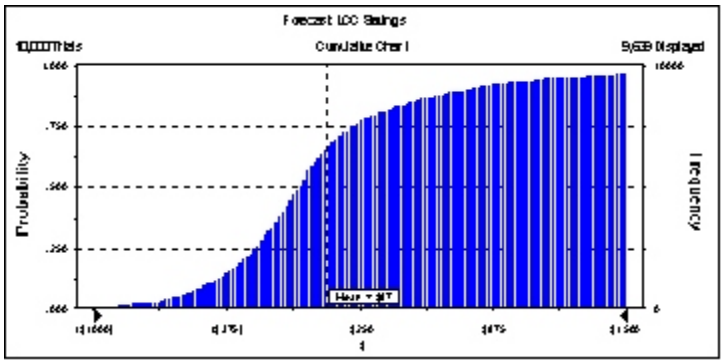

Figure 8D.1.152 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 5; High Transformer Loading Scenario

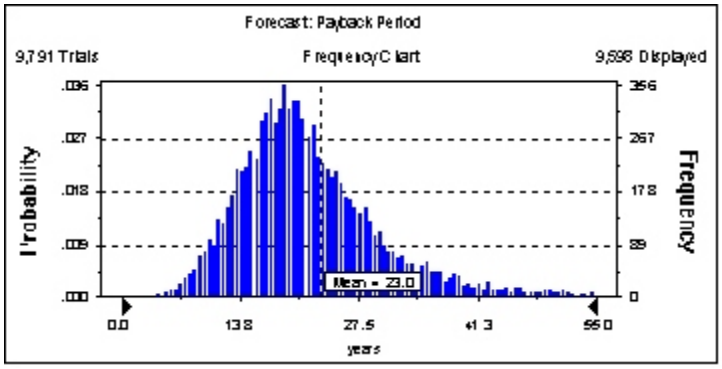

Figure 8D.1.153 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 5; High Transformer Loading Scenario

8D.1.5.6 Low Electricity Price

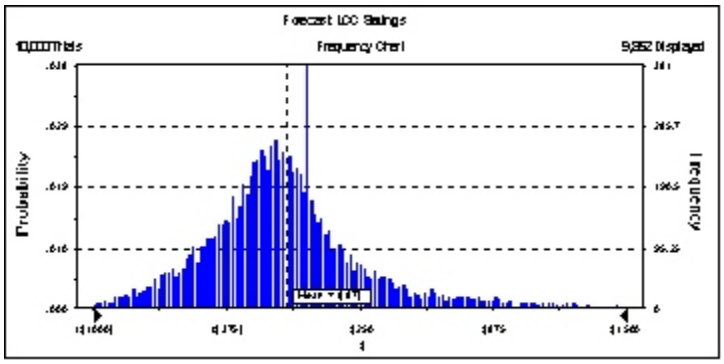

Figure 8D.1.154 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 5; Low Electricity Price Scenario

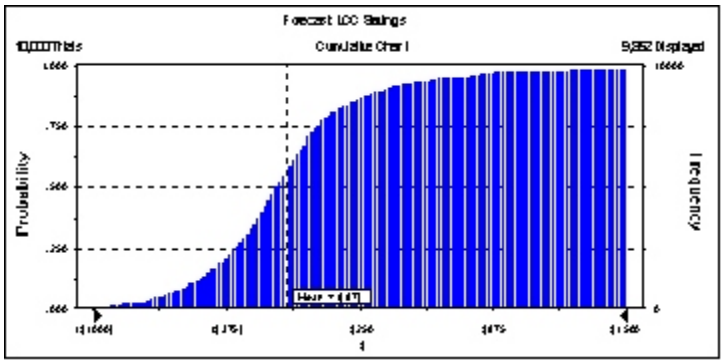

Figure 8D.1.155 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 5; Low Electricity Price Scenario

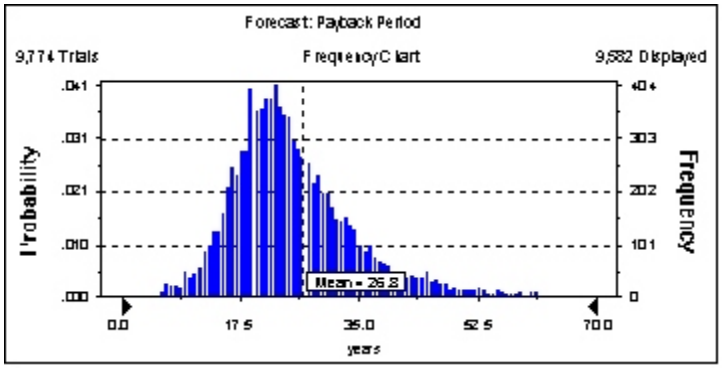

Figure 8D.1.156 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 5; Low Electricity Price Scenario

8D.1.5.7 High Electricity Price

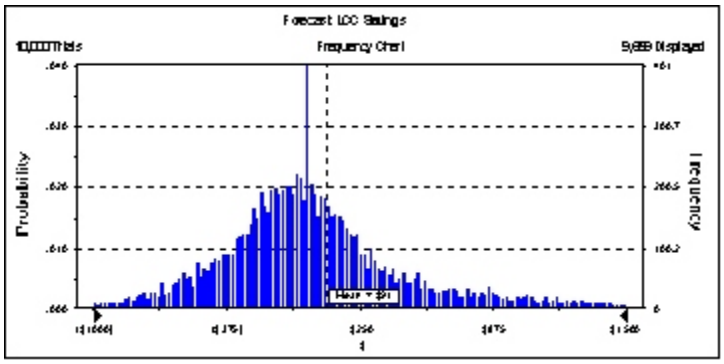

Figure 8D.1.157 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 5; High Electricity Price Scenario

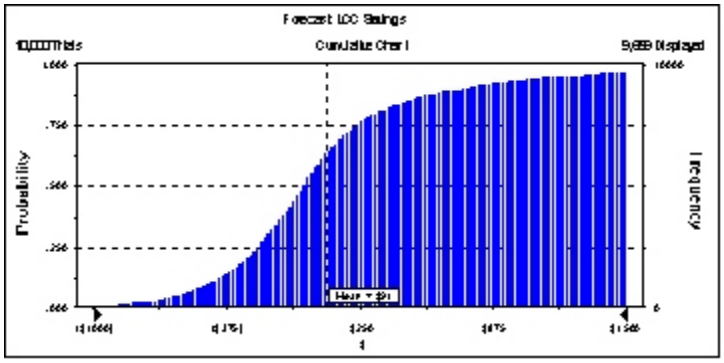

Figure 8D.1.158 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 5; High Electricity Price Scenario

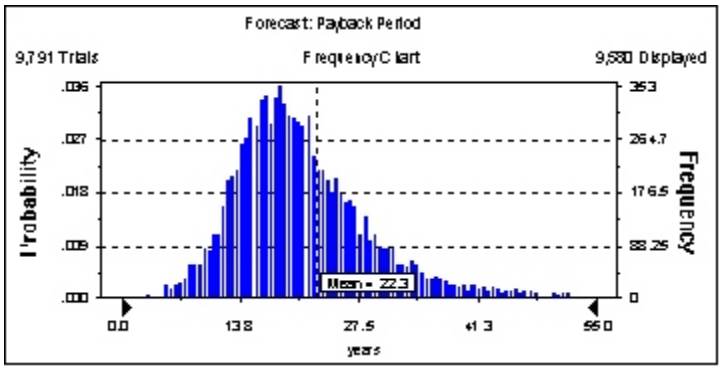

Figure 8D.1.159 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 5; High Electricity Price Scenario

8D.1.5.8 Low Load Growth

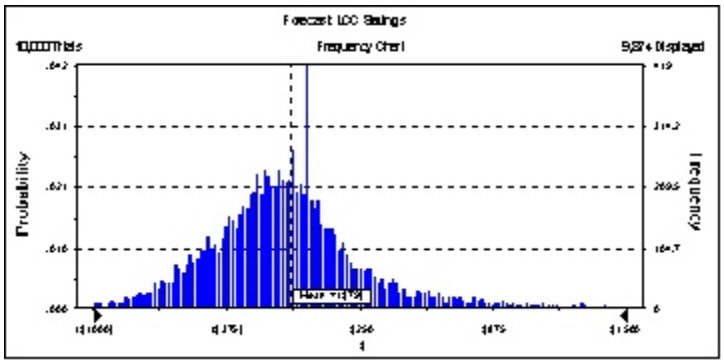

Figure 8D.1.160 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 5; Low Load Growth Scenario

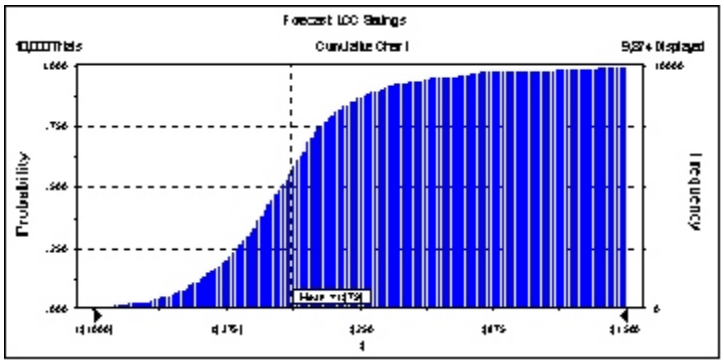

Figure 8D.1.161 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 5; Low Load Growth Scenario

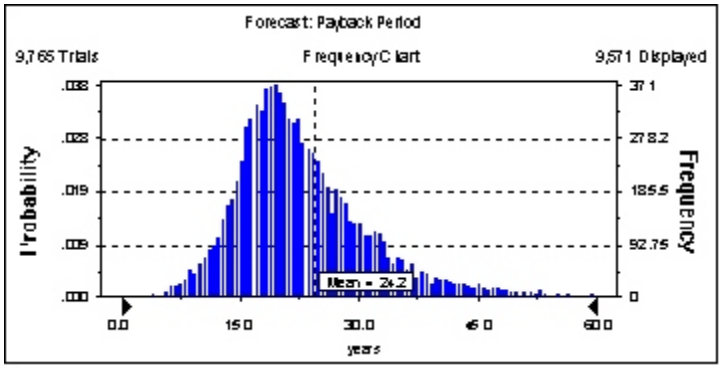

Figure 8D.1.162 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 5; Low Load Growth Scenario

8D.1.5.9 High Load Growth

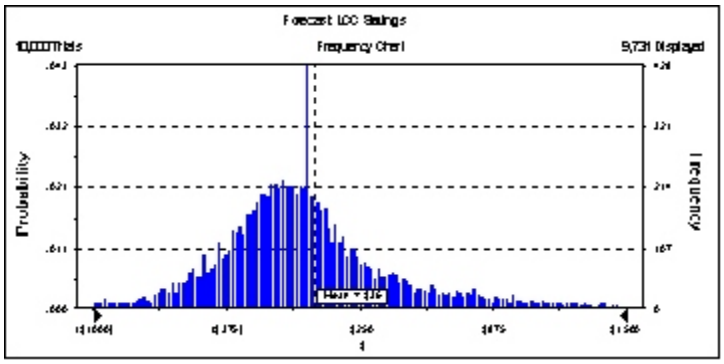

Figure 8D.1.163 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 5; High Load Growth Scenario

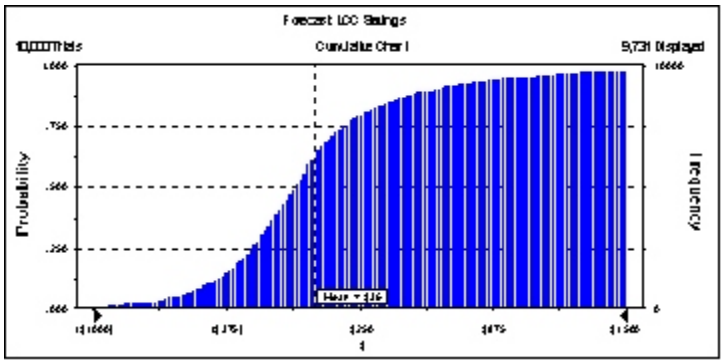

Figure 8D.1.164 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 5; High Load Growth Scenario

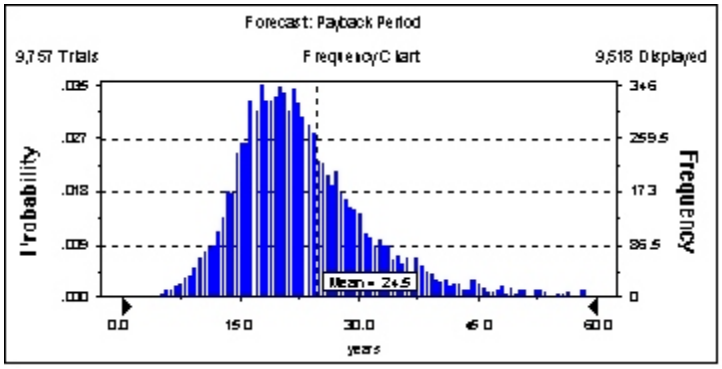

Figure 8D.1.165 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 5; High Load Growth Scenario

8D.1.5.10 Low Equipment Price

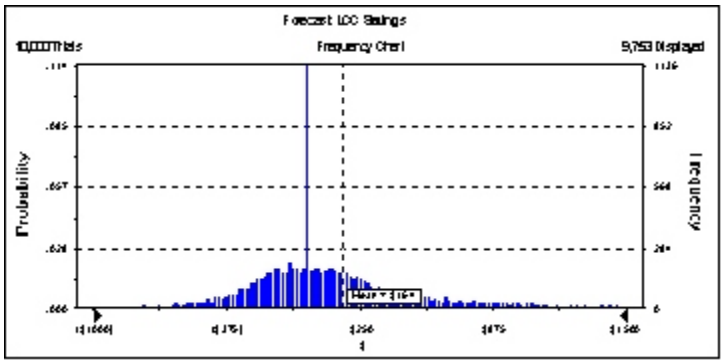

Figure 8D.1.166 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 5; Low Equipment Price Scenario

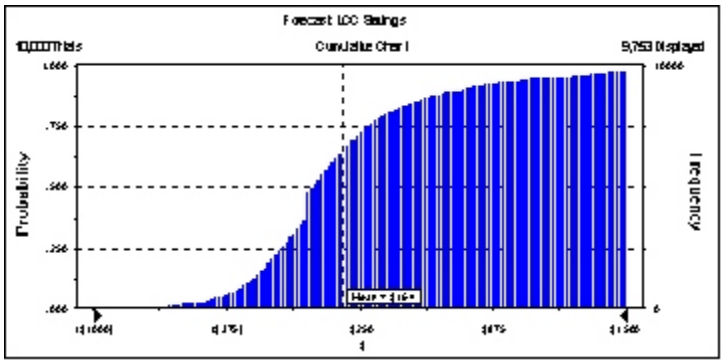

Figure 8D.1.167 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 5; Low Equipment Price Scenario

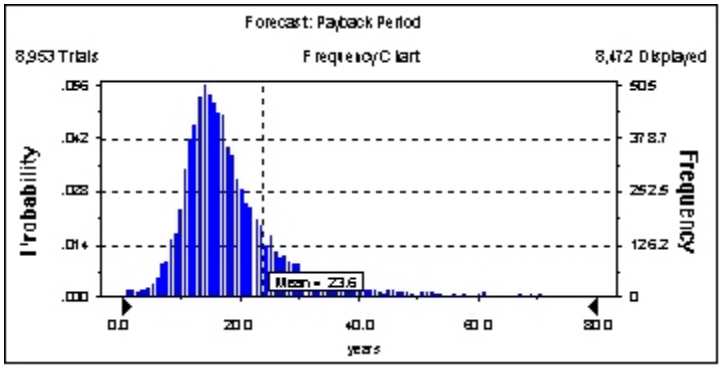

Figure 8D.1.168 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 5; Low Equipment Price Scenario

8D.1.5.11 High Equipment Price

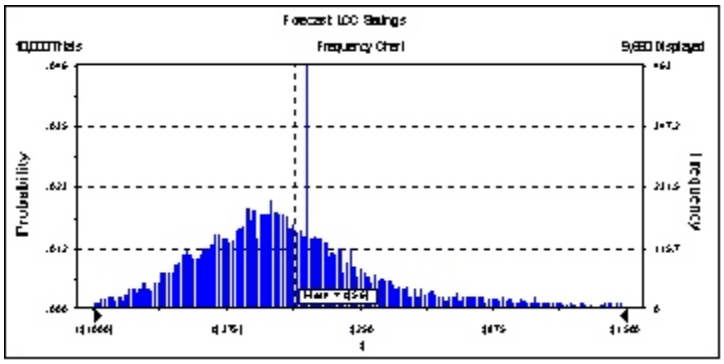

Figure 8D.1.169 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 5; High Equipment Price Scenario

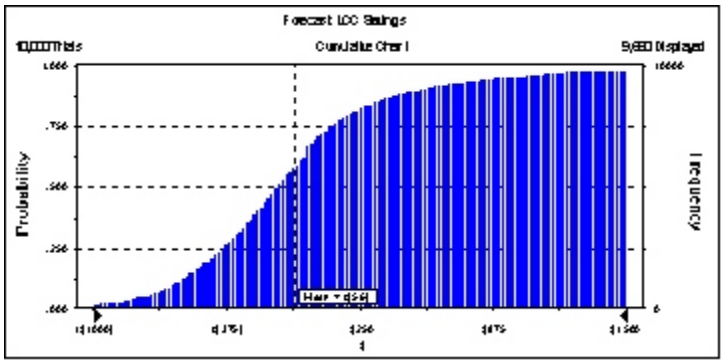

Figure 8D.1.170 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 5; High Equipment Price Scenario

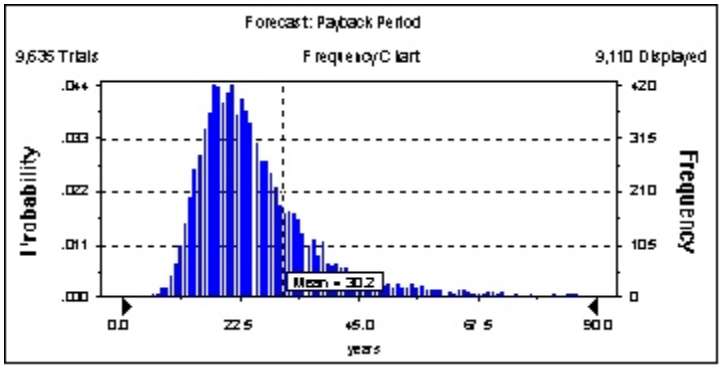

Figure 8D.1.171 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 5; High Equipment Price Scenario

8D.1.6 Design Line 1; Candidate Standard Level 6

Table 8D.1.7 Candidate Standard Level: 6; Summary Table

	Transformers having LCC Savings > $0 (%)	Mean LCC Savings ($)	Mean Payback (Years)
Baseline	9.5	-688	45.0
Non Evaluating A & B Distribution	22.0	-457	31.1
High Evaluating A & B Distribution	5.6	-754	49.2
Low Loading	6.2	-790	47.8
High Loading	14.0	-560	41.6
Low Electricity Price	6.4	-798	49.4
High Electricity Price	12.9	-575	41.3
Low Load Growth	5.4	-809	44.7
High Load Growth	11.1	-633	44.7
Low Equipment Price Scenario	15.2	-399	43.7
High Equipment Price Scenario	7.3	-924	51.6

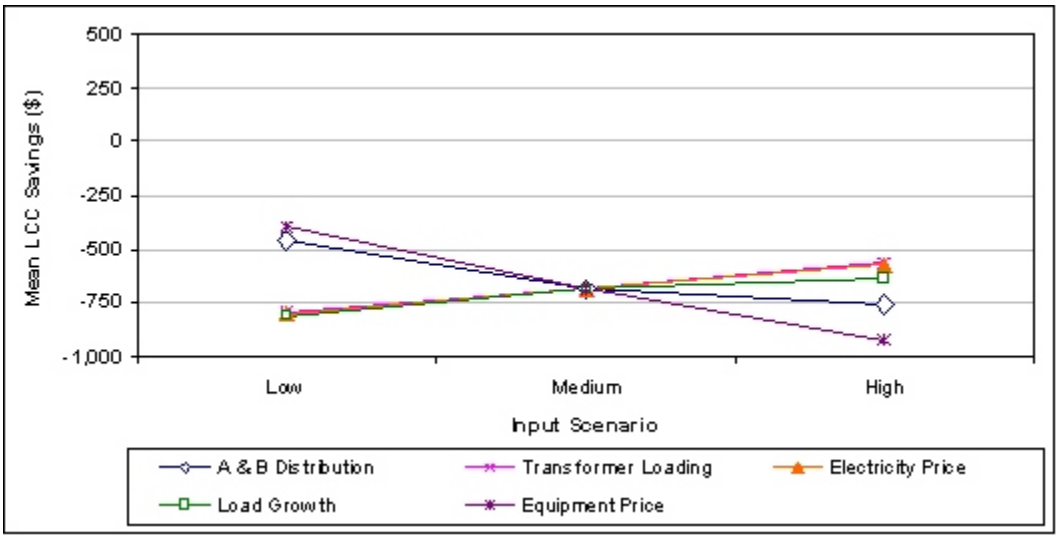

Figure 8D.1.172 Sensitivity of LCC to Input Changes for Design Line 1, Candidate Standard Level 6

8D.1.6.1 Baseline

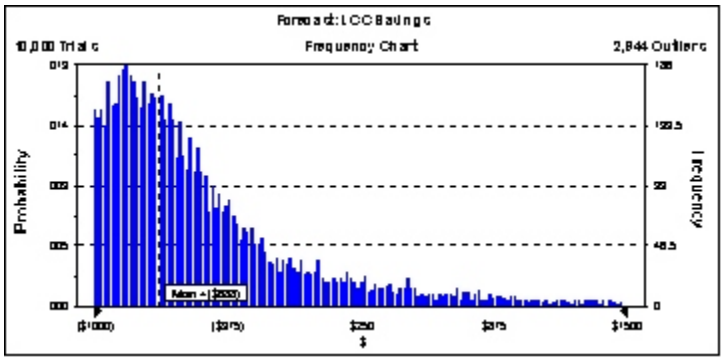

Figure 8D.1.173 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 6; Baseline Scenario

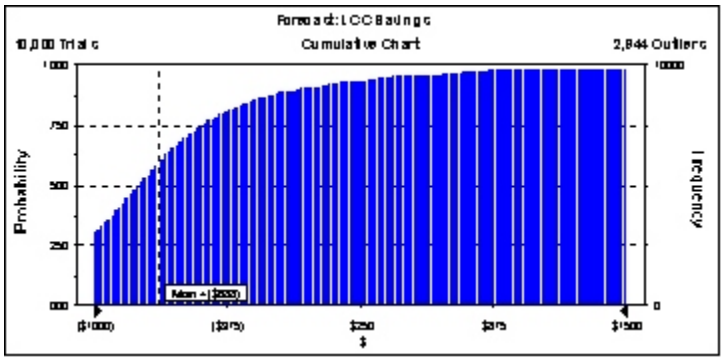

Figure 8D.1.174 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 6; Baseline Scenario

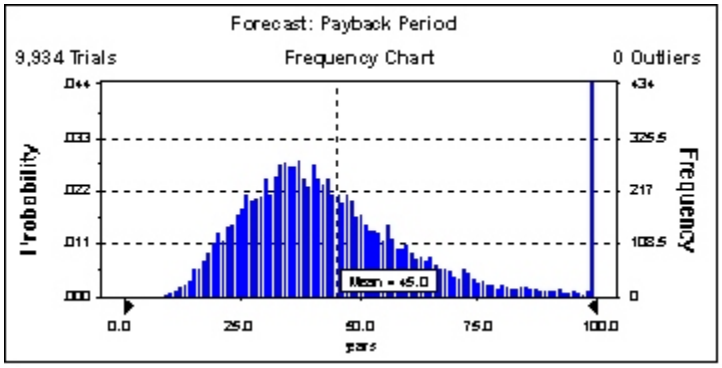

Figure 8D.1.175 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 6; Baseline Scenario

8D.1.6.2 Low A & B Distribution

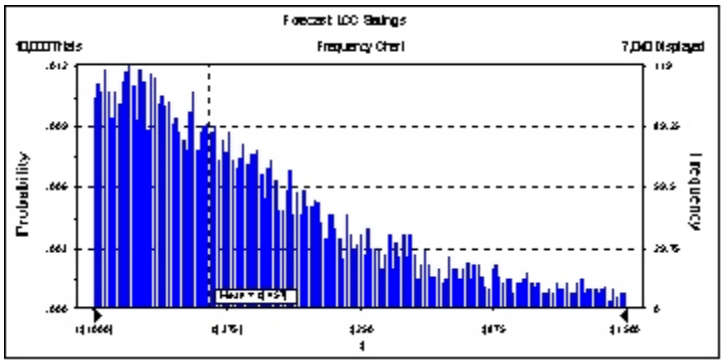

Figure 8D.1.176 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 6; Low A & B Distribution Scenario

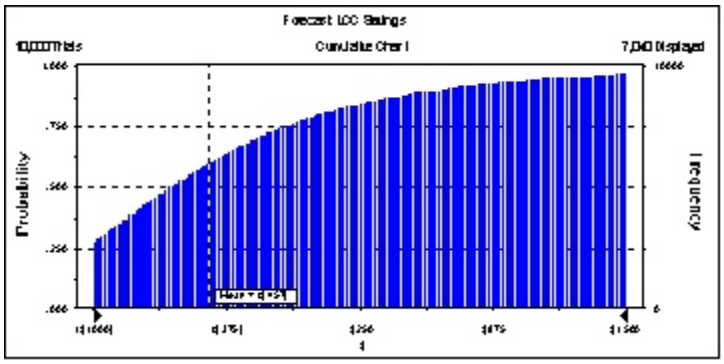

Figure 8D.1.177 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 6; Low A & B Distribution Scenario

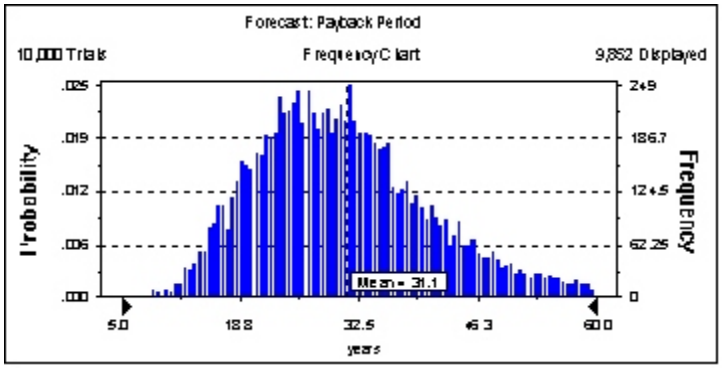

Figure 8D.1.178 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 6; Low A & B Distribution Scenario

8D.1.6.3 High A & B Distribution

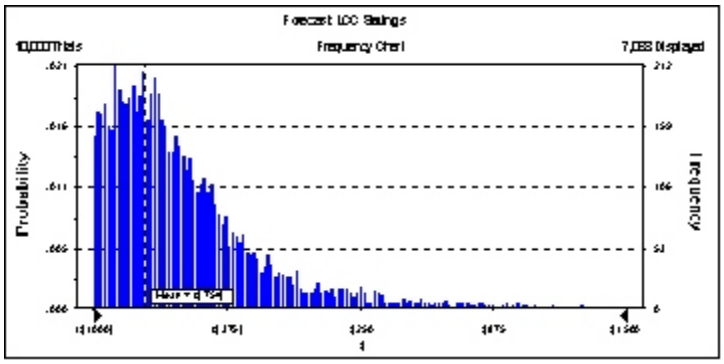

Figure 8D.1.179 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 6; High A & B Distribution Scenario

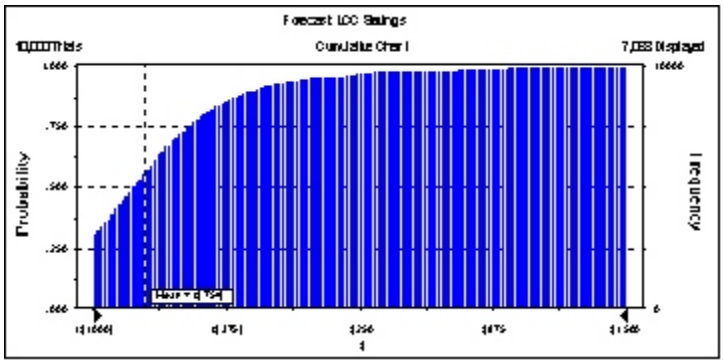

Figure 8D.1.180 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 6; High A & B Distribution Scenario

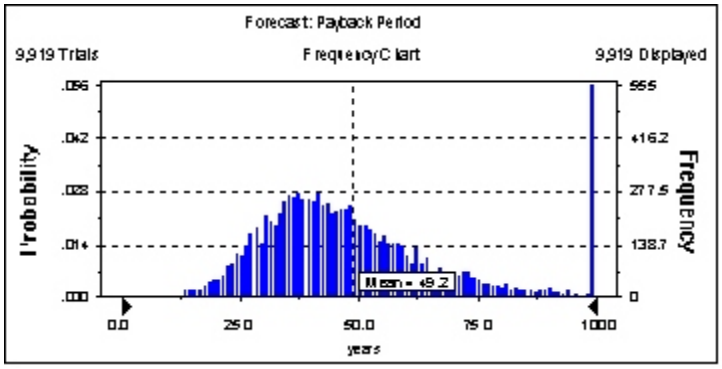

Figure 8D.1.181 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 6; High A & B Distribution Scenario

8D.1.6.4 Low Loading

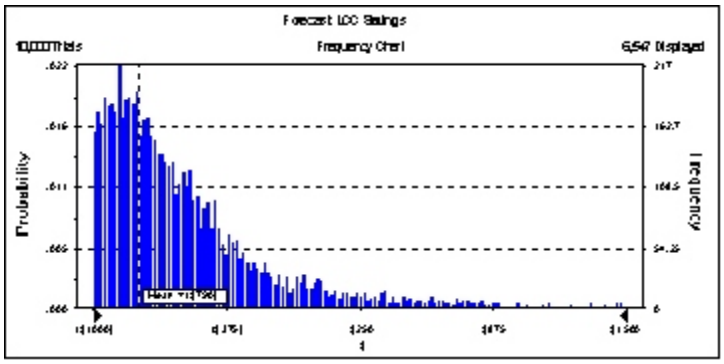

Figure 8D.1.182 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 6; Low Transformer Loading Scenario

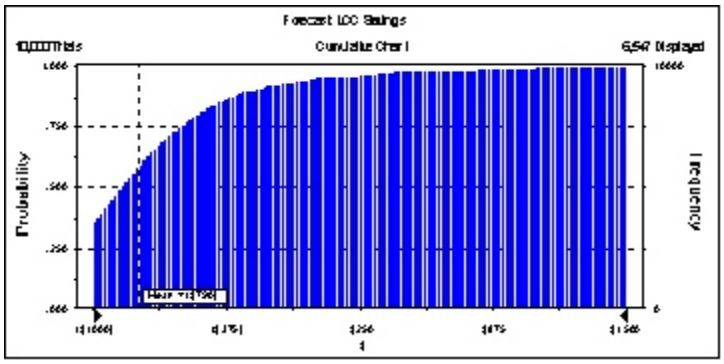

Figure 8D.1.183 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 6; Low Transformer Loading Scenario

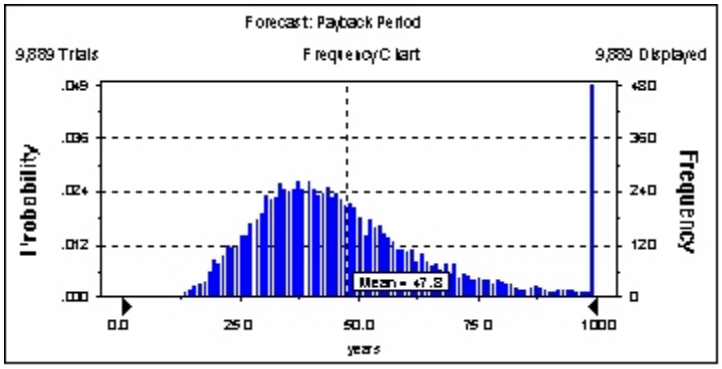

Figure 8D.1.184 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 6; Low Transformer Loading Scenario

8D.1.6.5 High Loading

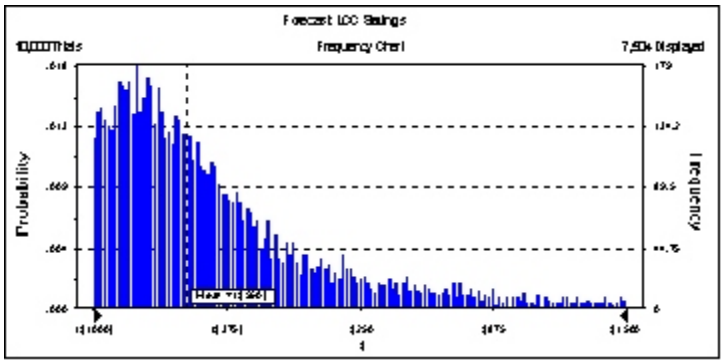

Figure 8D.1.185 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 6; High Transformer Loading Scenario

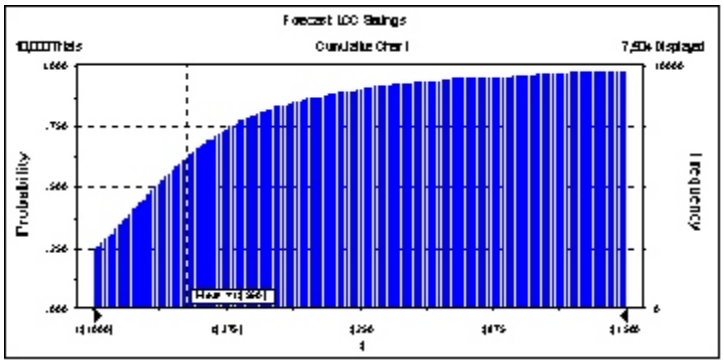

Figure 8D.1.186 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 6; High Transformer Loading Scenario

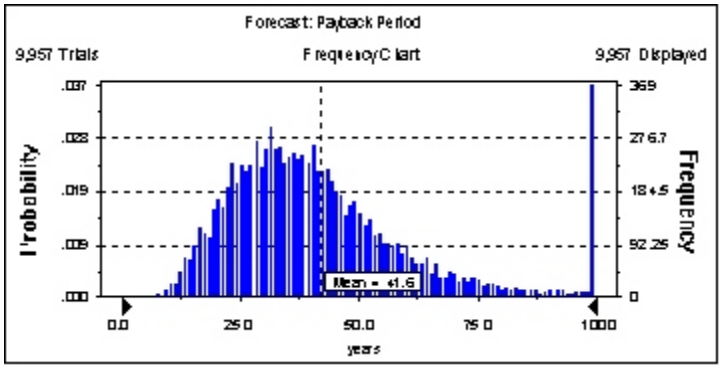

Figure 8D.1.187 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 6; High Transformer Loading Scenario

8D.1.6.6 Low Electricity Price

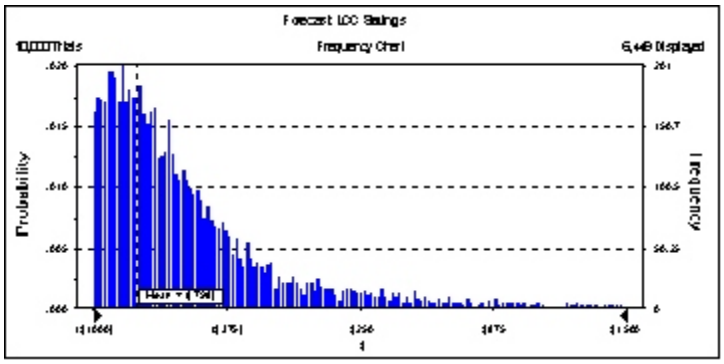

Figure 8D.1.188 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 6; Low Electricity Price Scenario

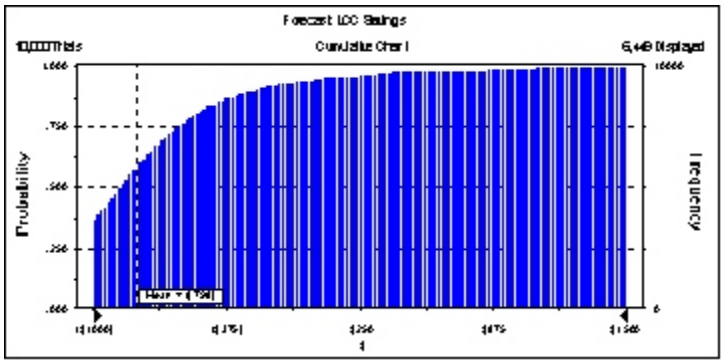

Figure 8D.1.189 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 6; Low Electricity Price Scenario

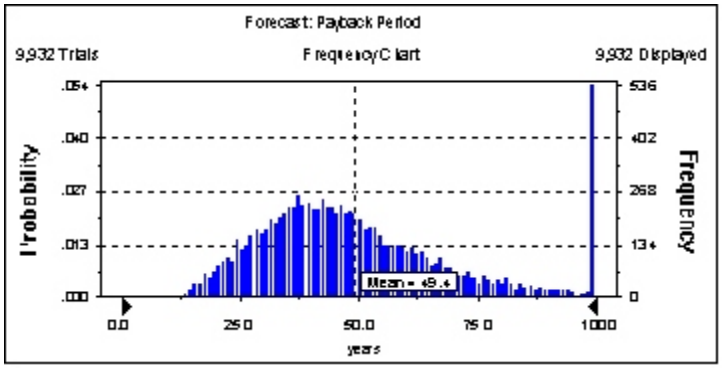

Figure 8D.1.190 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 6; Low Electricity Price Scenario

8D.1.6.7 High Electricity Price

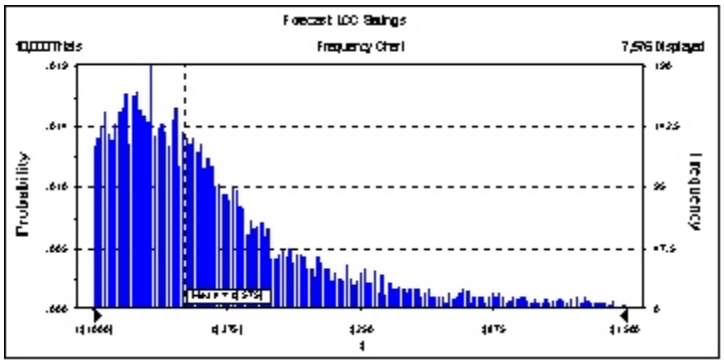

Figure 8D.1.191 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 6; High Electricity Price Scenario

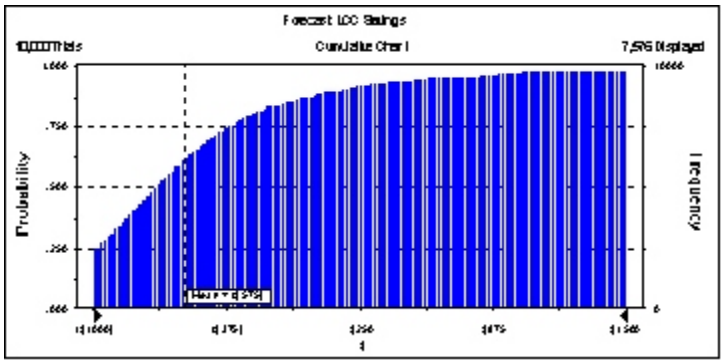

Figure 8D.1.192 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 6; High Electricity Price Scenario

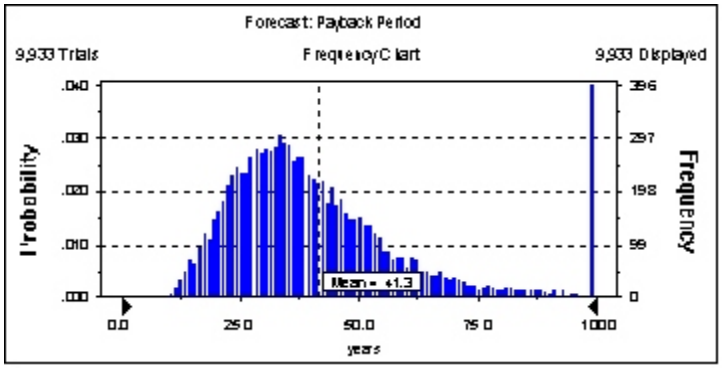

Figure 8D.1.193 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 6; High Electricity Price Scenario

8D.1.6.8 Low Load Growth

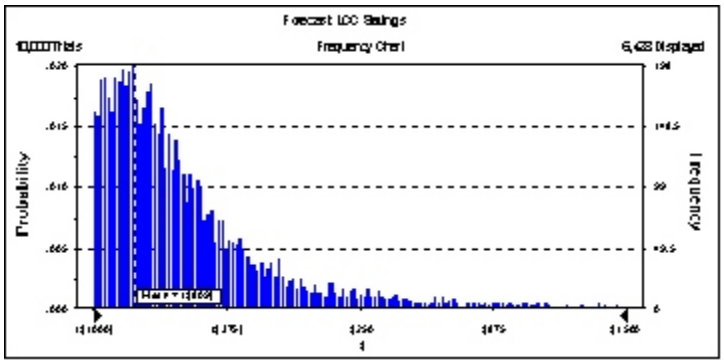

Figure 8D.1.194 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 6; Low Load Growth Scenario

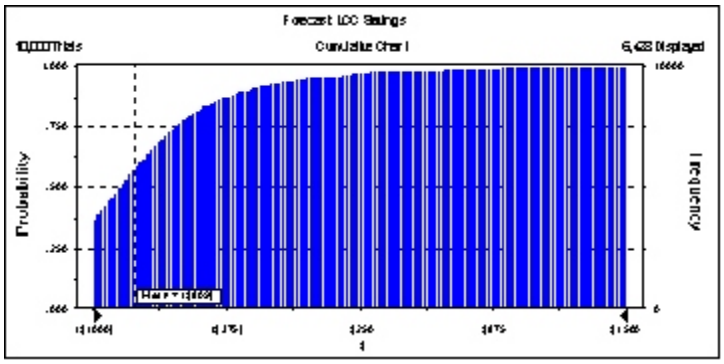

Figure 8D.1.195 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 6; Low Load Growth Scenario

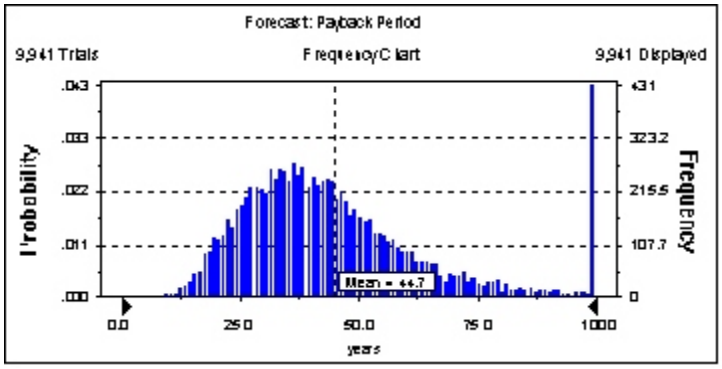

Figure 8D.1.196 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 6; Low Load Growth Scenario

8D.1.6.9 High Load Growth

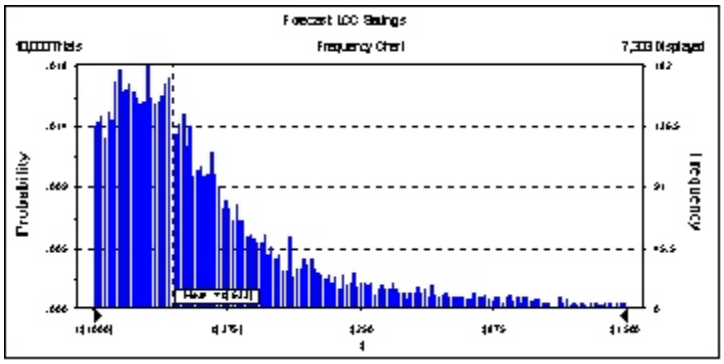

Figure 8D.1.197 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 6; High Load Growth Scenario

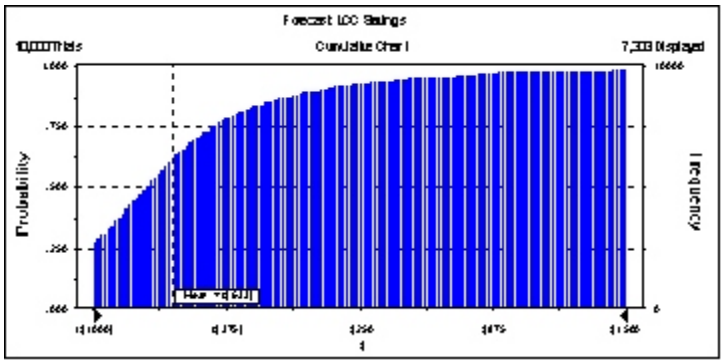

Figure 8D.1.198 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 6; High Load Growth Scenario

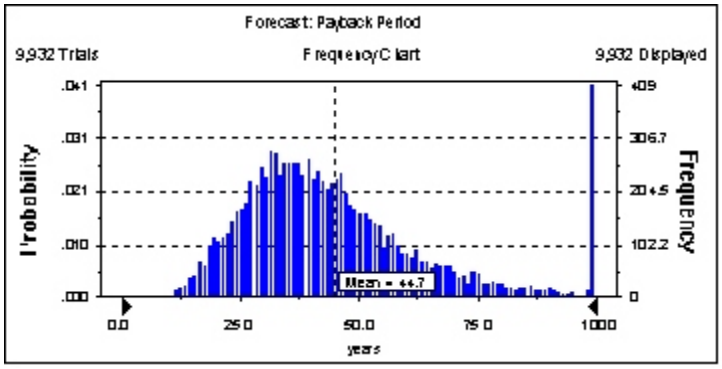

Figure 8D.1.199 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 6; High Load Growth Scenario

8D.1.6.10 Low Equipment Price

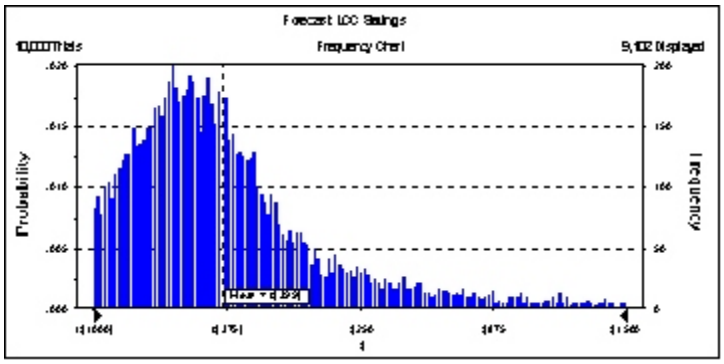

Figure 8D.1.200 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 6; Low Equipment Price Scenario

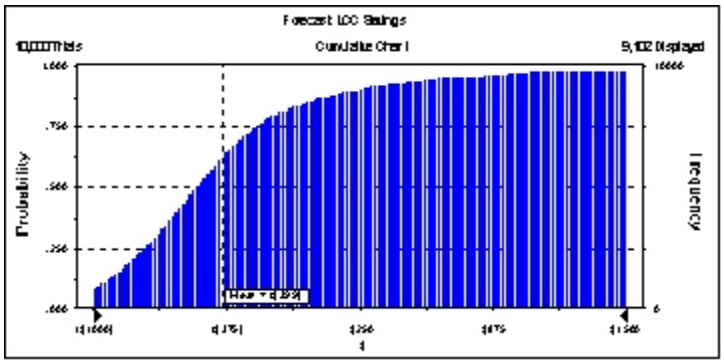

Figure 8D.1.201 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 6; Low Equipment Price Scenario

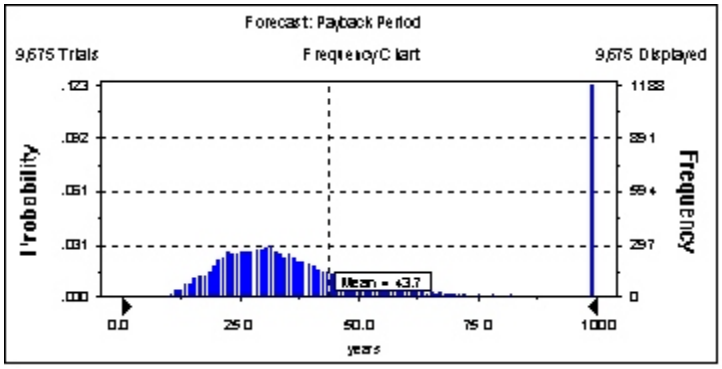

Figure 8D.1.202 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 6; Low Equipment Price Scenario

8D.1.6.11 High Equipment Price

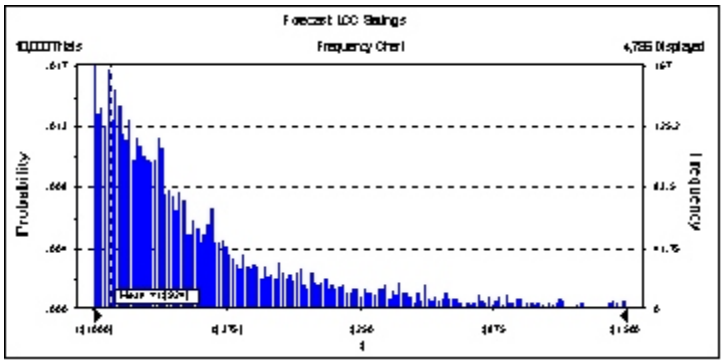

Figure 8D.1.203 LCC Savings Frequency Chart; Design Line: 1; Candidate Standard Level: 6; High Equipment Price Scenario

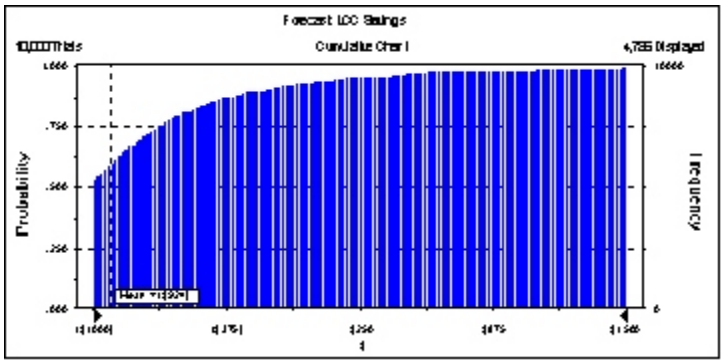

Figure 8D.1.204 LCC Savings Cumulative Chart; Design Line: 1; Candidate Standard Level: 6; High Equipment Price Scenario

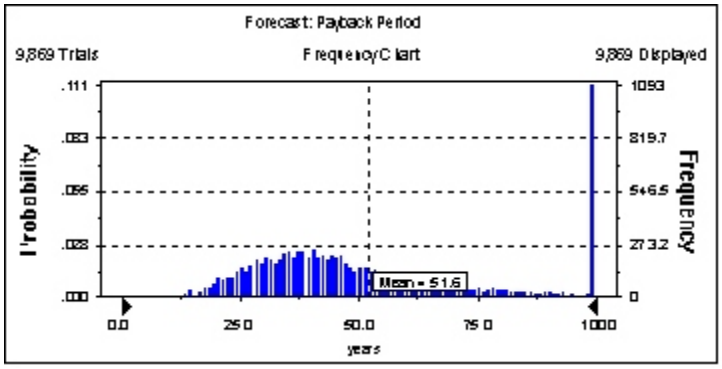

Figure 8D.1.205 Payback Period Frequency Chart; Design Line: 1; Candidate Standard Level: 6; High Equipment Price Scenario

8D.2 DESIGN LINE 7 RESULTS

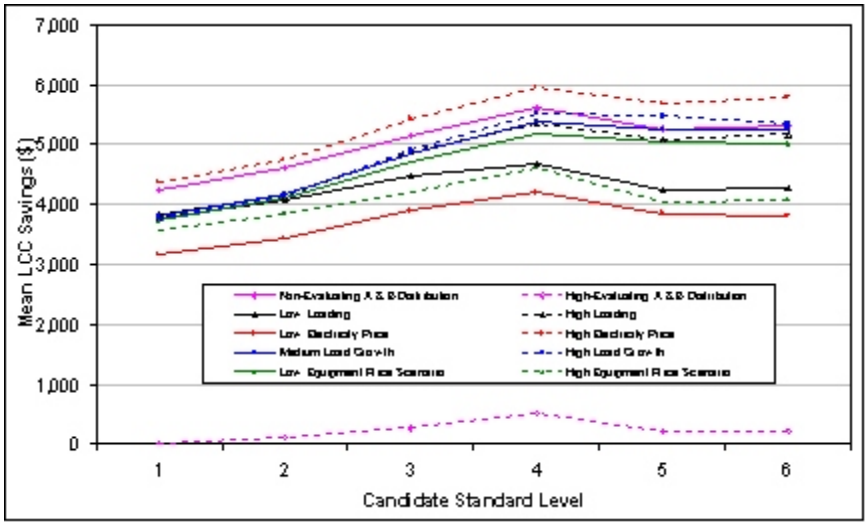

Figure 8D.2.1 Mean LCC Savings ($), by Scenario for Design Line 7

Table 8D.2.1 Mean LCC Savings ($), Summary Table for Design Line 1

	Candidate Standard Level					
	1	2	3	4	5	6
Baseline	3,799	4,080	4,714	5,039	4,802	4,862
Non-Evaluating A & B Distribution	4,226	4,602	5,156	5,609	5,278	5,302
High-Evaluating A & B Distribution	17	108	272	531	211	212
Low Loading	3,768	4,078	4,470	4,681	4,250	4,279
High Loading	3,831	4,141	4,886	5,336	5,097	5,170
Low Electricity Price	3,167	3,449	3,887	4,191	3,854	3,808
High Electricity Price	4,386	4,754	5,442	5,969	5,687	5,789
Medium Load Growth	3,811	4,173	4,847	5,403	5,251	5,262
High Load Growth	3,772	4,161	4,925	5,528	5,467	5,354
Low Equipment Price Scenario	3,735	4,124	4,712	5,171	5,062	5,013
High Equipment Price Scenario	3,571	3,854	4,224	4,607	4,038	4,061

8D.2.1 Design Line 7; Candidate Standard Level 1

Table 8D.2.2 Candidate Standard Level: 1; Summary Table

	Transformers having LCC Savings > $0 (%)	Mean LCC Savings ($)	Mean Payback (Years)
Baseline	99.6	3,811	0.8
Non Evaluating A & B Distribution	99.8	4,226	0.7
High Evaluating A & B Distribution	100.0	17	1.0
Low Loading	99.7	3,768	0.8
High Loading	99.7	3,831	0.8
Low Electricity Price	99.6	3,167	0.9
High Electricity Price	99.8	4,386	0.7
Medium Load Growth	99.6	3,811	0.8
High Load Growth	99.6	3,772	0.8
Low Equipment Price Scenario	99.7	3,735	0.7
High Equipment Price Scenario	99.0	3,571	1.9

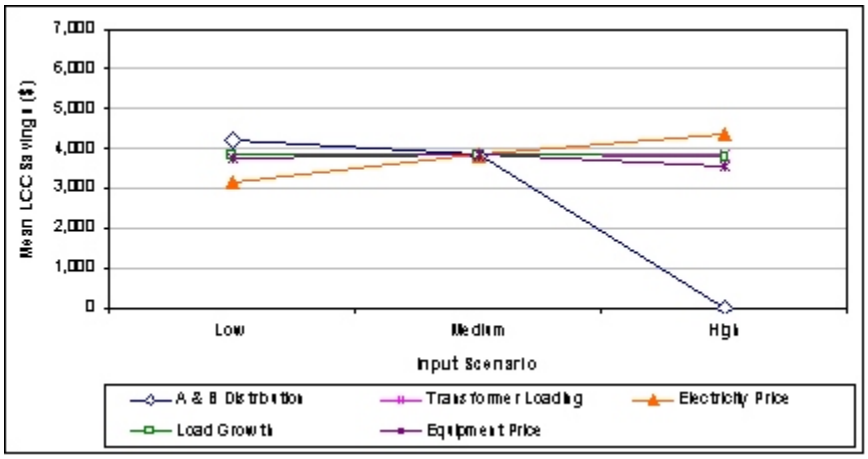

Figure 8D.2.2 Sensitivity of LCC to Input Changes for Design Line 7, Candidate Standard Level 1

8D.2.1.1 Baseline

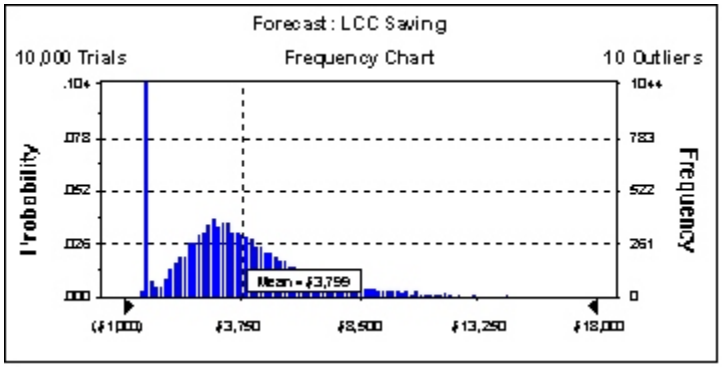

Figure 8D.2.3 **LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 1; Baseline Scenario**

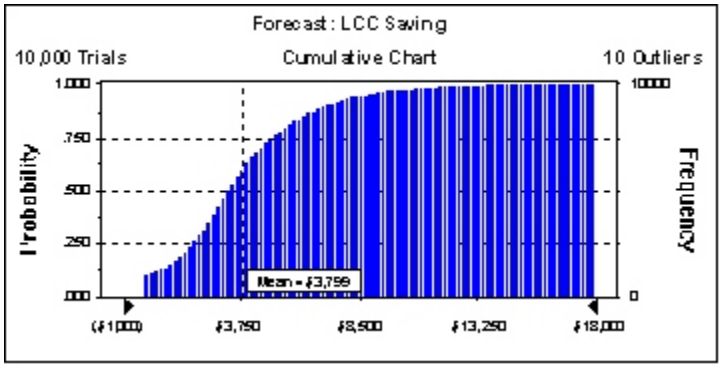

Figure 8D.2.4 **LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 1; Baseline Scenario**

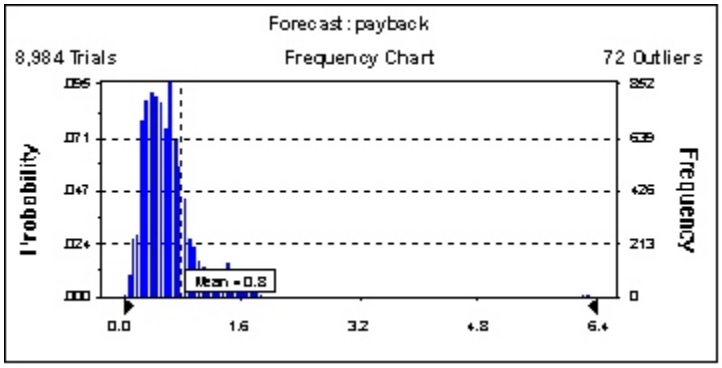

Figure 8D.2.5 **Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 1; Baseline Scenario**

8D.2.1.2 Low A & B Distribution

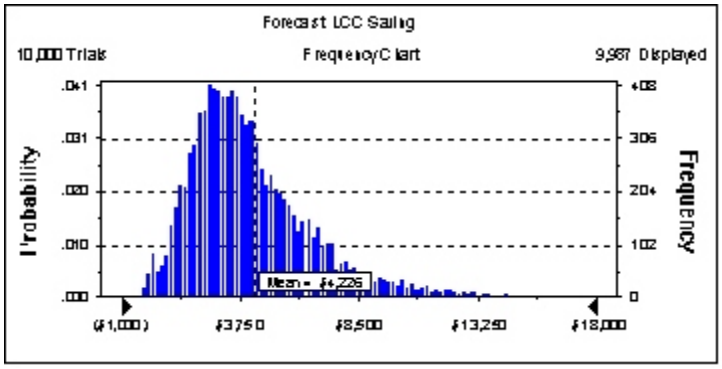

Figure 8D.2.6 **LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 1; Low A & B Distribution Scenario**

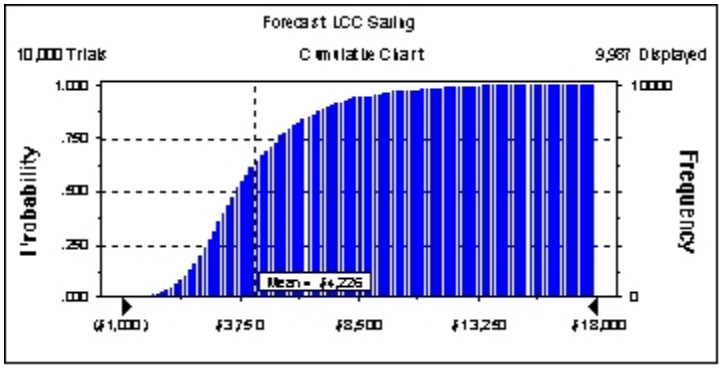

Figure 8D.2.7 **LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 1; Low A & B Distribution Scenario**

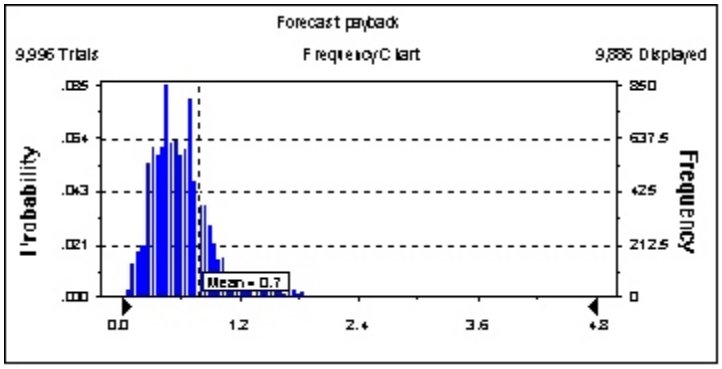

Figure 8D.2.8 **Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 1; Low A & B Distribution Scenario**

8D.2.1.3 High A & B Distribution

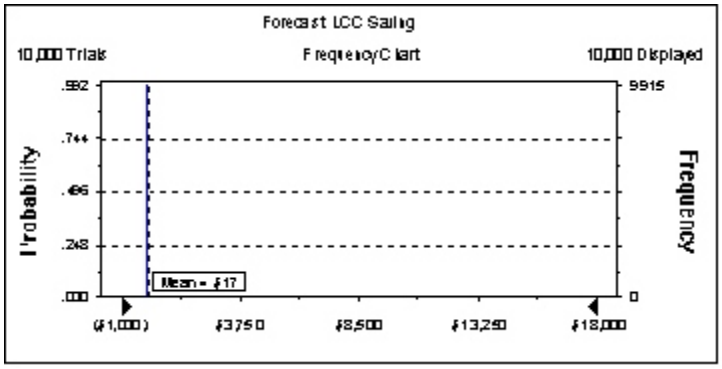

Figure 8D.2.9 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 1; High A & B Distribution Scenario

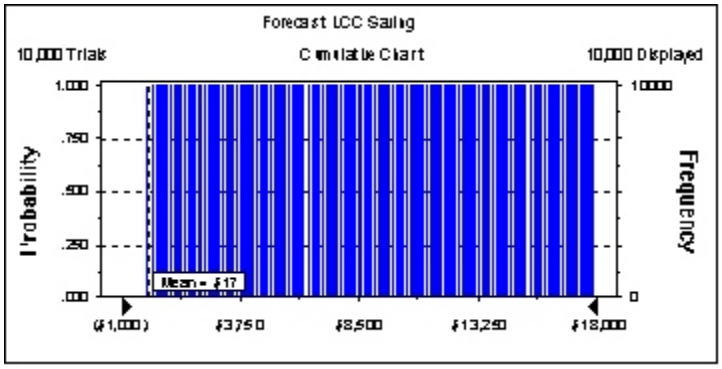

Figure 8D.2.10 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 1; High A & B Distribution Scenario

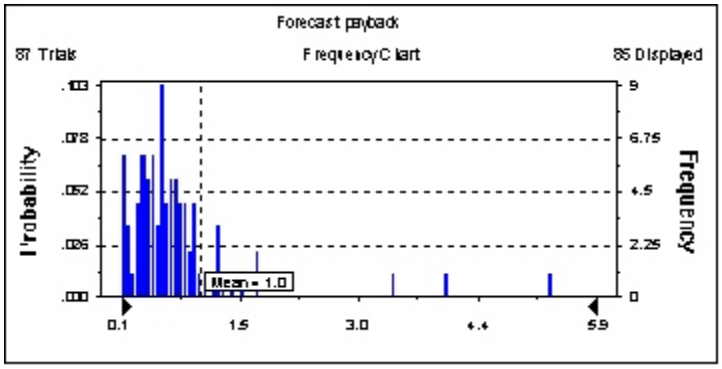

Figure 8D.2.11 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 1; High A & B Distribution Scenario

8D.2.1.4 Low Loading

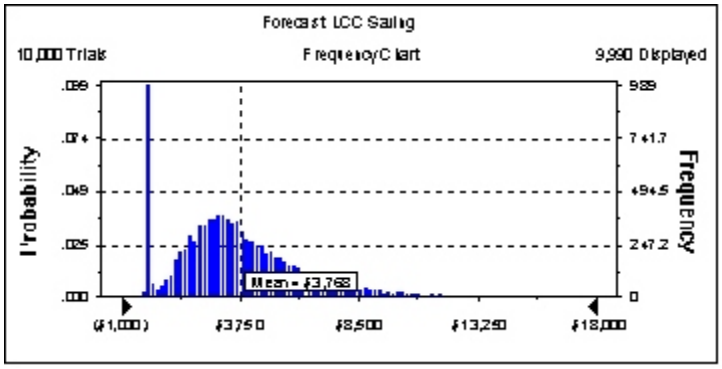

Figure 8D.2.12 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 1; Low Transformer Loading Scenario

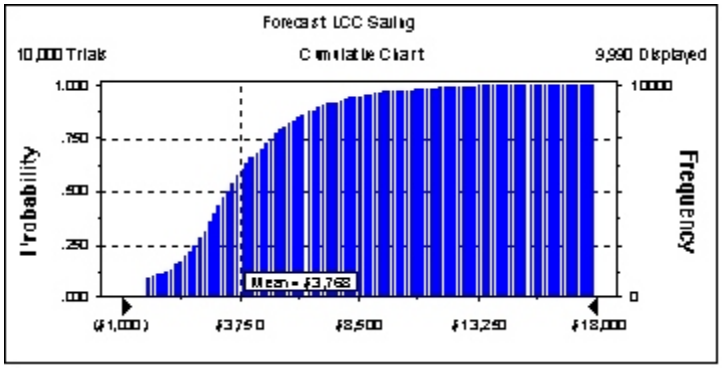

Figure 8D.2.13 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 1; Low Transformer Loading Scenario

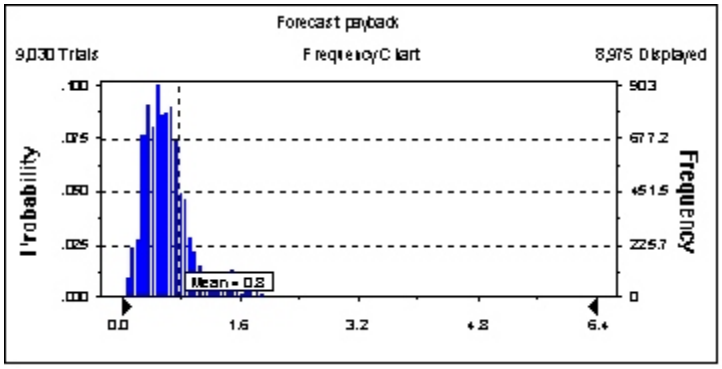

Figure 8D.2.14 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 1; Low Transformer Loading Scenario

8D.2.1.5 High Loading

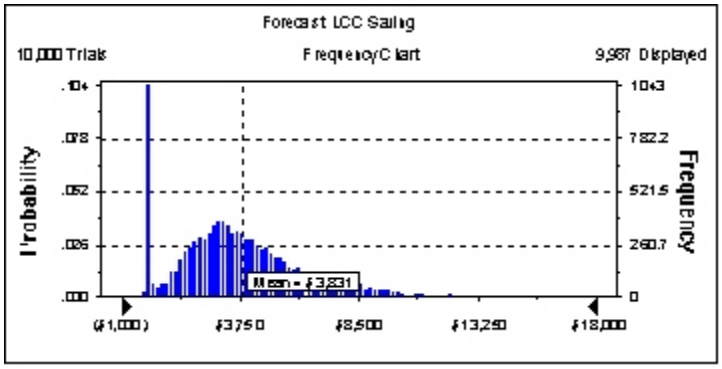

Figure 8D.2.15 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 1; High Transformer Loading Scenario

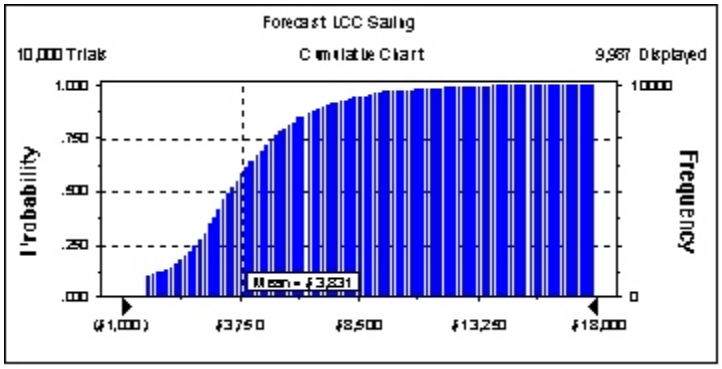

Figure 8D.2.16 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 1; High Transformer Loading Scenario

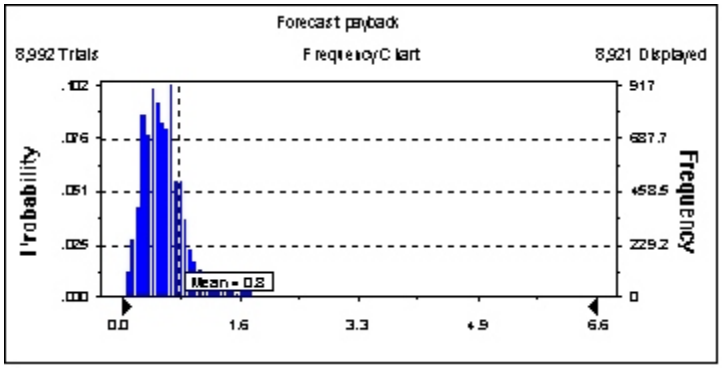

Figure 8D.2.17 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 1; High Transformer Loading Scenario

8D.2.1.6 Low Electricity Price

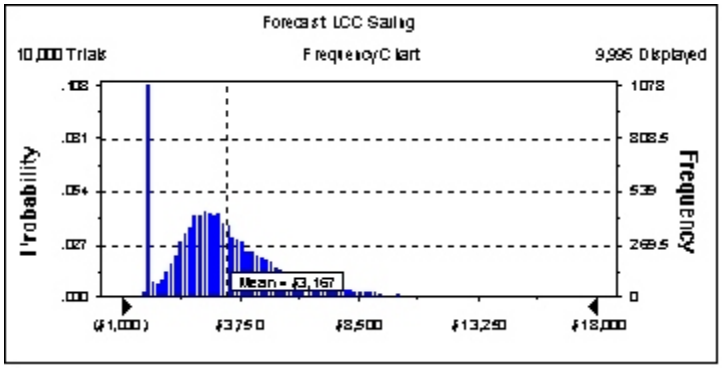

Figure 8D.2.18 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 1; Low Electricity Price Scenario

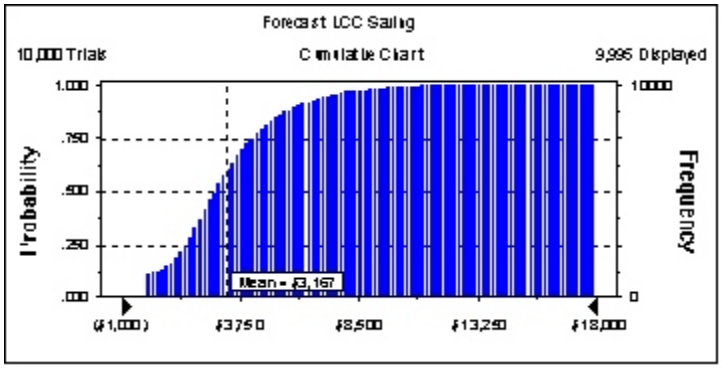

Figure 8D.2.19 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 1; Low Electricity Price Scenario

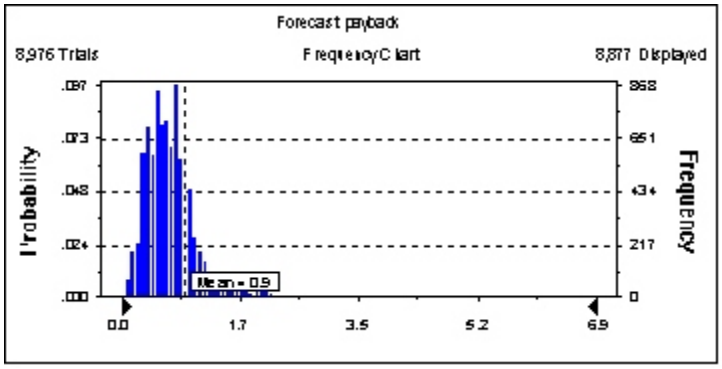

Figure 8D.2.20 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 1; Low Electricity Price Scenario

8D.2.1.7 High Electricity Price

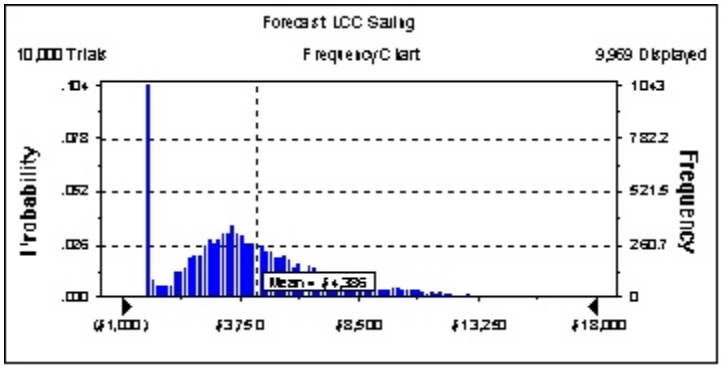

Figure 8D.2.21 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 1; High Electricity Price Scenario

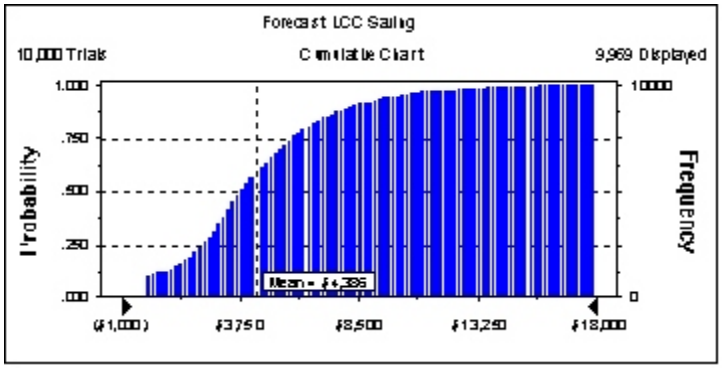

Figure 8D.2.22 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 1; High Electricity Price Scenario

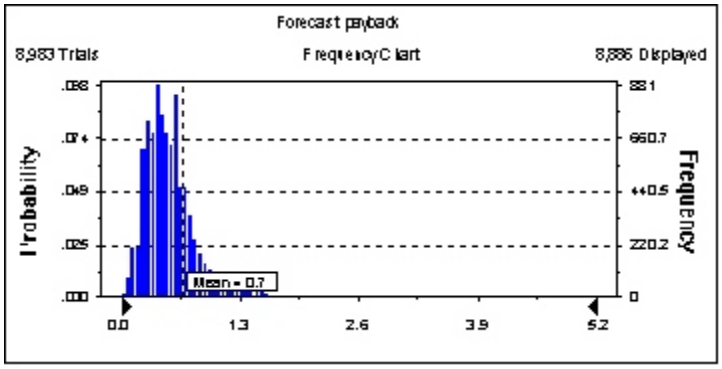

Figure 8D.2.23 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 1; High Electricity Price Scenario

8D.2.1.8 Medium Load Growth

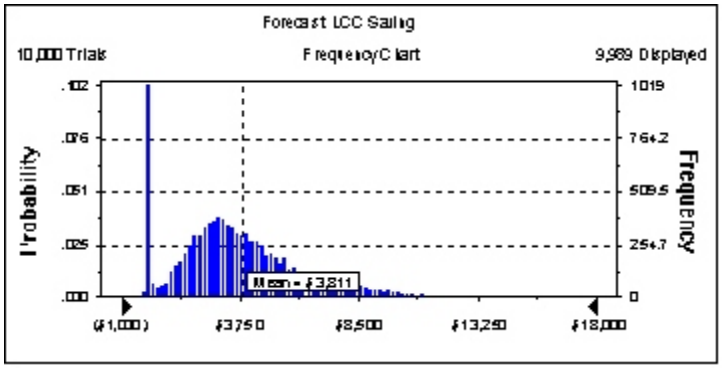

Figure 8D.2.24 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 1; Medium Load Growth Scenario

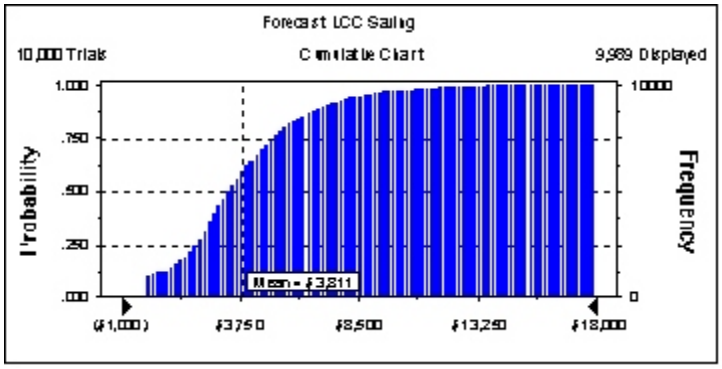

Figure 8D.2.25 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 1; Medium Load Growth Scenario

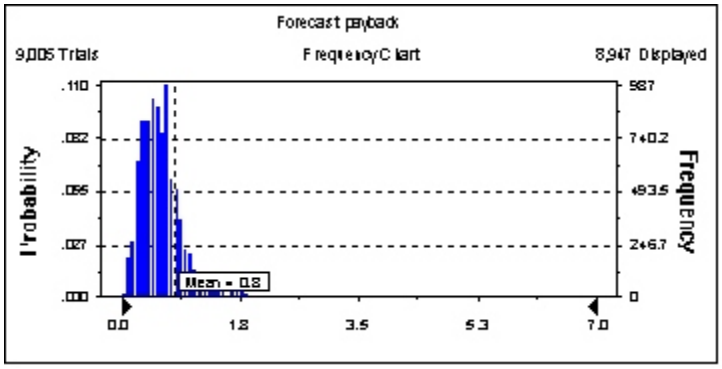

Figure 8D.2.26 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 1; Medium Load Growth Scenario

8D.2.1.9 High Load Growth

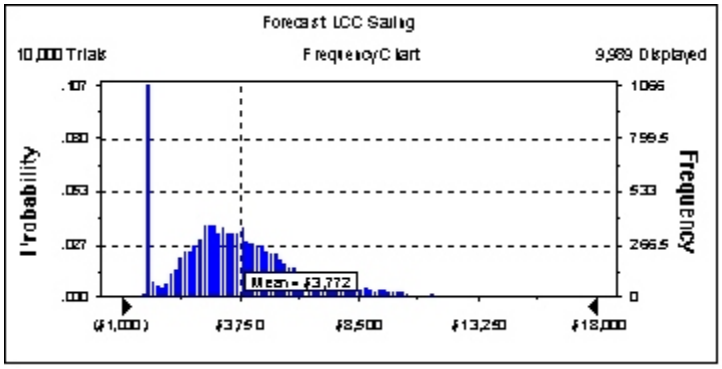

Figure 8D.2.27 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 1; High Load Growth Scenario

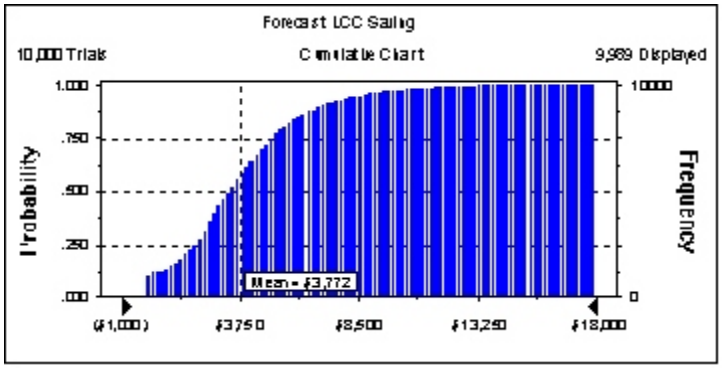

Figure 8D.2.28 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 1; High Load Growth Scenario

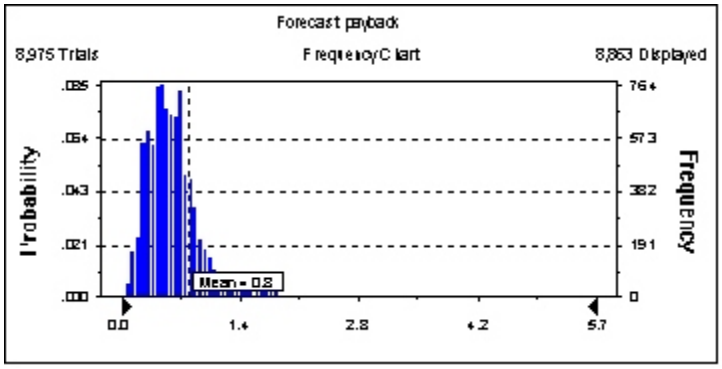

Figure 8D.2.29 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 1; High Load Growth Scenario

8D.2.1.10 Low Equipment Price

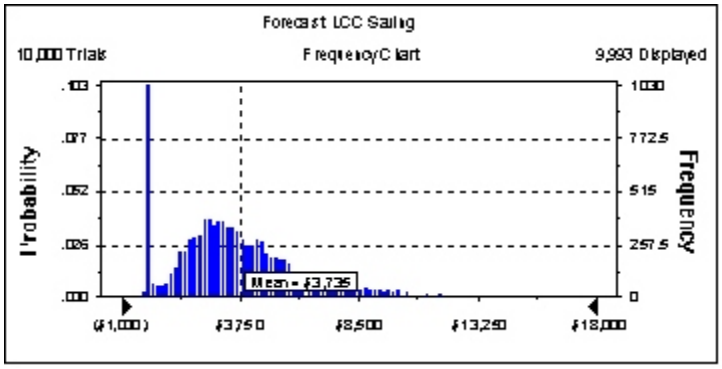

Figure 8D.2.30 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 1; Low Equipment Price Scenario

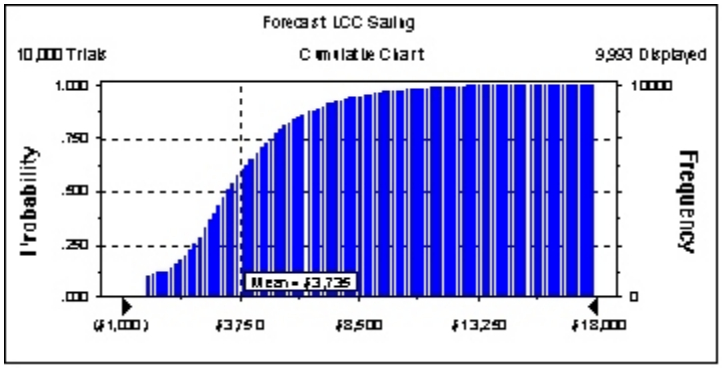

Figure 8D.2.31 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 1; Low Equipment Price Scenario

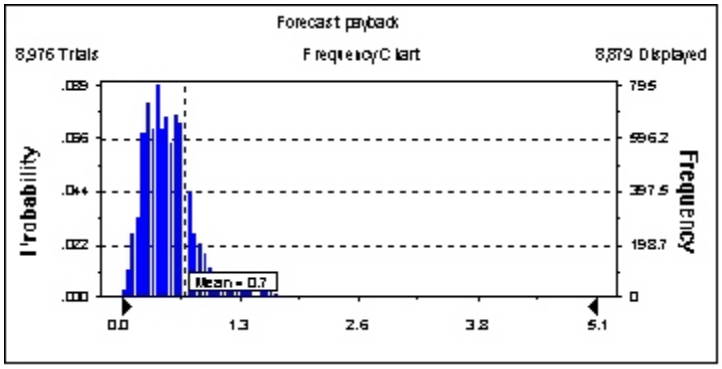

Figure 8D.2.32 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 1; Low Equipment Price Scenario

8D.2.1.11 High Equipment Price

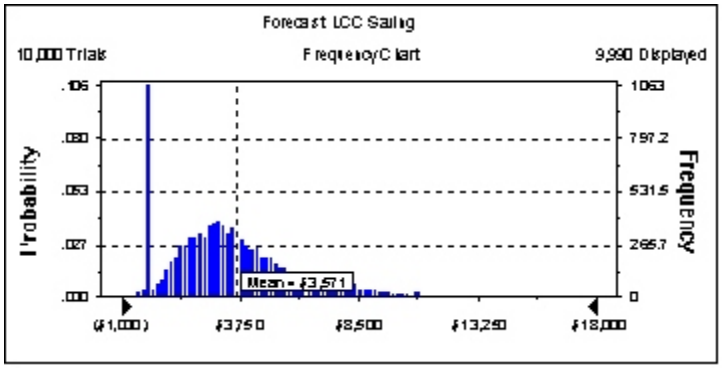

Figure 8D.2.33 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 1; High Equipment Price Scenario

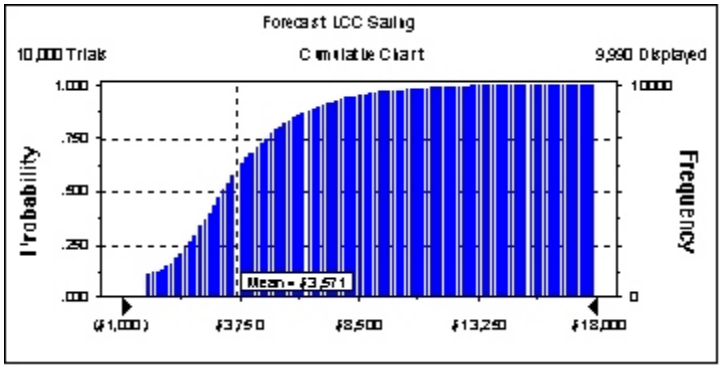

Figure 8D.2.34 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 1; High Equipment Price Scenario

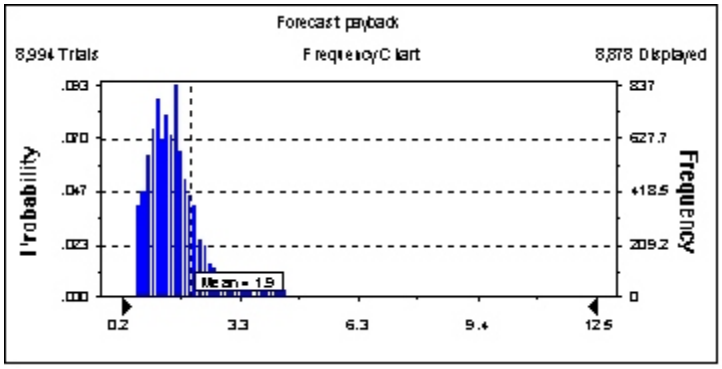

Figure 8D.2.35 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 1; High Equipment Price Scenario

8D.2.2 Design Line 7; Candidate Standard Level 2

Table 8D.2.3 Candidate Standard Level: 2; Summary Table

	Transformers having LCC Savings > $0 (%)	Mean LCC Savings ($)	Mean Payback (Years)
Baseline	99.2	4,173	1.5
Non Evaluating A & B Distribution	99.3	4,602	1.4
High Evaluating A & B Distribution	98.0	108	6.5
Low Loading	99.3	4,078	1.5
High Loading	99.1	4,141	1.5
Low Electricity Price	99.0	3,449	1.8
High Electricity Price	99.4	4,754	1.3
Medium Load Growth	99.2	4,173	1.5
High Load Growth	99.3	4,161	1.6
Low Equipment Price Scenario	99.4	4,124	1.3
High Equipment Price Scenario	98.1	3,854	2.8

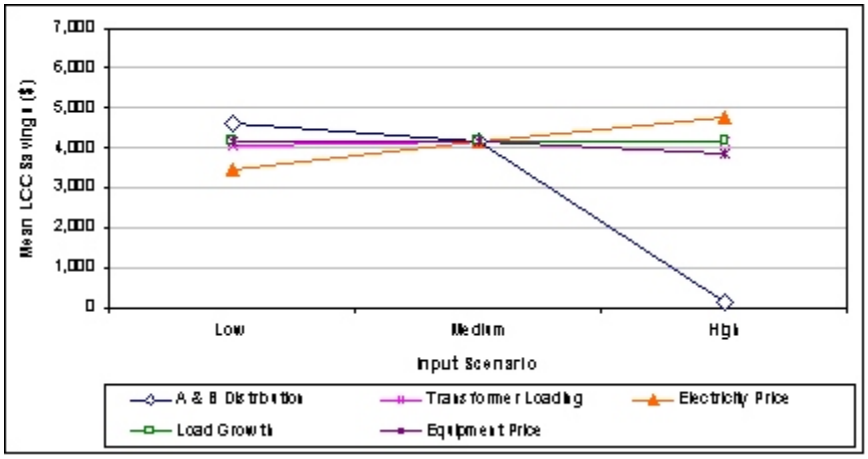

Figure 8D.2.36 Sensitivity of LCC to Input Changes for Design Line 7, Candidate Standard Level 2

8D.2.2.1 Baseline

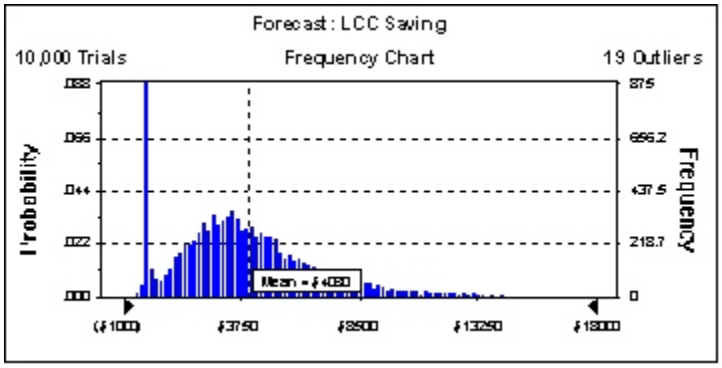

Figure 8D.2.37 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 2; Baseline Scenario

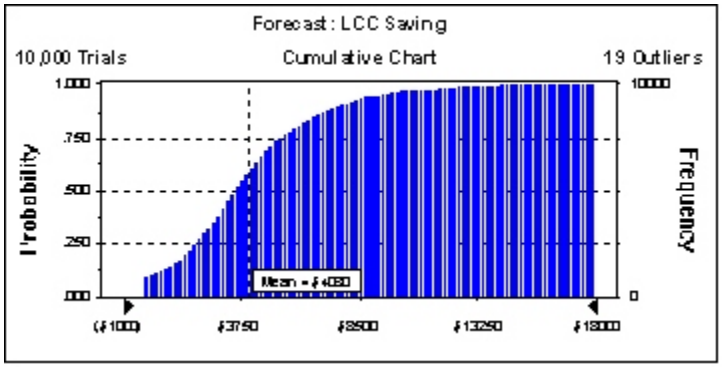

Figure 8D.2.38 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 2; Baseline Scenario

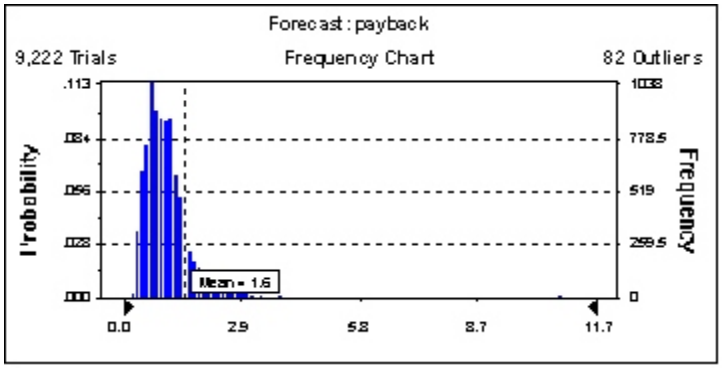

Figure 8D.2.39 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 2; Baseline Scenario

8D.2.2.2 Low A & B Distribution

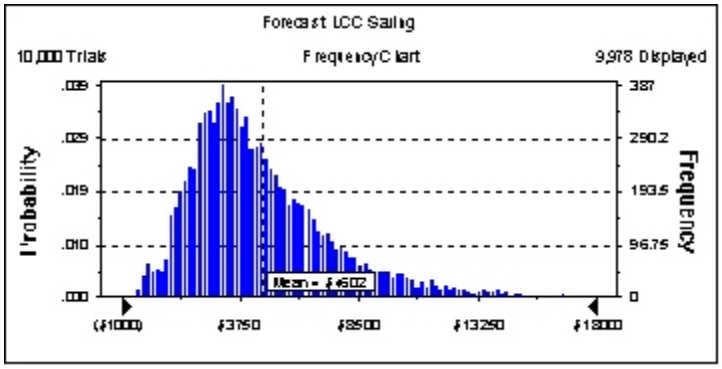

Figure 8D.2.40 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 2; Low A & B Distribution Scenario

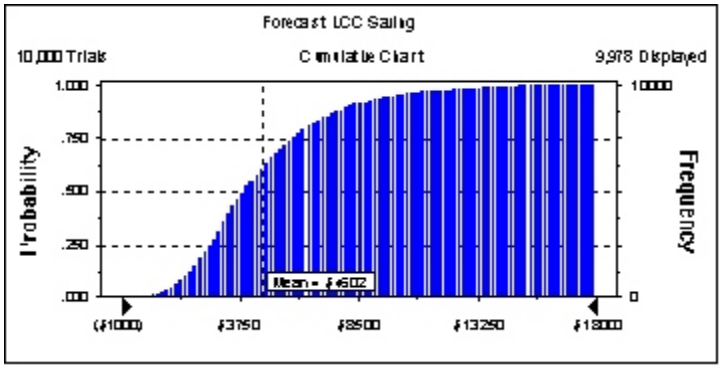

Figure 8D.2.41 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 2; Low A & B Distribution Scenario

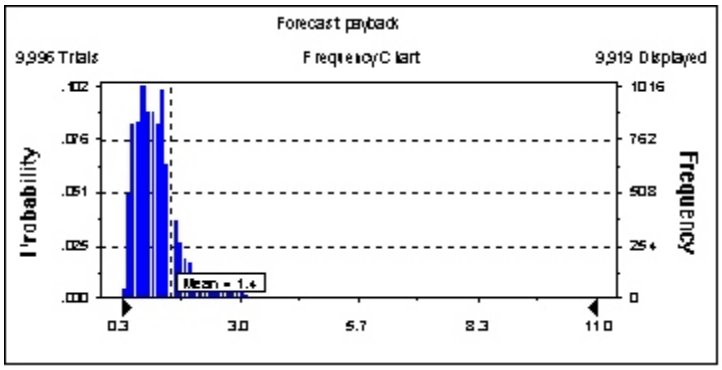

Figure 8D.2.42 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 2; Low A & B Distribution Scenario

8D.2.2.3 High A & B Distribution

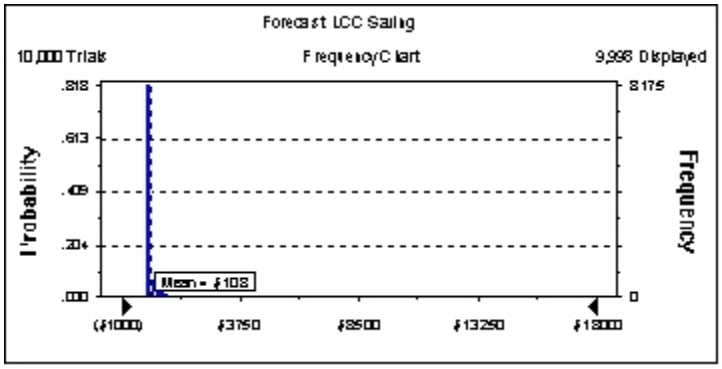

Figure 8D.2.43 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 2; High A & B Distribution Scenario

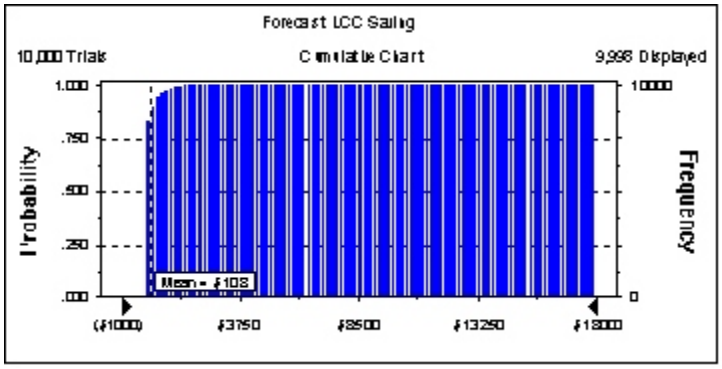

Figure 8D.2.44 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 2; High A & B Distribution Scenario

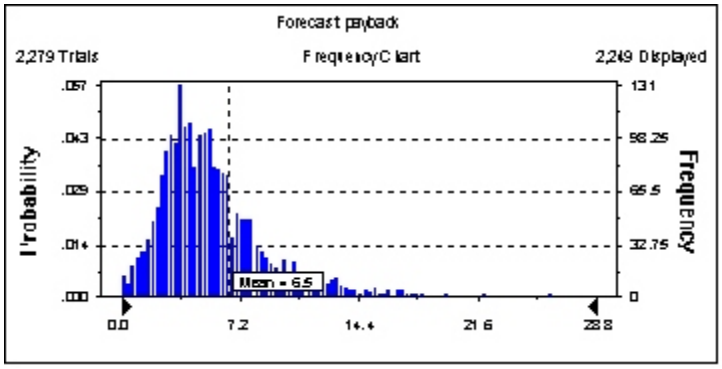

Figure 8D.2.45 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 2; High A & B Distribution Scenario

8D.2.2.4 Low Loading

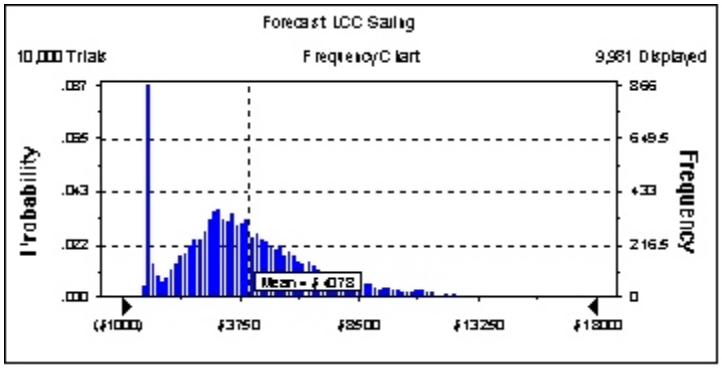

Figure 8D.2.46 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 2; Low Transformer Loading Scenario

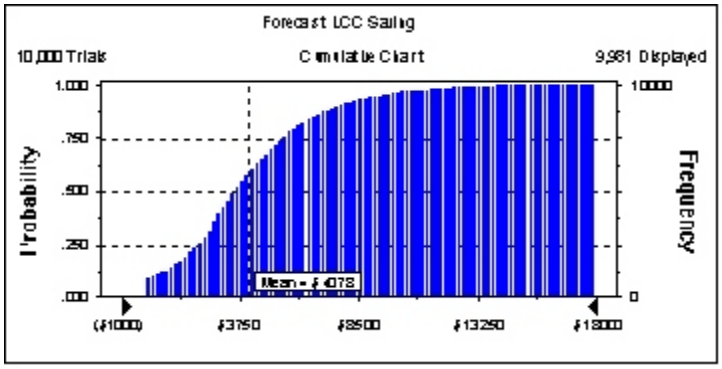

Figure 8D.2.47 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 2; Low Transformer Loading Scenario

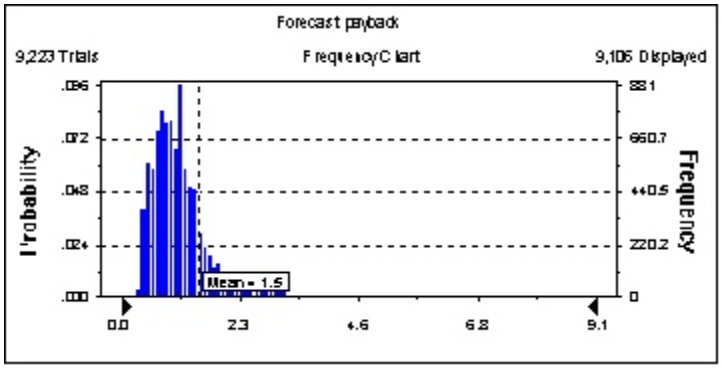

Figure 8D.2.48 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 2; Low Transformer Loading Scenario

8D.2.2.5 High Loading

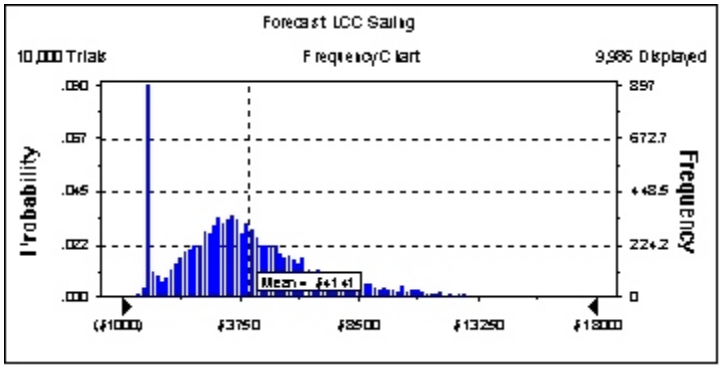

Figure 8D.2.49 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 2; High Transformer Loading Scenario

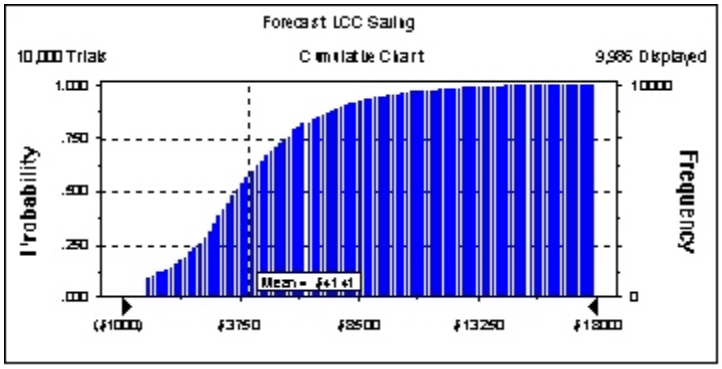

Figure 8D.2.50 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 2; High Transformer Loading Scenario

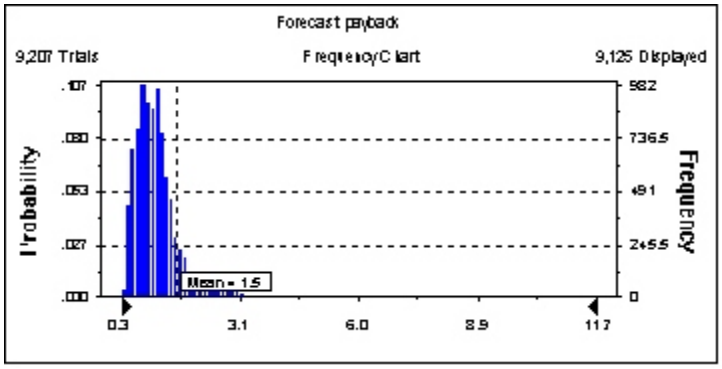

Figure 8D.2.51 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 2; High Transformer Loading Scenario

8D.2.2.6 Low Electricity Price

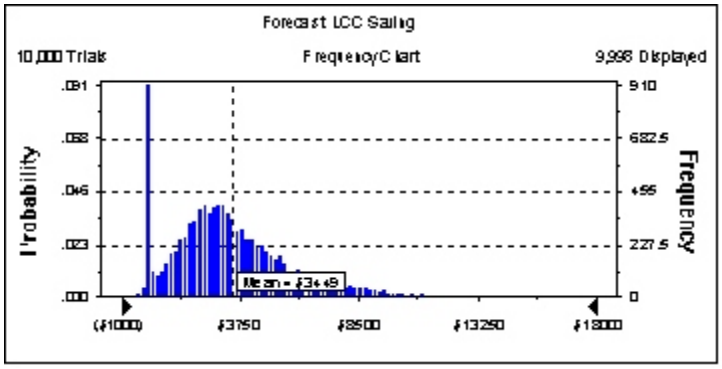

Figure 8D.2.52 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 2; Low Electricity Price Scenario

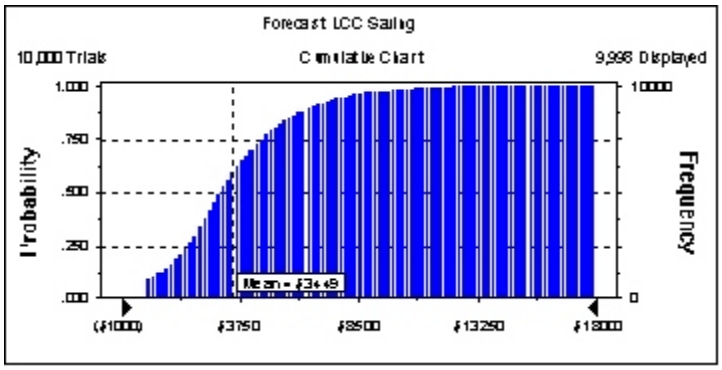

Figure 8D.2.53 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 2; Low Electricity Price Scenario

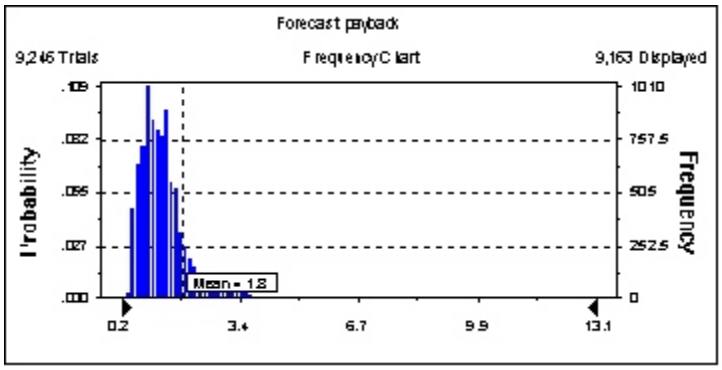

Figure 8D.2.54 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 2; Low Electricity Price Scenario

8D.2.2.7 High Electricity Price

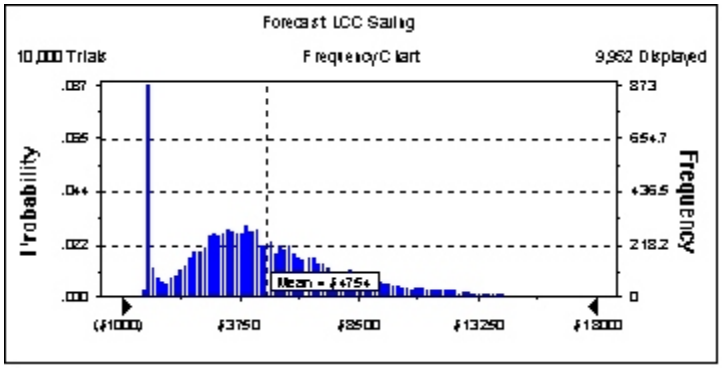

Figure 8D.2.55 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 2; High Electricity Price Scenario

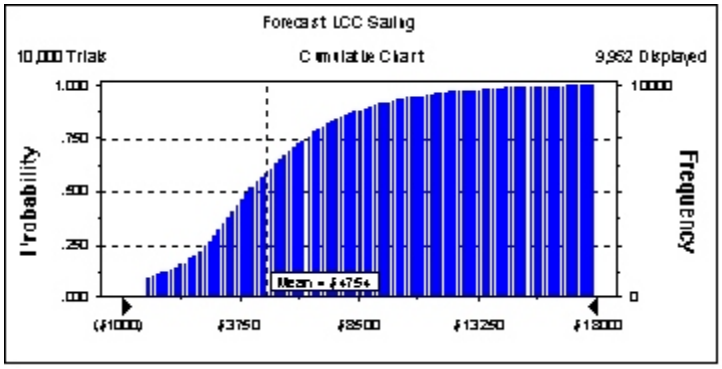

Figure 8D.2.56 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 2; High Electricity Price Scenario

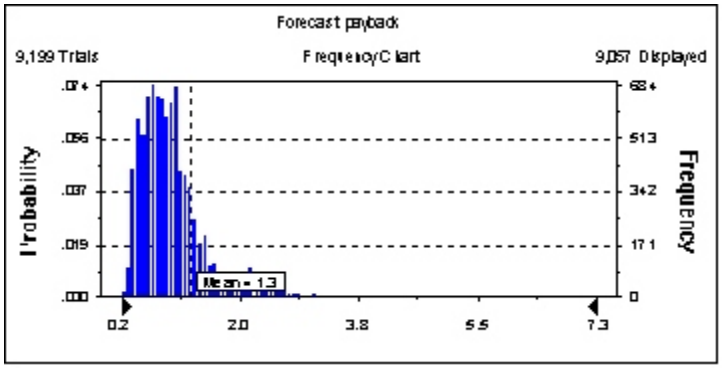

Figure 8D.2.57 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 2; High Electricity Price Scenario

8D.2.2.8 Medium Load Growth

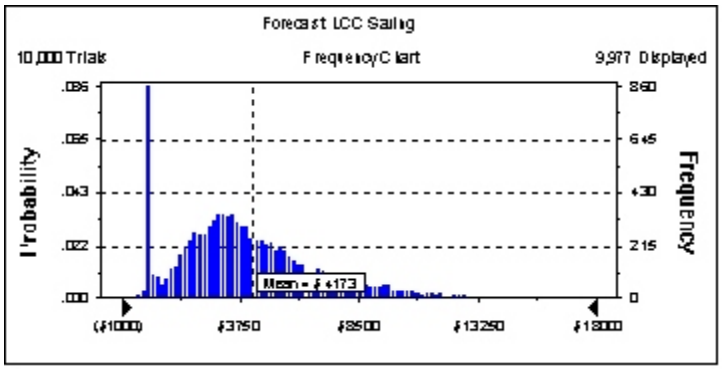

Figure 8D.2.58 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 2; Medium Load Growth Scenario

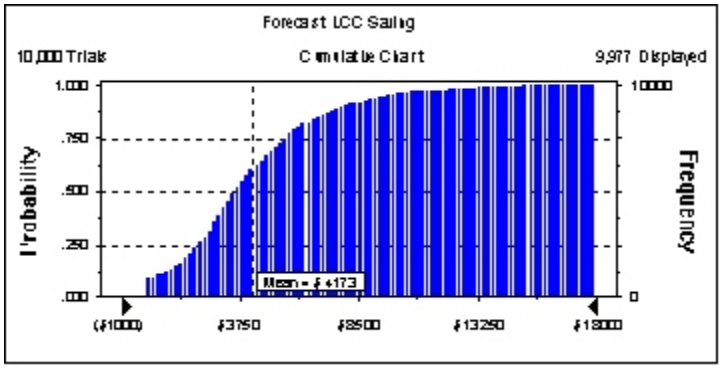

Figure 8D.2.59 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 2; Medium Load Growth Scenario

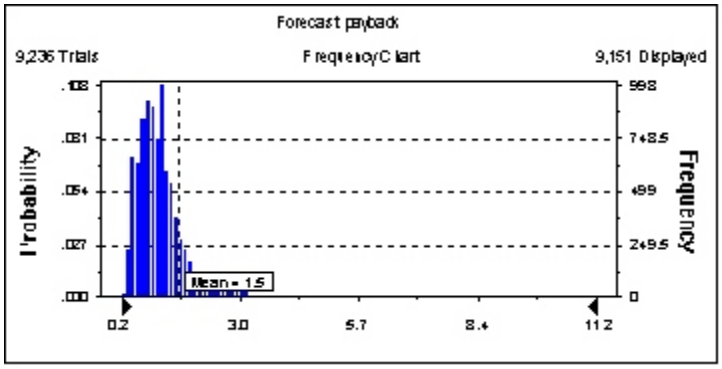

Figure 8D.2.60 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 2; Medium Load Growth Scenario

8D.2.2.9 High Load Growth

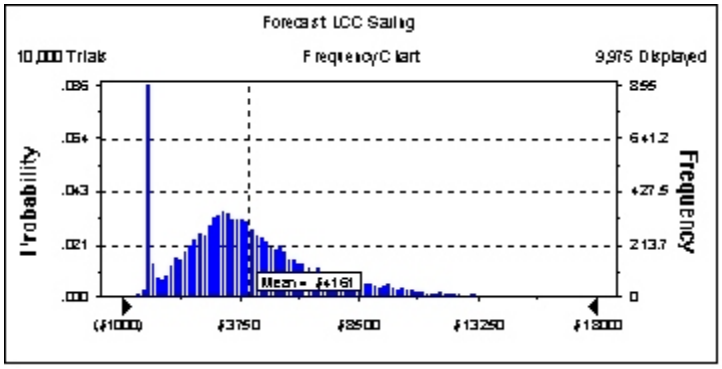

Figure 8D.2.61 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 2; High Load Growth Scenario

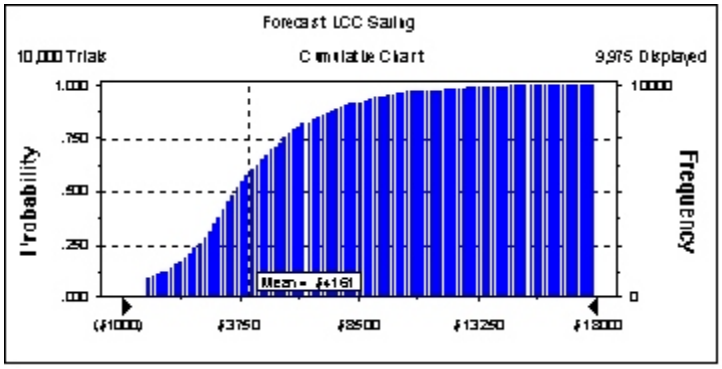

Figure 8D.2.62 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 2; High Load Growth Scenario

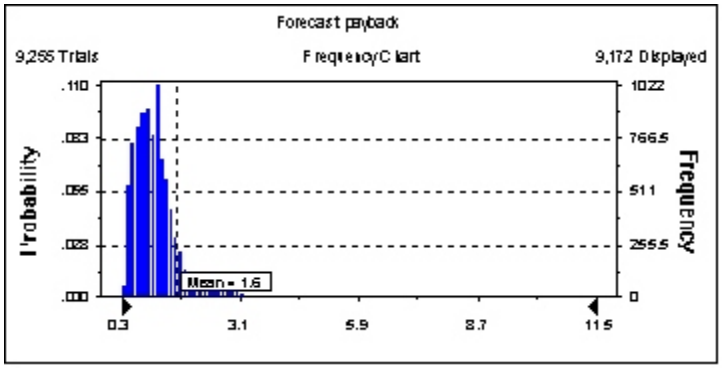

Figure 8D.2.63 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 2; High Load Growth Scenario

8D.2.2.10 Low Equipment Price

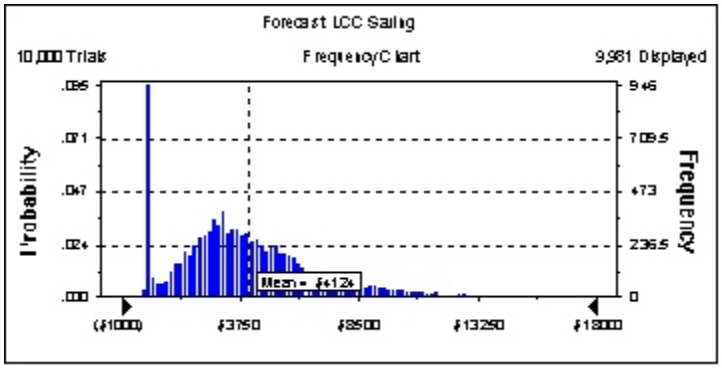

Figure 8D.2.64 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 2; Low Equipment Price Scenario

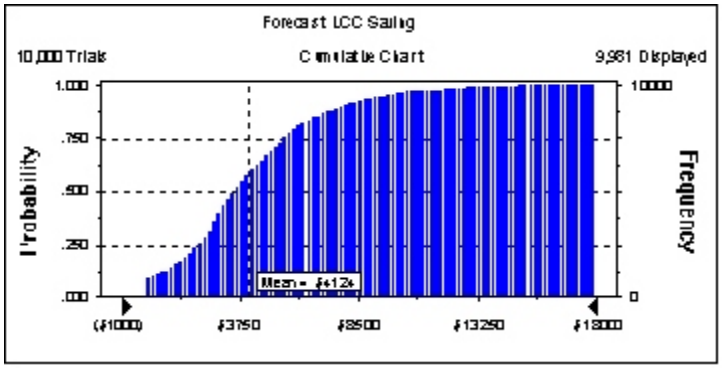

Figure 8D.2.65 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 2; Low Equipment Price Scenario

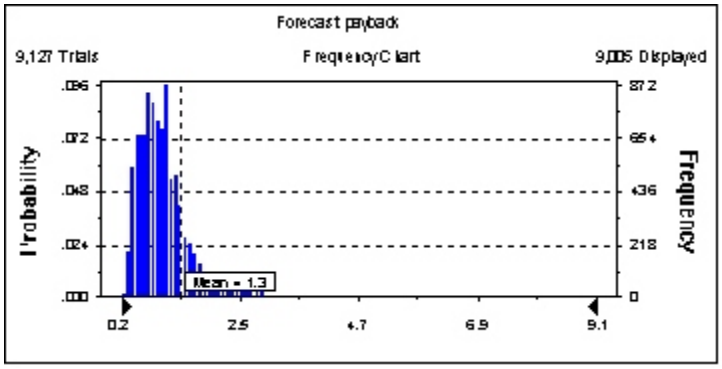

Figure 8D.2.66 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 2; Low Equipment Price Scenario

8D.2.2.11 High Equipment Price

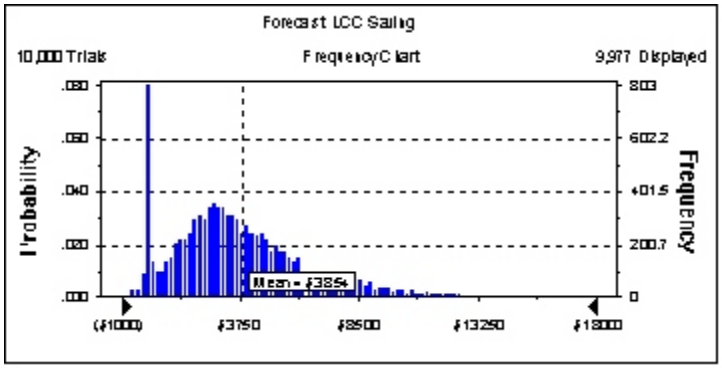

Figure 8D.2.67 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 2; High Equipment Price Scenario

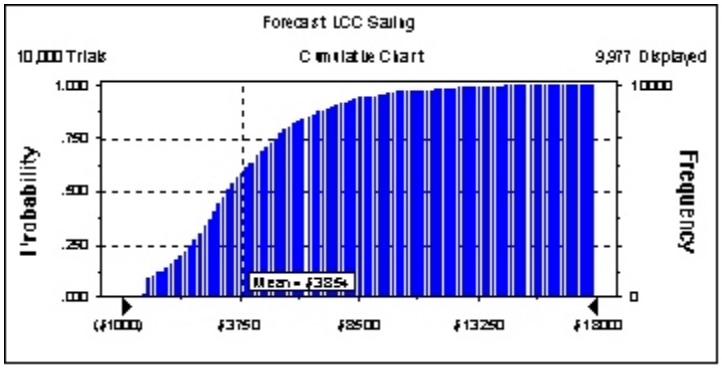

Figure 8D.2.68 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 2; High Equipment Price Scenario

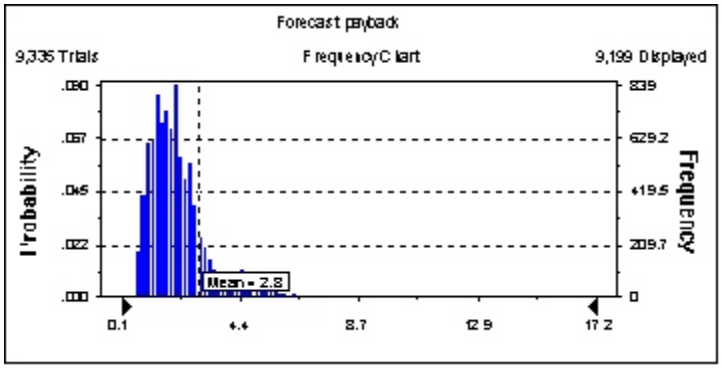

Figure 8D.2.69 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 2; High Equipment Price Scenario

8D.2.3 Design Line 7; Candidate Standard Level 3

Table 8D.2.4 Candidate Standard Level: 3; Summary Table

	Transformers having LCC Savings > $0 (%)	Mean LCC Savings ($)	Mean Payback (Years)
Baseline	98.7	4,847	2.3
Non Evaluating A & B Distribution	98.6	5,156	2.2
High Evaluating A & B Distribution	97.8	272	6.2
Low Loading	98.7	4,470	2.2
High Loading	98.7	4,886	2.2
Low Electricity Price	98.2	3,887	2.6
High Electricity Price	98.9	5,442	2.0
Medium Load Growth	98.7	4,847	2.3
High Load Growth	98.7	4,925	2.3
Low Equipment Price Scenario	99.1	4,712	1.8
High Equipment Price Scenario	95.8	4,224	4.4

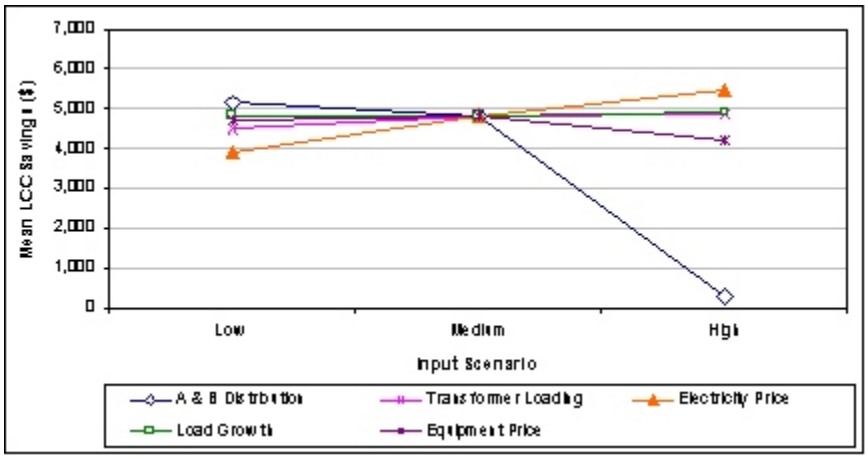

Figure 8D.2.70 Sensitivity of LCC to Input Changes for Design Line 7, Candidate Standard Level 3

8D.2.3.1 Baseline

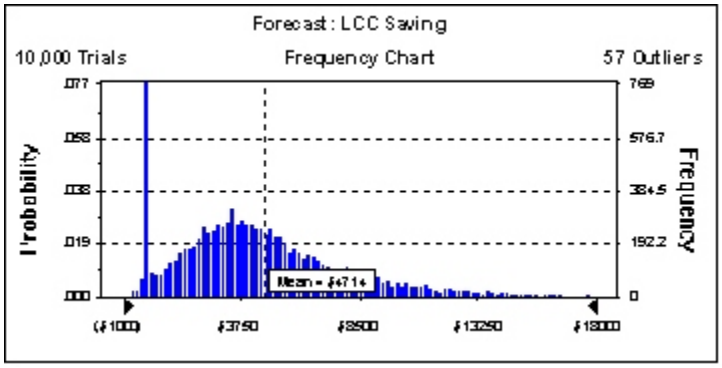

Figure 8D.2.71 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 3; Baseline Scenario

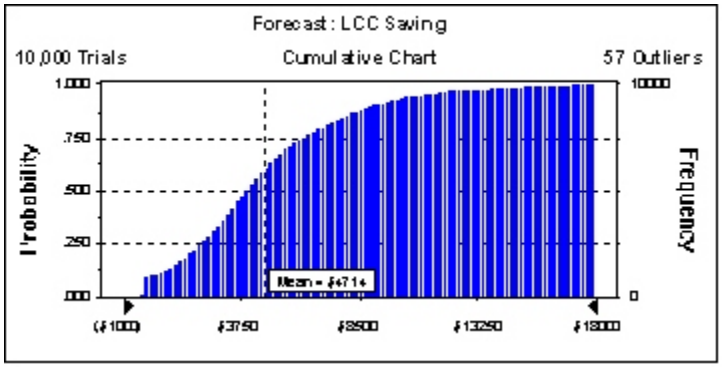

Figure 8D.2.72 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 3; Baseline Scenario

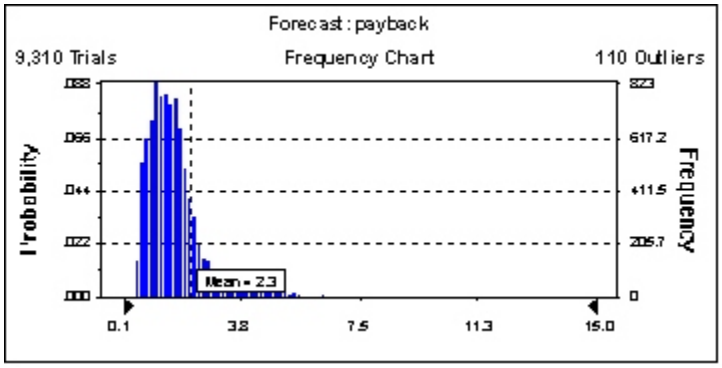

Figure 8D.2.73 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 3; Baseline Scenario

8D.2.3.2 Low A & B Distribution

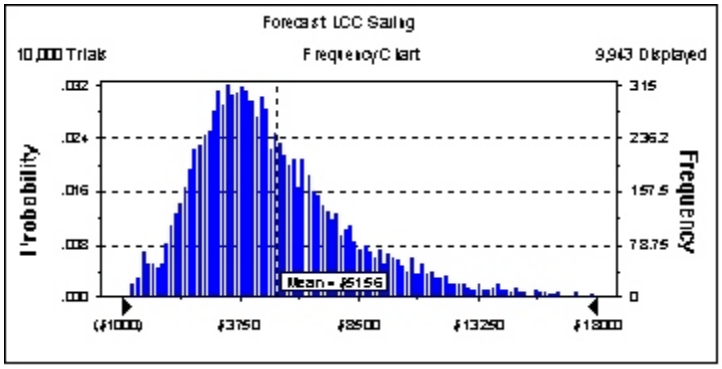

Figure 8D.2.74 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 3; Low A & B Distribution Scenario

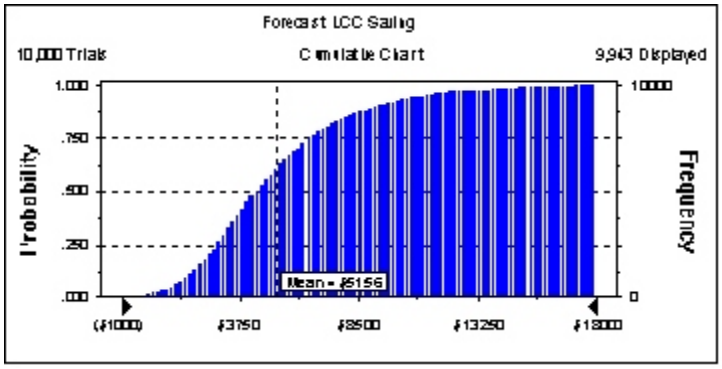

Figure 8D.2.75 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 3; Low A & B Distribution Scenario

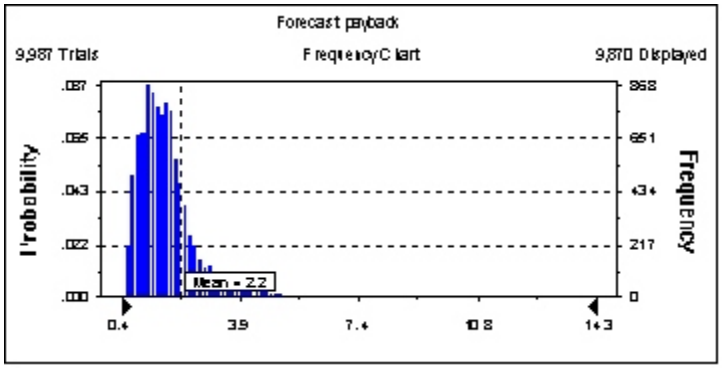

Figure 8D.2.76 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 3; Low A & B Distribution Scenario

8D.2.3.3 High A & B Distribution

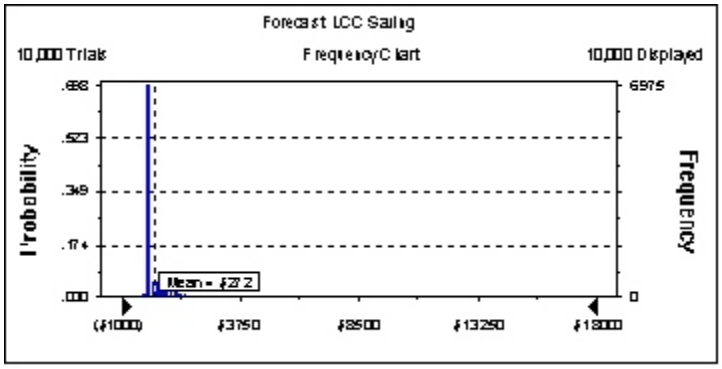

Figure 8D.2.77 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 3; High A & B Distribution Scenario

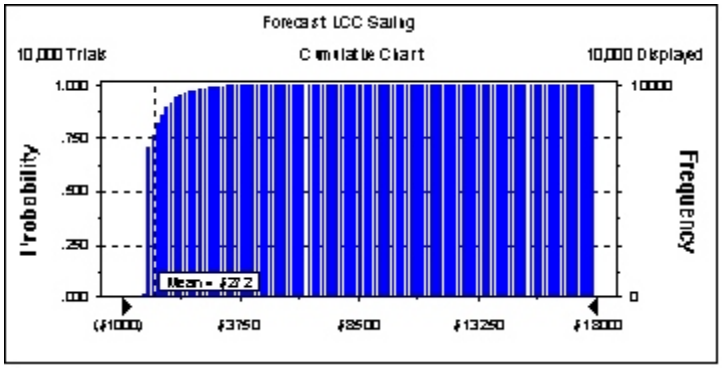

Figure 8D.2.78 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 3; High A & B Distribution Scenario

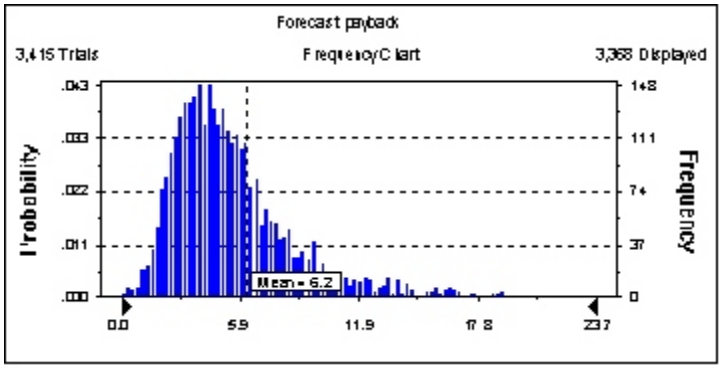

Figure 8D.2.79 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 3; High A & B Distribution Scenario

8D.2.3.4 Low Loading

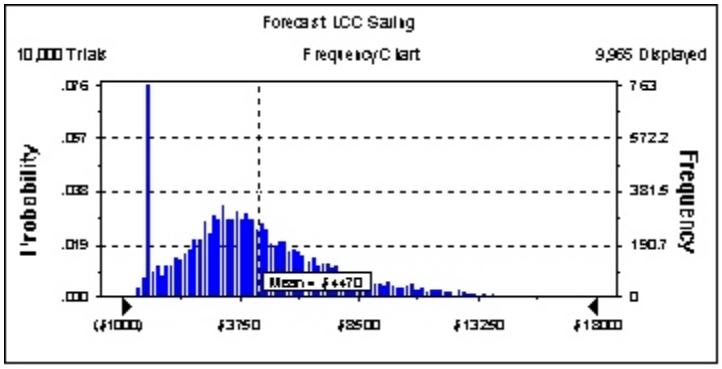

Figure 8D.2.80 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 3; Low Transformer Loading Scenario

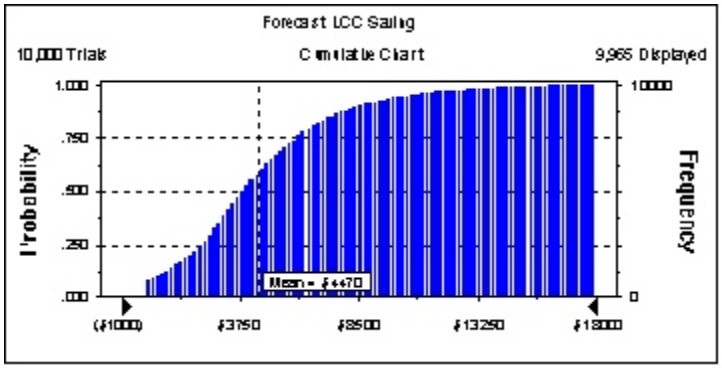

Figure 8D.2.81 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 3; Low Transformer Loading Scenario

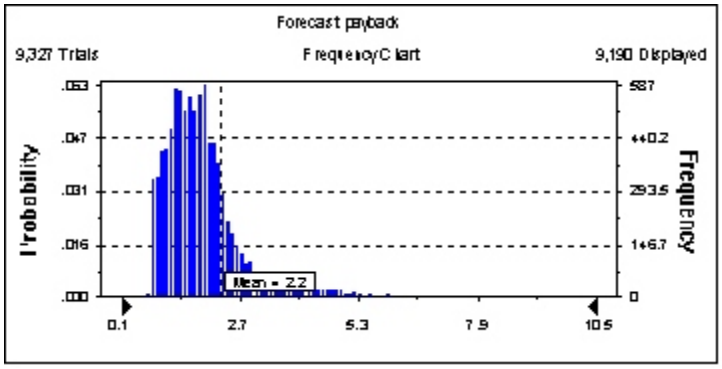

Figure 8D.2.82 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 3; Low Transformer Loading Scenario

8D.2.3.5 High Loading

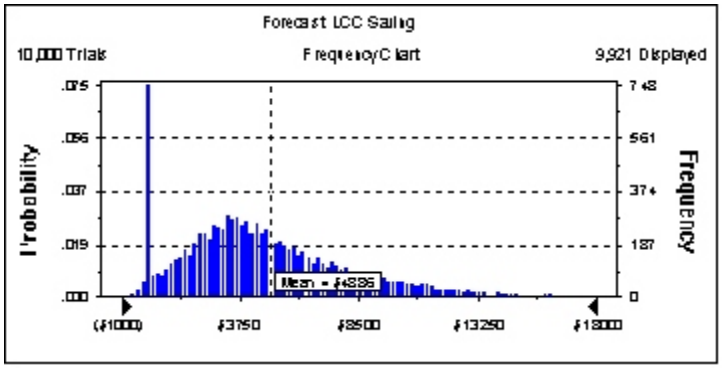

Figure 8D.2.83 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 3; High Transformer Loading Scenario

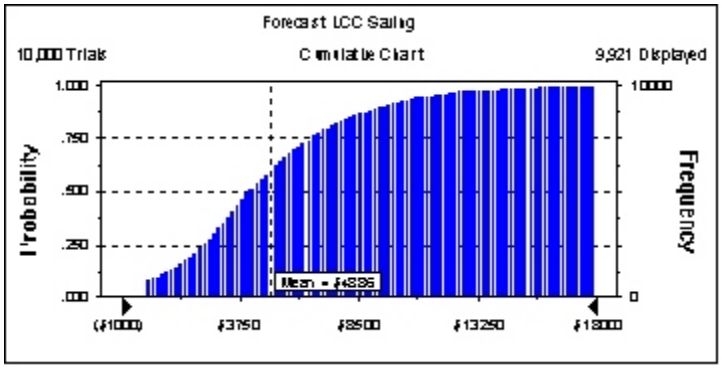

Figure 8D.2.84 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 3; High Transformer Loading Scenario

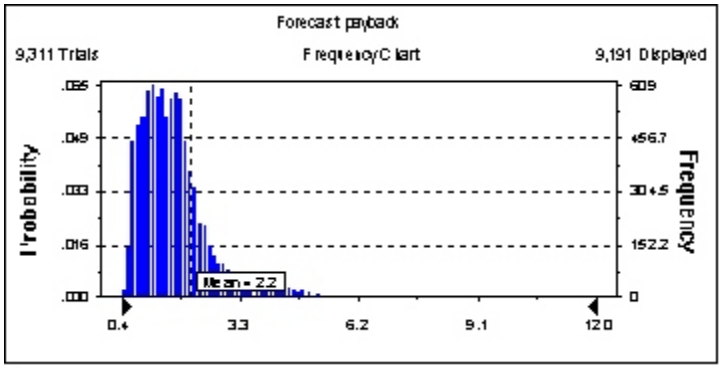

Figure 8D.2.85 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 3; High Transformer Loading Scenario

8D.2.3.6 Low Electricity Price

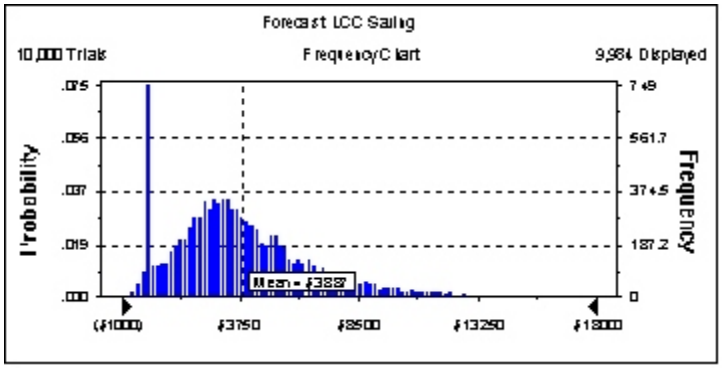

Figure 8D.2.86 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 3; Low Electricity Price Scenario

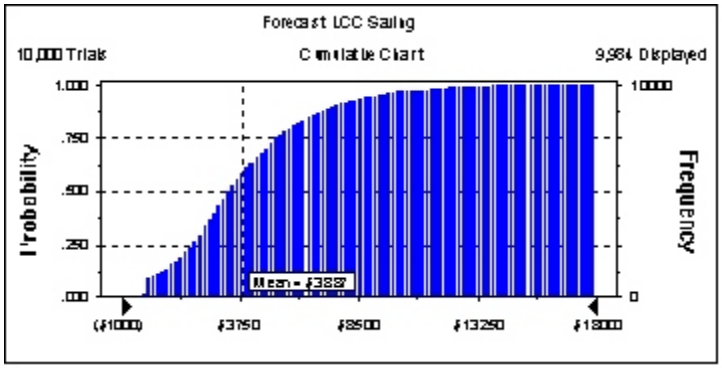

Figure 8D.2.87 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 3; Low Electricity Price Scenario

8D.2.3.7 High Electricity Price

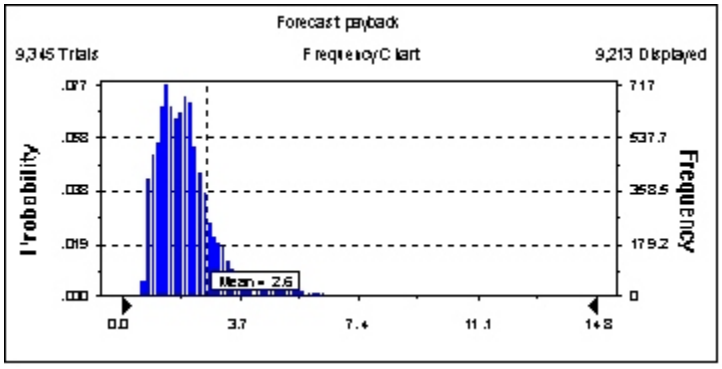

Figure 8D.2.88 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 3; Low Electricity Price Scenario

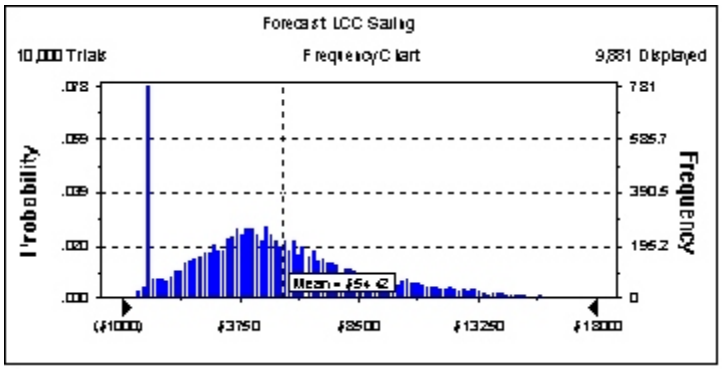

Figure 8D.2.89 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 3; High Electricity Price Scenario

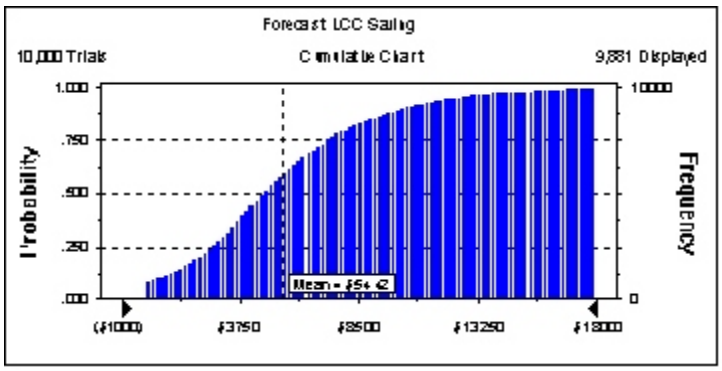

Figure 8D.2.90 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 3; High Electricity Price Scenario

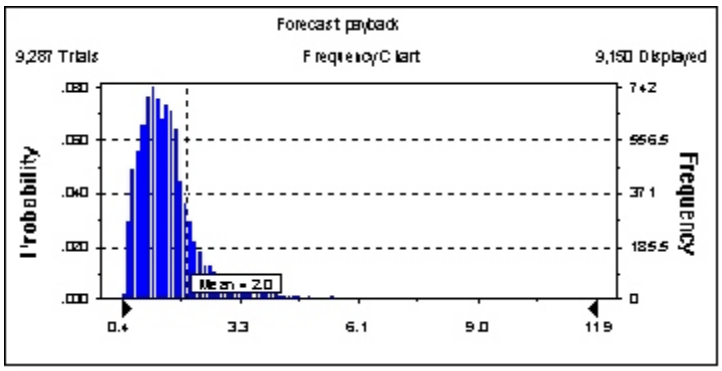

Figure 8D.2.91 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 3; High Electricity Price Scenario

8D.2.3.8 Medium Load Growth

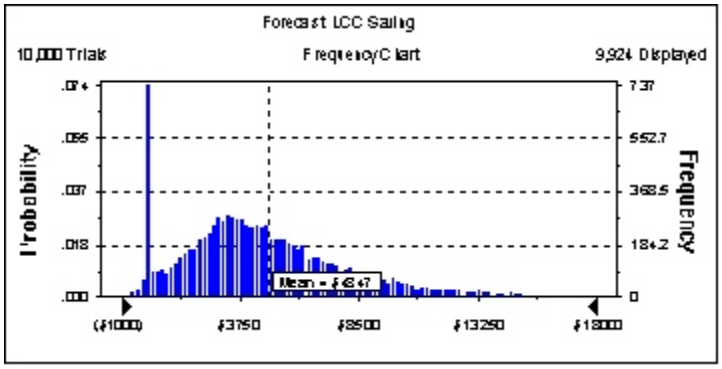

Figure 8D.2.92 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 3; Medium Load Growth Scenario

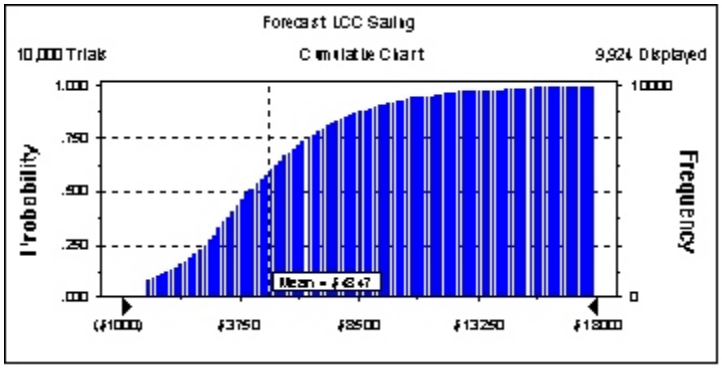

Figure 8D.2.93 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 3; Medium Load Growth Scenario

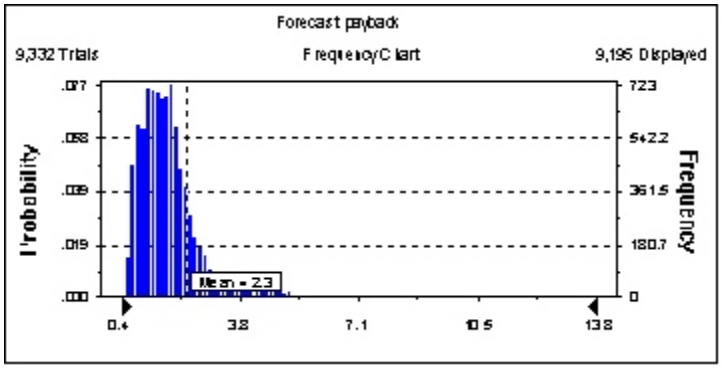

Figure 8D.2.94 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 3; Medium Load Growth Scenario

8D.2.3.9 High Load Growth

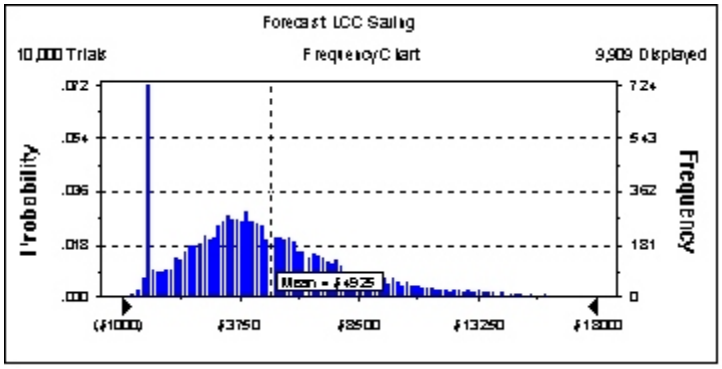

Figure 8D.2.95 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 3; High Load Growth Scenario

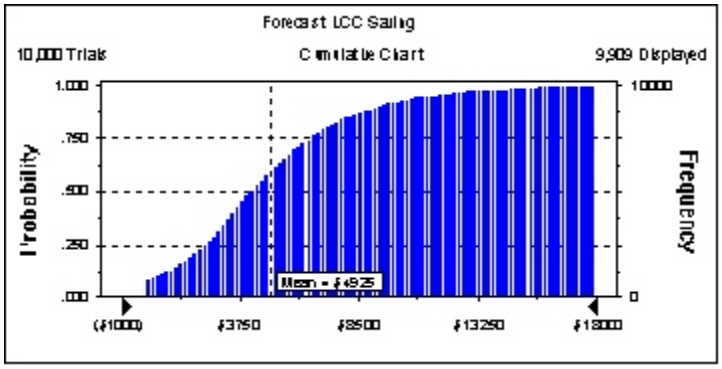

Figure 8D.2.96 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 3; High Load Growth Scenario

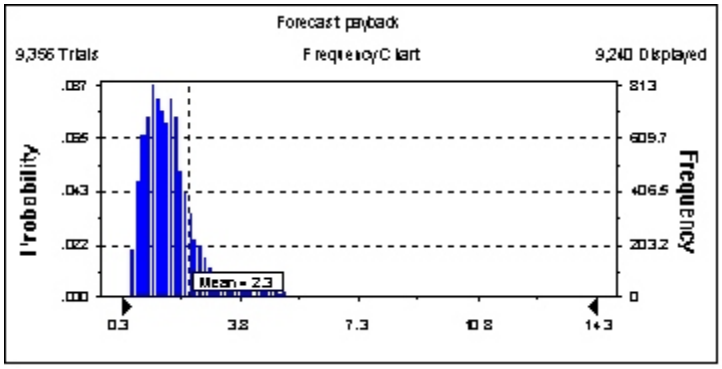

Figure 8D.2.97 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 3; High Load Growth Scenario

8D.2.3.10 Low Equipment Price

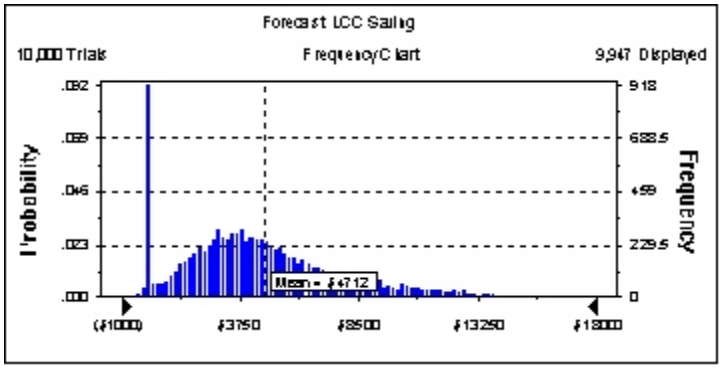

Figure 8D.2.98 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 3; Low Equipment Price Scenario

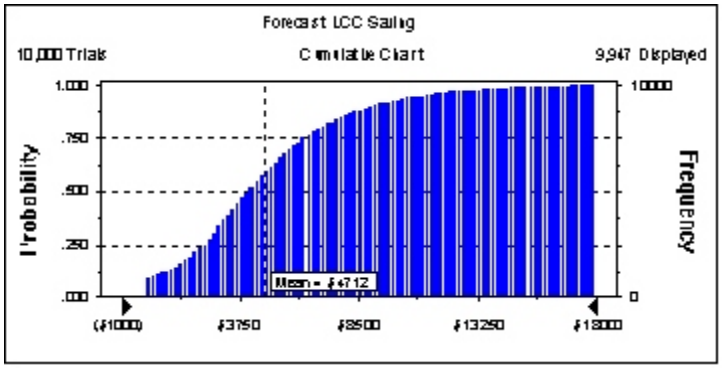

Figure 8D.2.99 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 3; Low Equipment Price Scenario

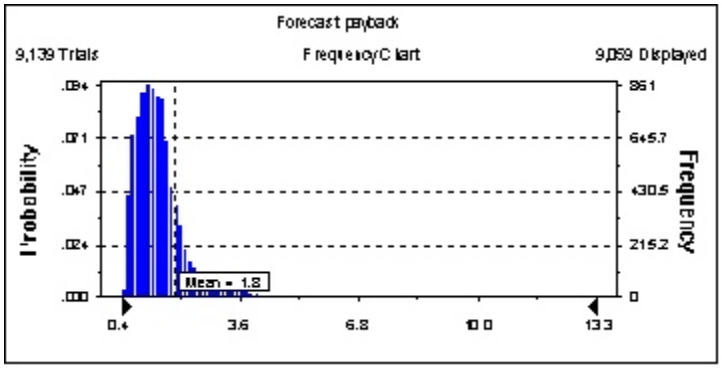

Figure 8D.2.100 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 3; Low Equipment Price Scenario

8D.2.3.11 High Equipment Price

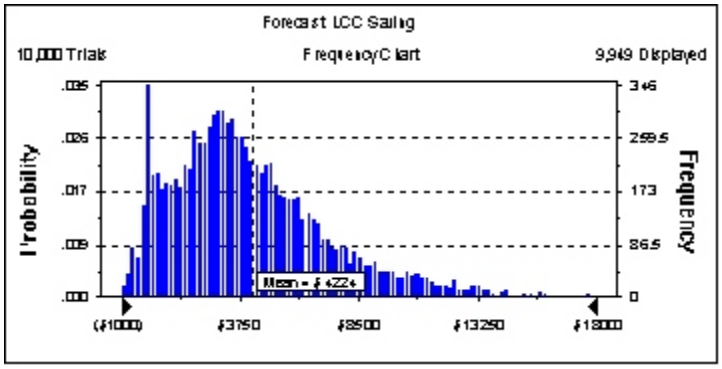

Figure 8D.2.101 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 3; High Equipment Price Scenario

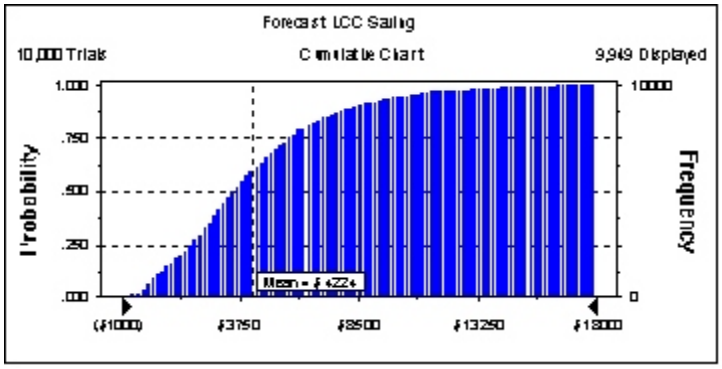

Figure 8D.2.102 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 3; High Equipment Price Scenario

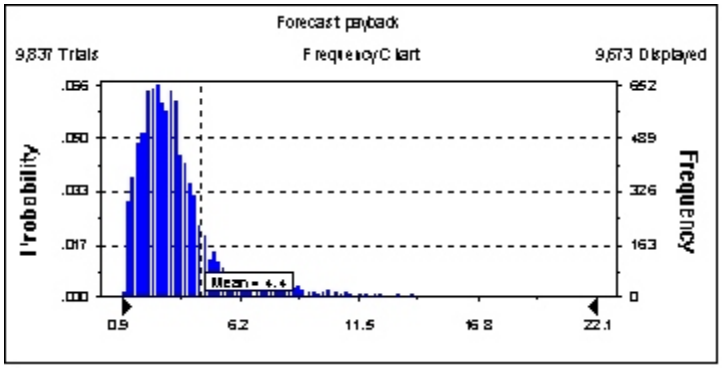

Figure 8D.2.103 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 3; High Equipment Price Scenario

8D.2.4 Design Line 7; Candidate Standard Level 4

Table 8D.2.5 Candidate Standard Level: 4; Summary Table

	Transformers having LCC Savings > $0 (%)	Mean LCC Savings ($)	Mean Payback (Years)
Baseline	96.3	5,403	3.9
Non Evaluating A & B Distribution	97.7	5,609	3.1
High Evaluating A & B Distribution	78.8	531	11.5
Low Loading	95.5	4,681	4.2
High Loading	96.0	5,336	3.6
Low Electricity Price	95.1	4,191	4.5
High Electricity Price	96.6	5,969	3.3
Medium Load Growth	96.3	5,403	3.9
High Load Growth	96.3	5,528	4.0
Low Equipment Price Scenario	96.4	5,171	3.3
High Equipment Price Scenario	94.9	4,607	5.3

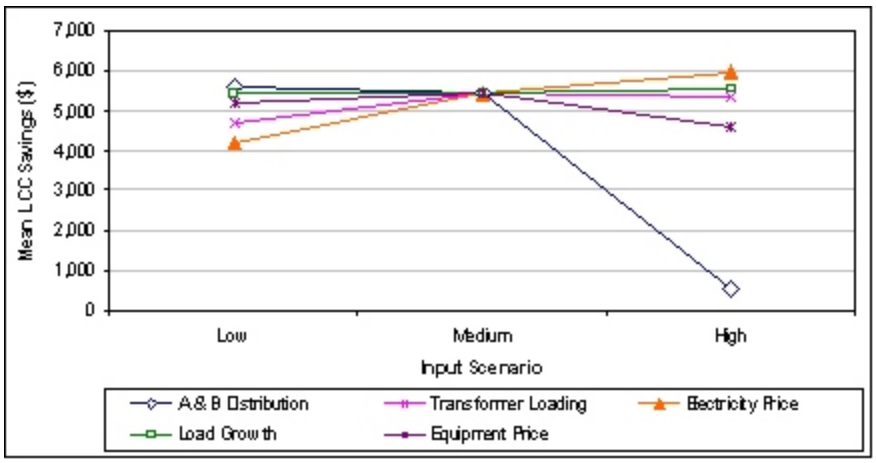

Figure 8D.2.104 Sensitivity of LCC to Input Changes for Design Line 7, Candidate Standard Level 4

8D.2.4.1 Baseline

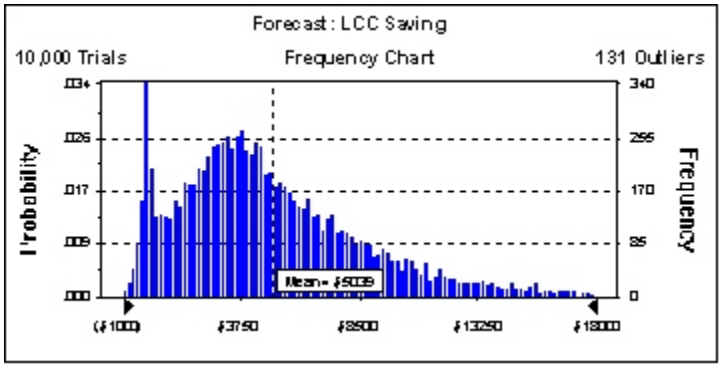

Figure 8D.2.105 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 4; Baseline Scenario

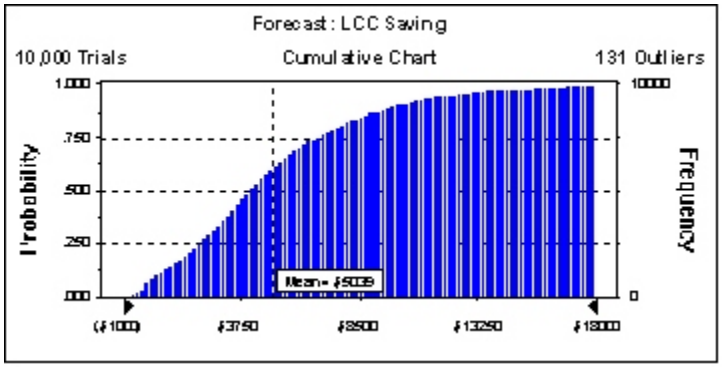

Figure 8D.2.106 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 4; Baseline Scenario

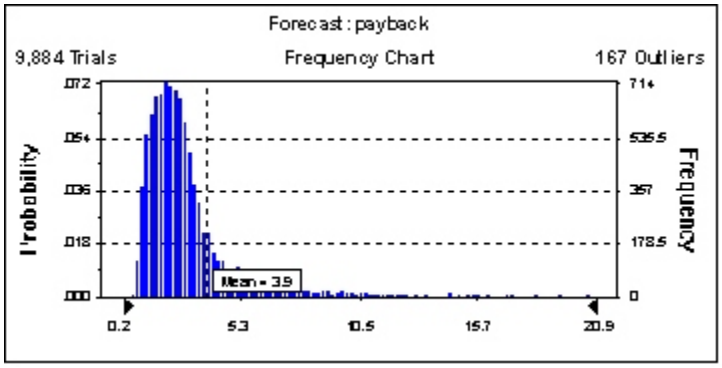

Figure 8D.2.107 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 4; Baseline Scenario

8D.2.4.2 Low A & B Distribution

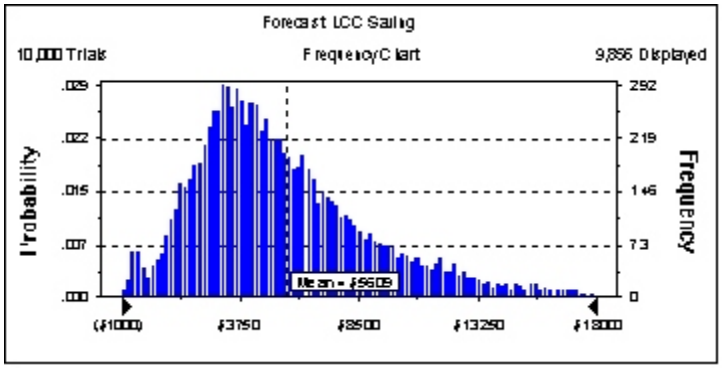

Figure 8D.2.108 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 4; Low A & B Distribution Scenario

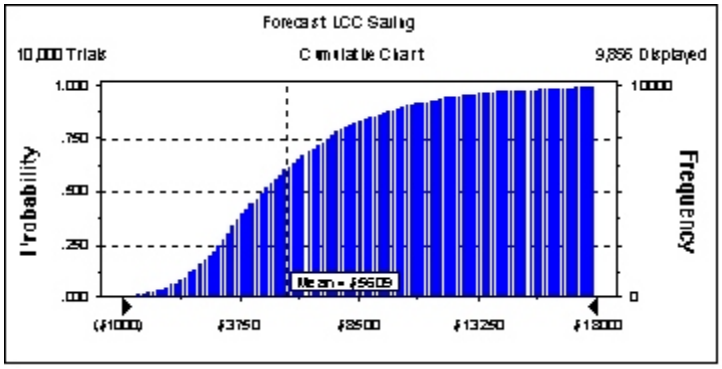

Figure 8D.2.109 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 4; Low A & B Distribution Scenario

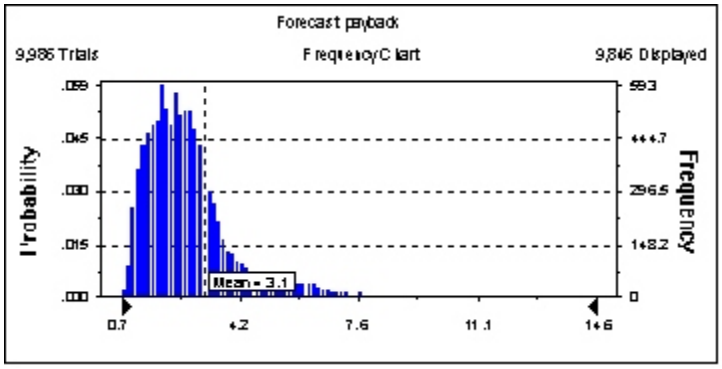

Figure 8D.2.110 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 4; Low A & B Distribution Scenario

8D.2.4.3 High A & B Distribution

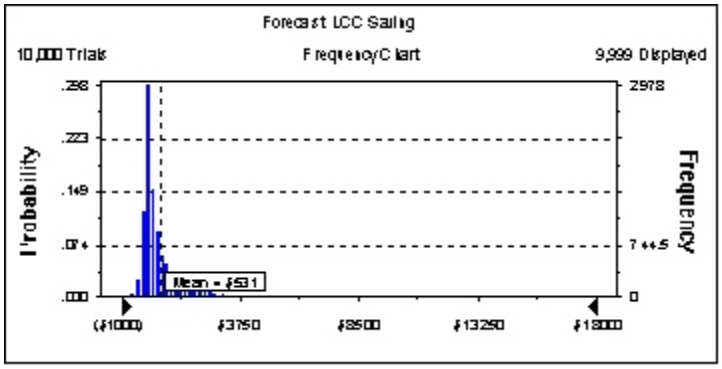

Figure 8D.2.111 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 4; High A & B Distribution Scenario

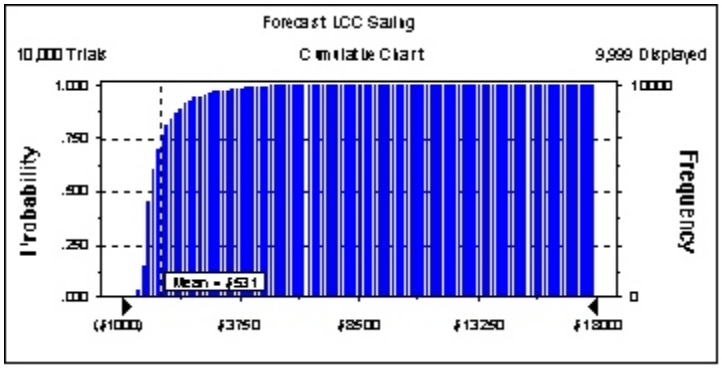

Figure 8D.2.112 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 4; High A & B Distribution Scenario

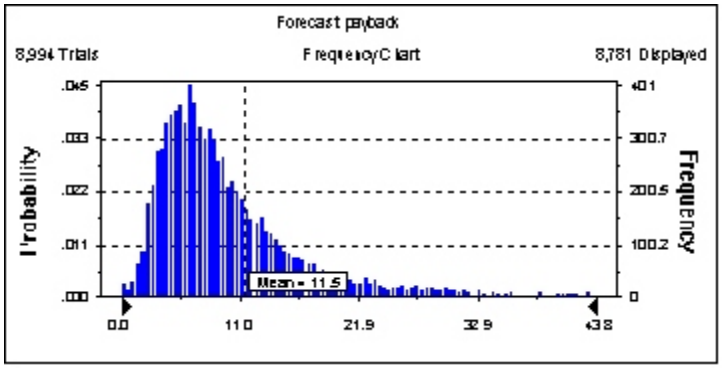

Figure 8D.2.113 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 4; High A & B Distribution Scenario

8D.2.4.4 Low Loading

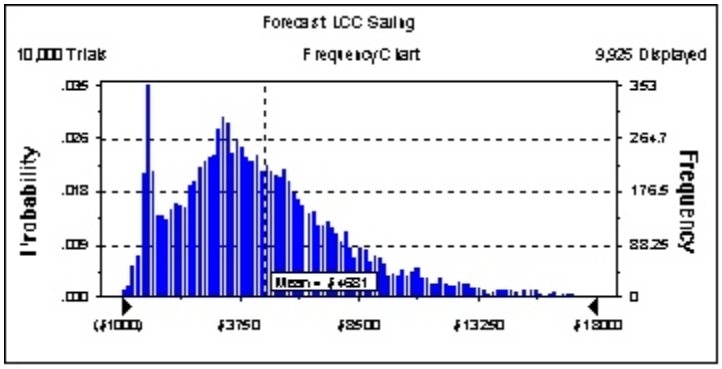

Figure 8D.2.114 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 4; Low Transformer Loading Scenario

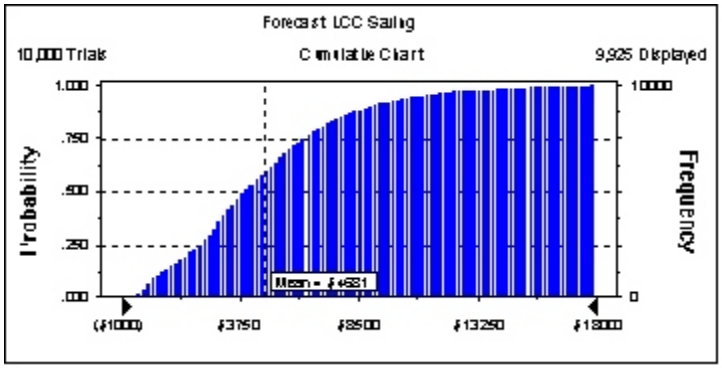

Figure 8D.2.115 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 4; Low Transformer Loading Scenario

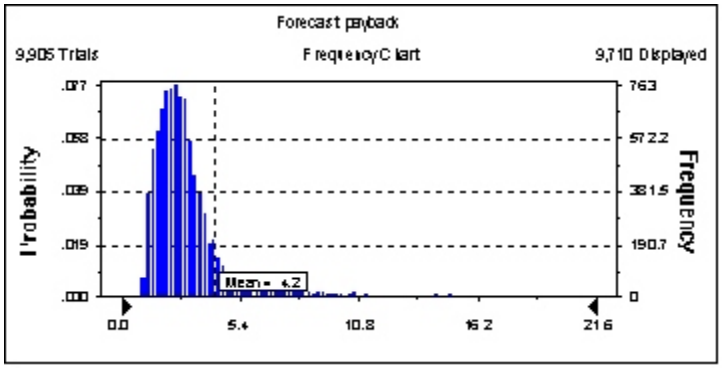

Figure 8D.2.116 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 4; Low Transformer Loading Scenario

8D.2.4.5 High Loading

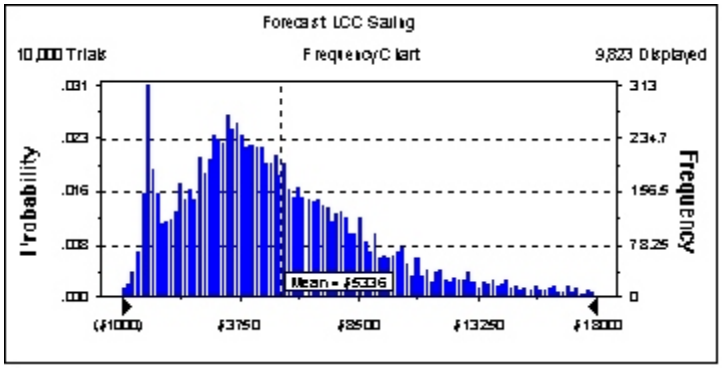

Figure 8D.2.117 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 4; High Transformer Loading Scenario

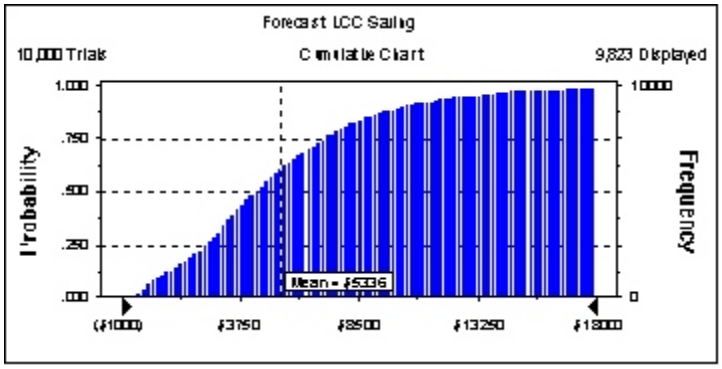

Figure 8D.2.118 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 4; High Transformer Loading Scenario

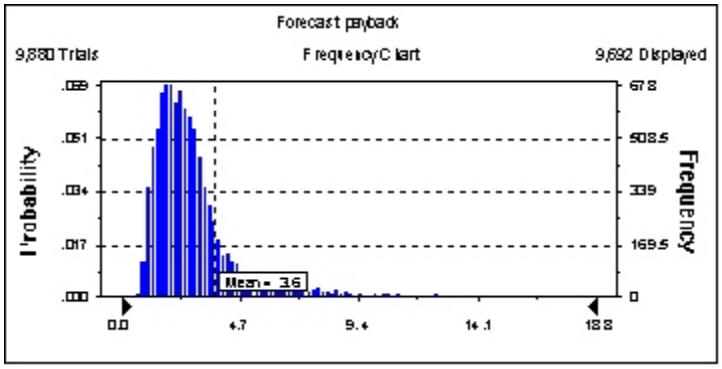

Figure 8D.2.119 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 4; High Transformer Loading Scenario

8D.2.4.6 Low Electricity Price

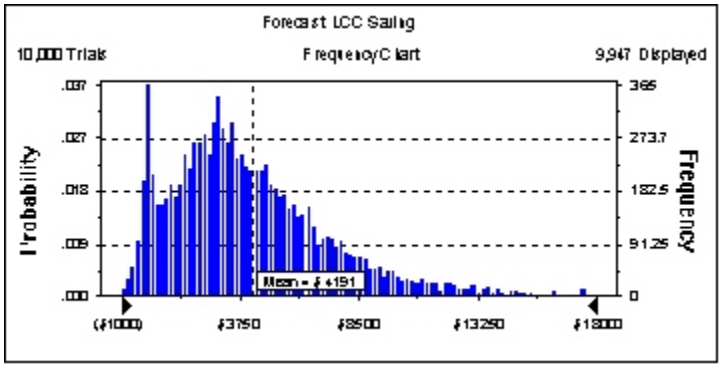

Figure 8D.2.120 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 4; Low Electricity Price Scenario

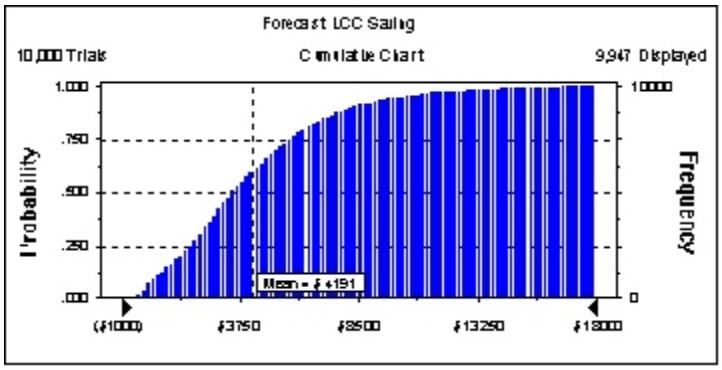

Figure 8D.2.121 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 4; Low Electricity Price Scenario

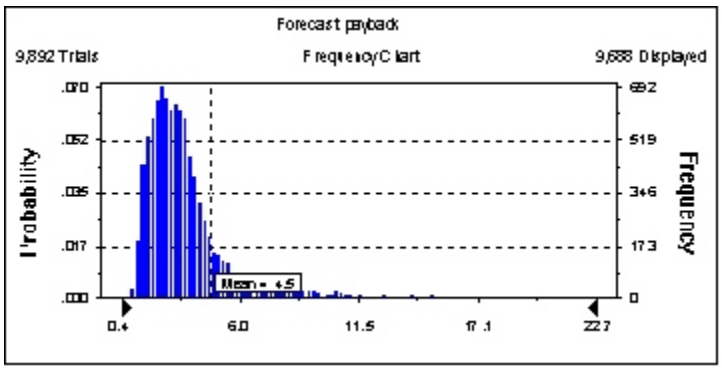

Figure 8D.2.122 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 4; Low Electricity Price Scenario

8D.2.4.7 High Electricity Price

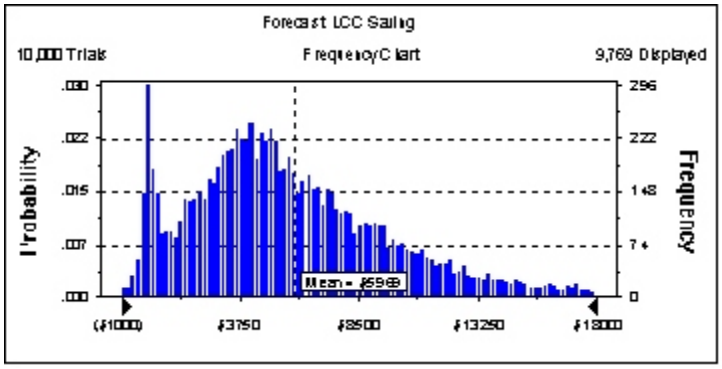

Figure 8D.2.123 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 4; High Electricity Price Scenario

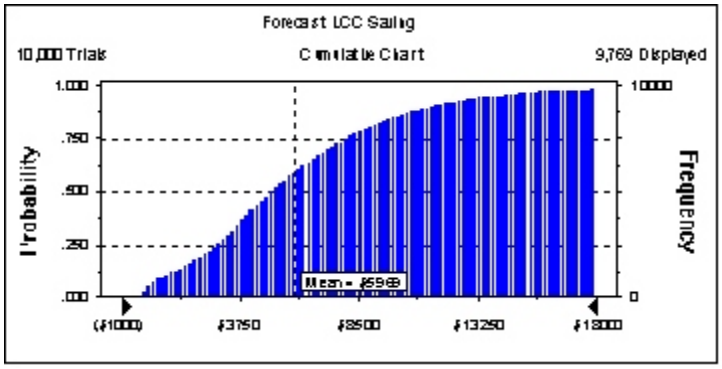

Figure 8D.2.124 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 4; High Electricity Price Scenario

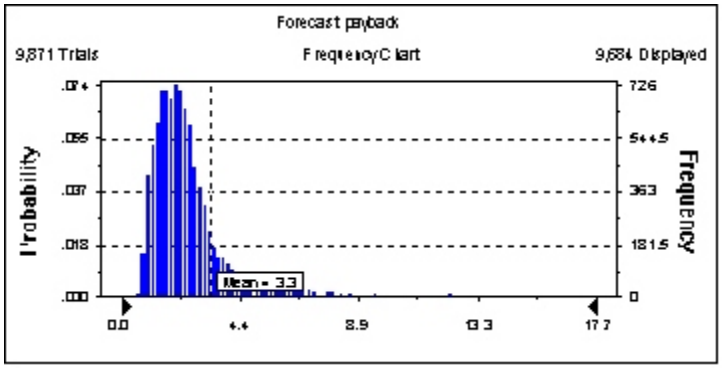

Figure 8D.2.125 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 4; High Electricity Price Scenario

8D.2.4.8 Medium Load Growth

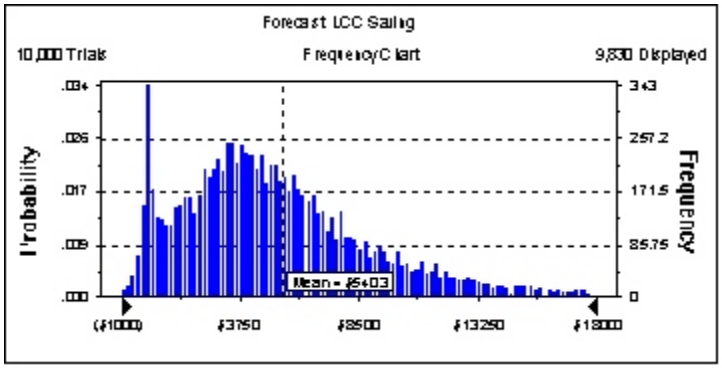

Figure 8D.2.126 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 4; Medium Load Growth Scenario

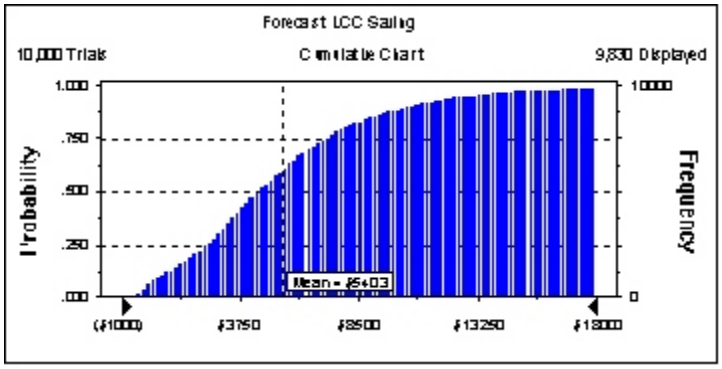

Figure 8D.2.127 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 4; Medium Load Growth Scenario

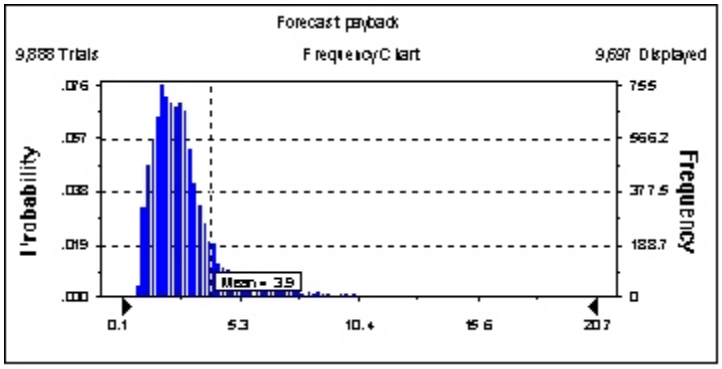

Figure 8D.2.128 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 4; Medium Load Growth Scenario

8D.2.4.9 High Load Growth

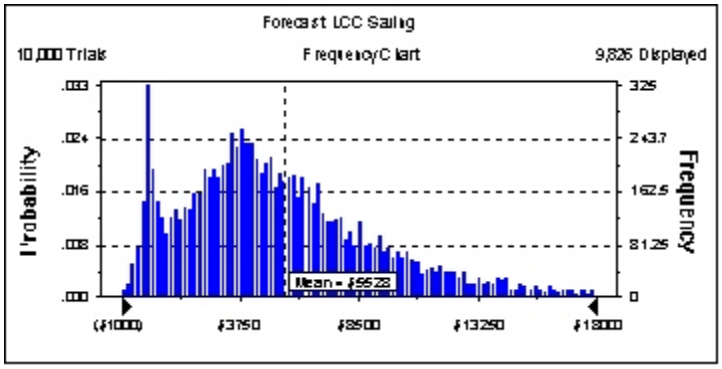

Figure 8D.2.129 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 4; High Load Growth Scenario

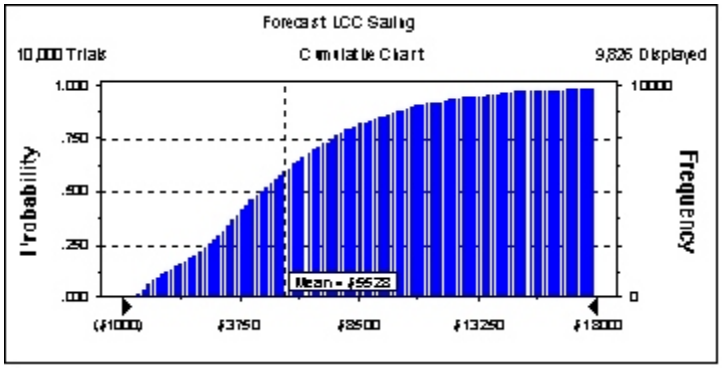

Figure 8D.2.130 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 4; High Load Growth Scenario

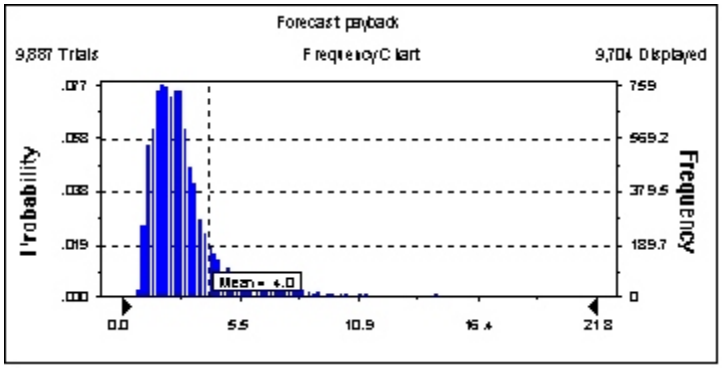

Figure 8D.2.131 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 4; High Load Growth Scenario

8D.2.4.10 Low Equipment Price

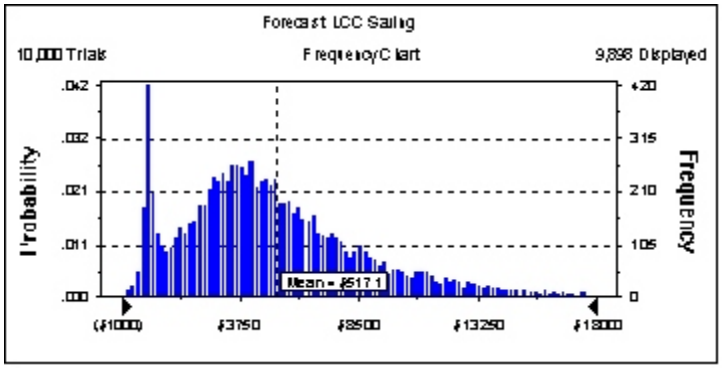

Figure 8D.2.132 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 4; Low Equipment Price Scenario

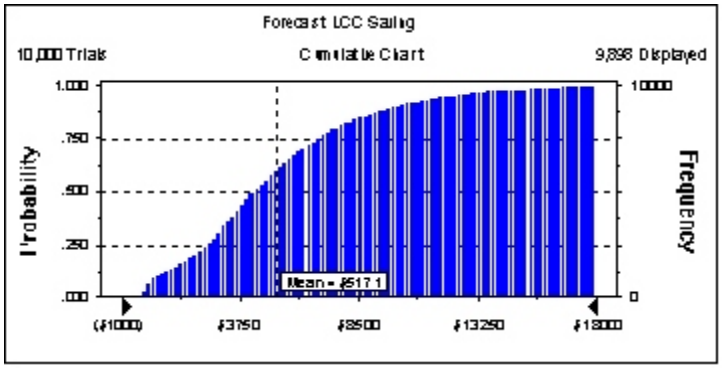

Figure 8D.2.133 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 4; Low Equipment Price Scenario

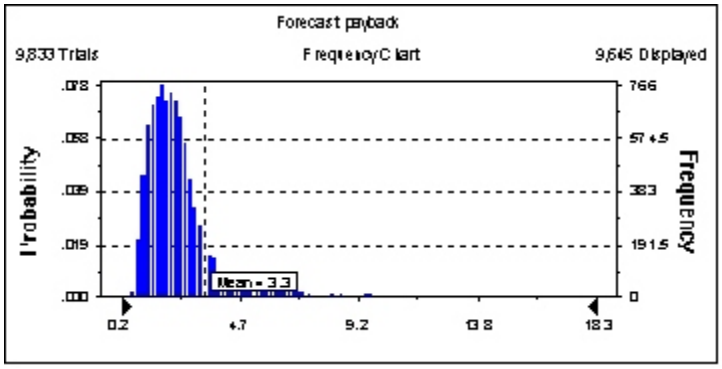

Figure 8D.2.134 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 4; Low Equipment Price Scenario

8D.2.4.11 High Equipment Price

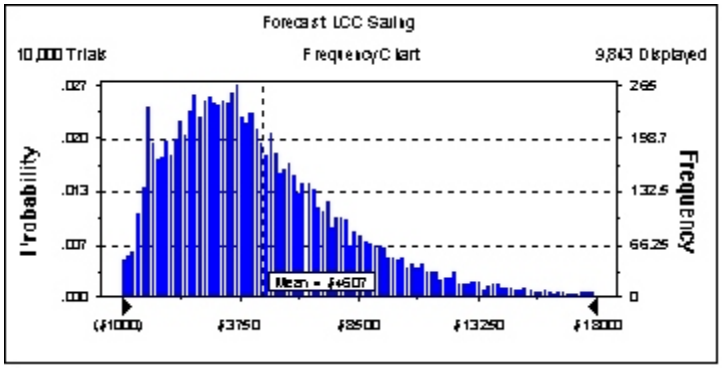

Figure 8D.2.135 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 4; High Equipment Price Scenario

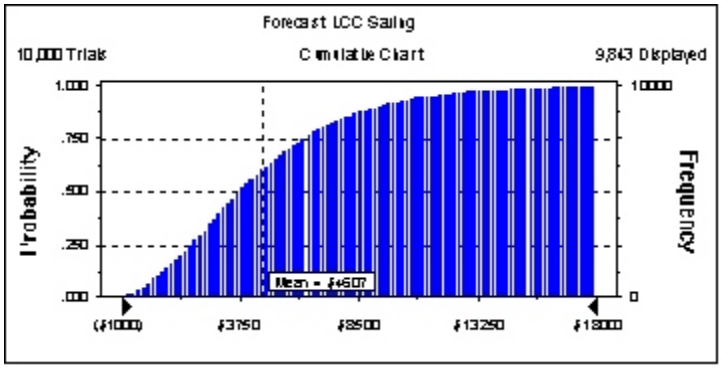

Figure 8D.2.136 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 4; High Equipment Price Scenario

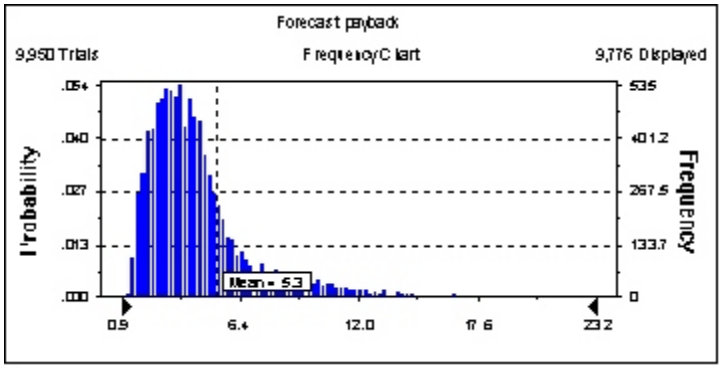

Figure 8D.2.137 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 4; High Equipment Price Scenario

8D.2.5 Design Line 7; Candidate Standard Level 6

Table 8D.2.6 Candidate Standard Level: 5; Summary Table

	Transformers having LCC Savings > $0 (%)	Mean LCC Savings ($)	Mean Payback (Years)
Baseline	91.2	5,251	6.9
Non Evaluating A & B Distribution	96.1	5,278	5.3
High Evaluating A & B Distribution	42.1	211	21.2
Low Loading	89.2	4,250	7.5
High Loading	90.7	5,097	6.8
Low Electricity Price	88.2	3,854	8.2
High Electricity Price	91.4	5,687	6.2
Medium Load Growth	91.2	5,251	6.9
High Load Growth	91.3	5,467	7.0
Low Equipment Price Scenario	91.3	5,062	6.2
High Equipment Price Scenario	86.4	4,038	8.9

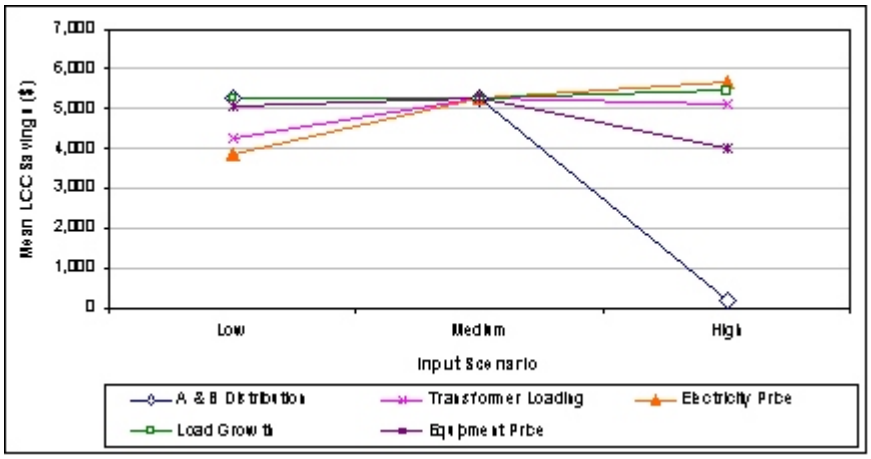

Figure 8D.2.138 Sensitivity of LCC to Input Changes for Design Line 7, Candidate Standard Level 5

8D.2.5.1 Baseline

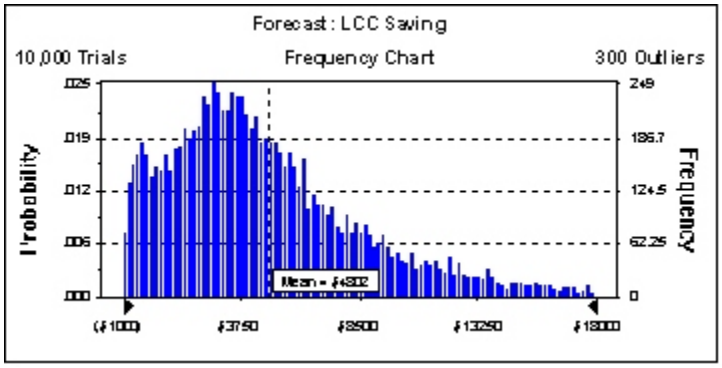

Figure 8D.2.139 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 5; Baseline Scenario

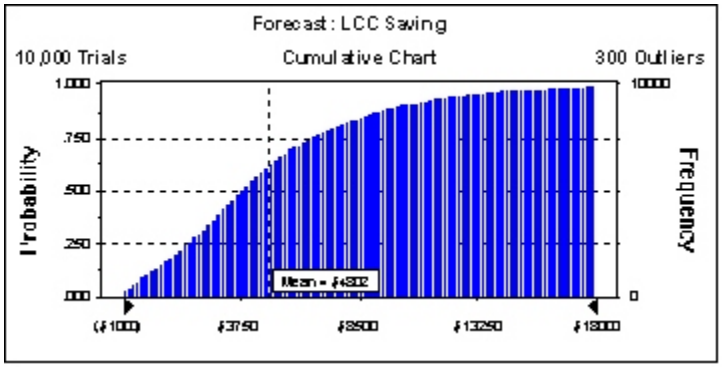

Figure 8D.2.140 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 5; Baseline Scenario

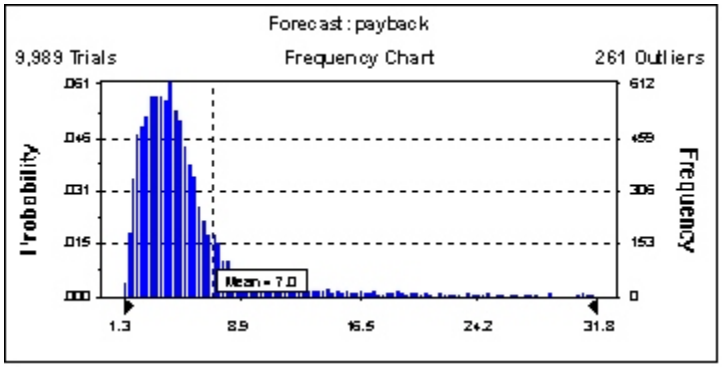

Figure 8D.2.141 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 5; Baseline Scenario

8D.2.5.2 Low A & B Distribution

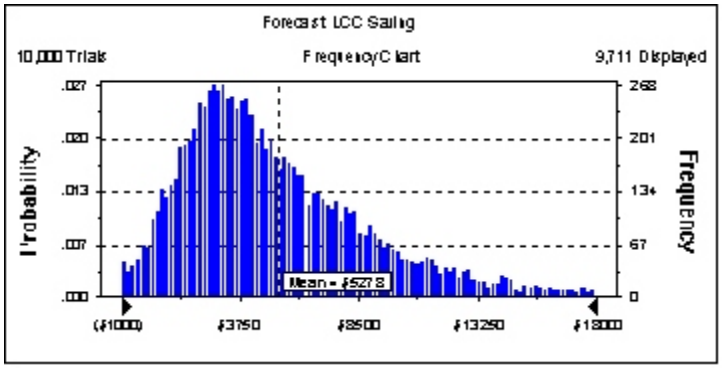

Figure 8D.2.142 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 5; Low A & B Distribution Scenario

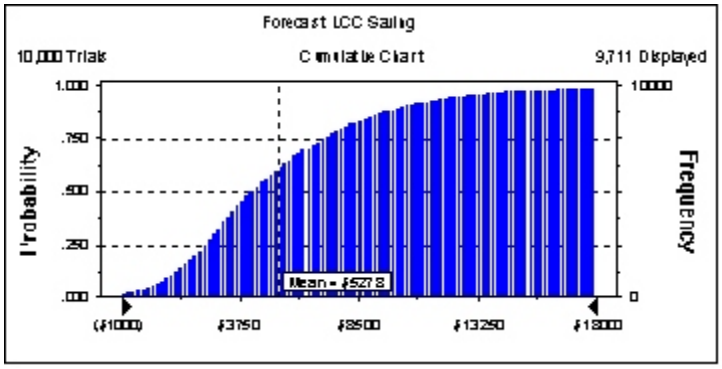

Figure 8D.2.143 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 5; Low A & B Distribution Scenario

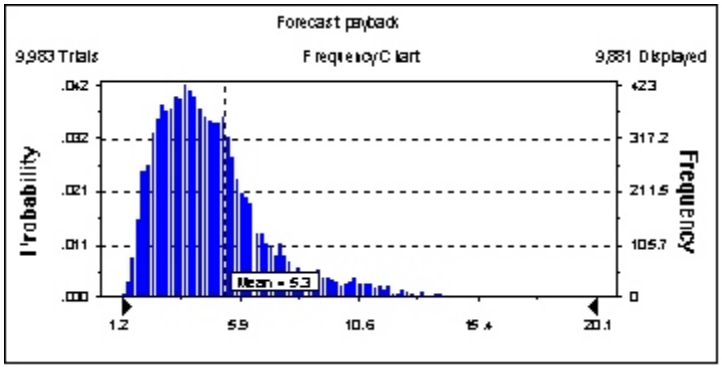

Figure 8D.2.144 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 5; Low A & B Distribution Scenario

8D.2.5.3 High A & B Distribution

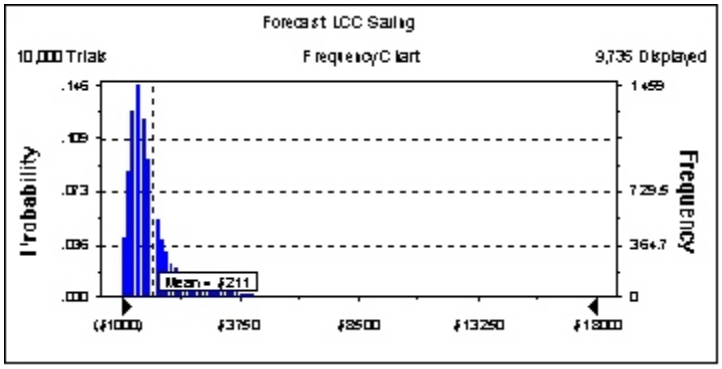

Figure 8D.2.145 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 5; High A & B Distribution Scenario

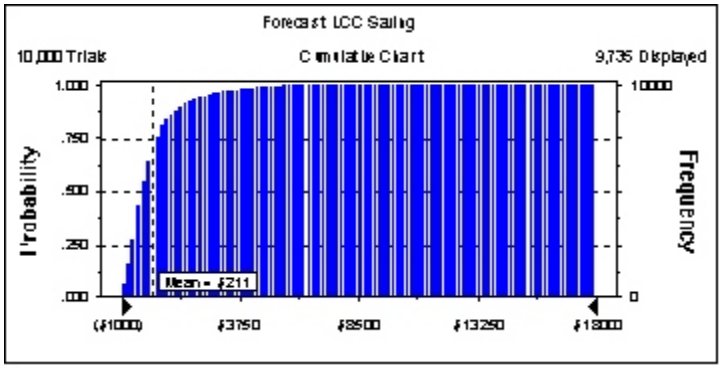

Figure 8D.2.146 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 5; High A & B Distribution Scenario

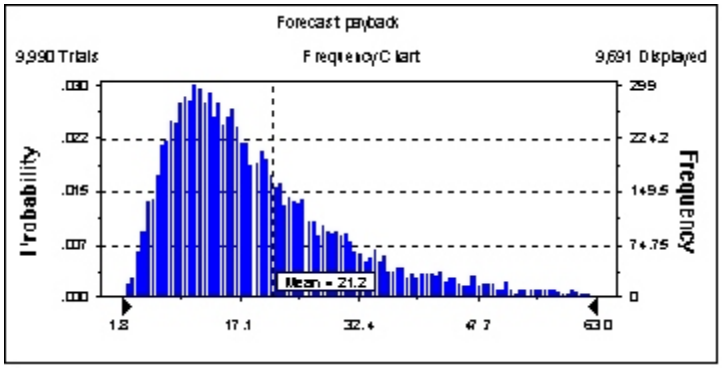

Figure 8D.2.147 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 5; High A & B Distribution Scenario

8D.2.5.4 Low Loading

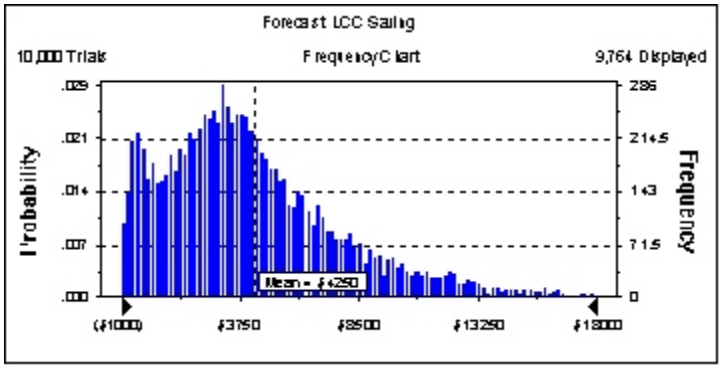

Figure 8D.2.148 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 5; Low Transformer Loading Scenario

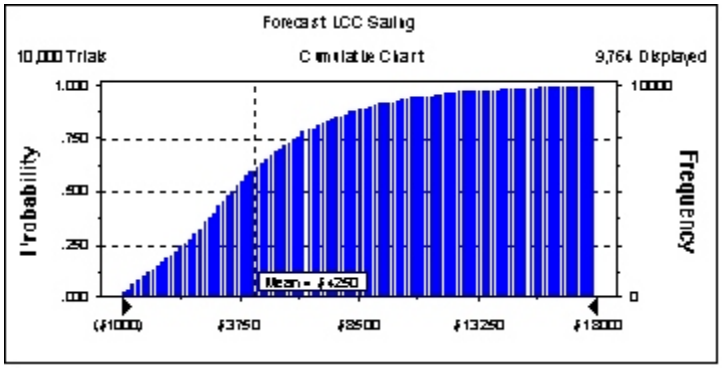

Figure 8D.2.149 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 5; Low Transformer Loading Scenario

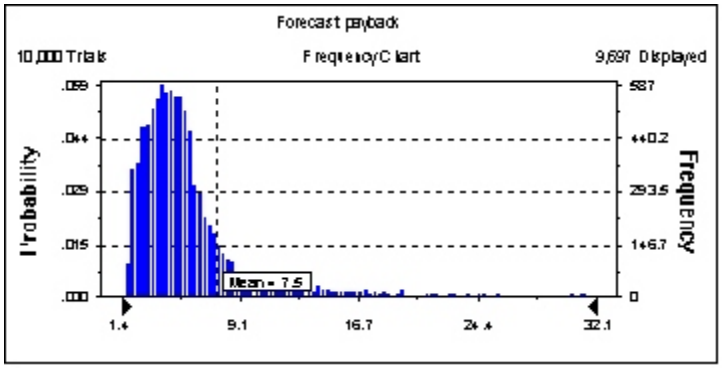

Figure 8D.2.150 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 5; Low Transformer Loading Scenario

8D.2.5.5 High Loading

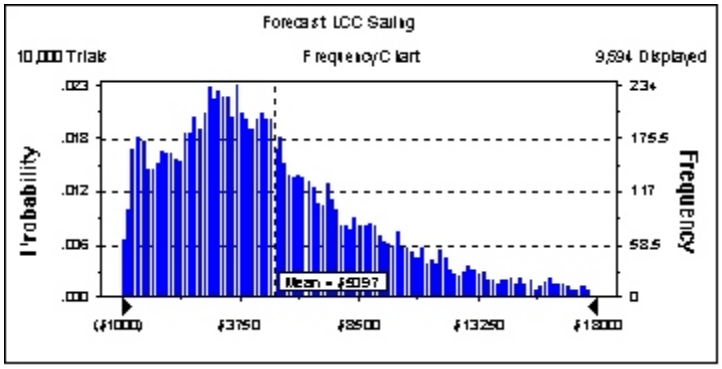

Figure 8D.2.151 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 5; High Transformer Loading Scenario

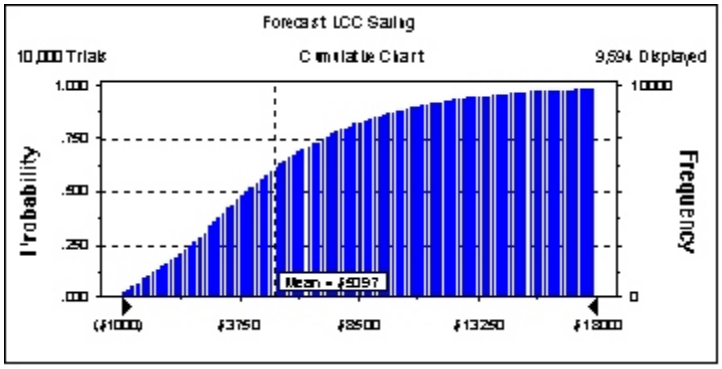

Figure 8D.2.152 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 5; High Transformer Loading Scenario

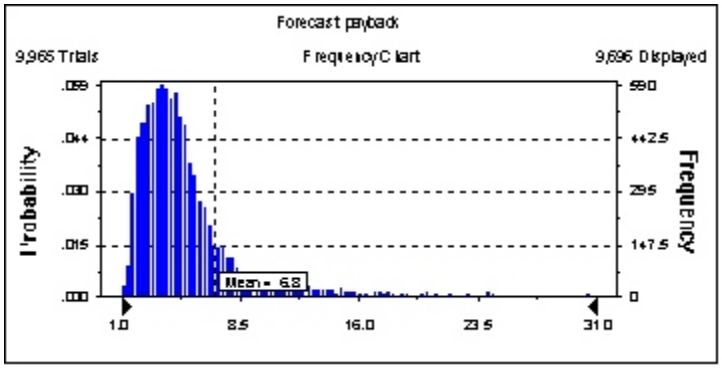

Figure 8D.2.153 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 5; High Transformer Loading Scenario

8D.2.5.6 Low Electricity Price

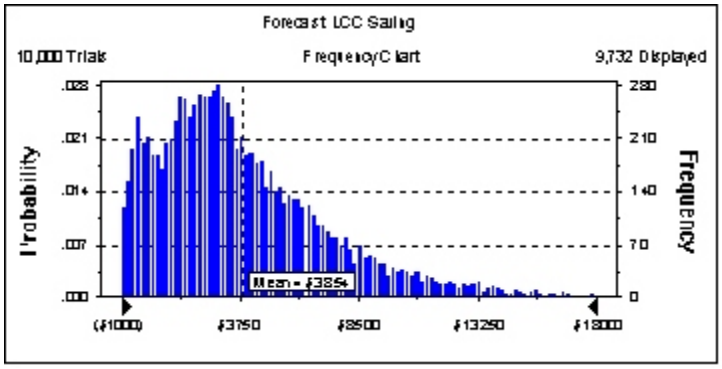

Figure 8D.2.154 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 5; Low Electricity Price Scenario

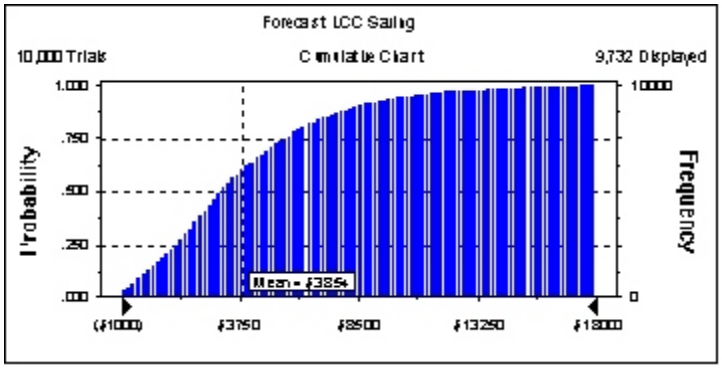

Figure 8D.2.155 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 5; Low Electricity Price Scenario

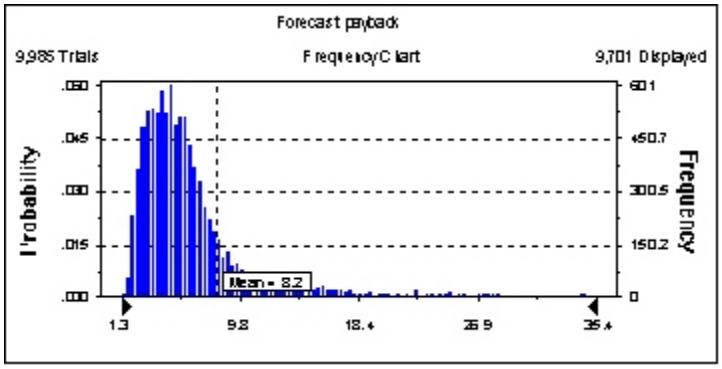

Figure 8D.2.156 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 5; Low Electricity Price Scenario

8D.2.5.7 High Electricity Price

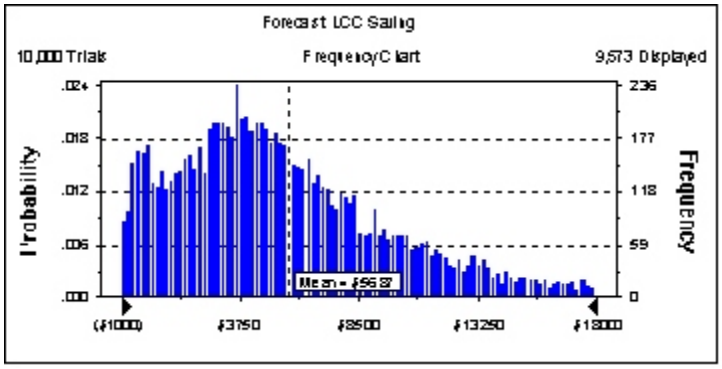

Figure 8D.2.157 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 5; High Electricity Price Scenario

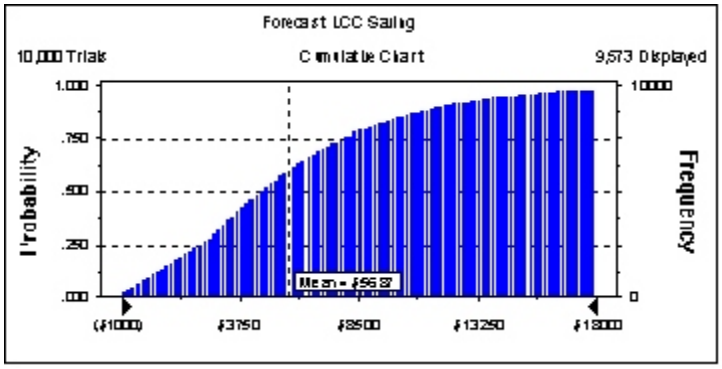

Figure 8D.2.158 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 5; High Electricity Price Scenario

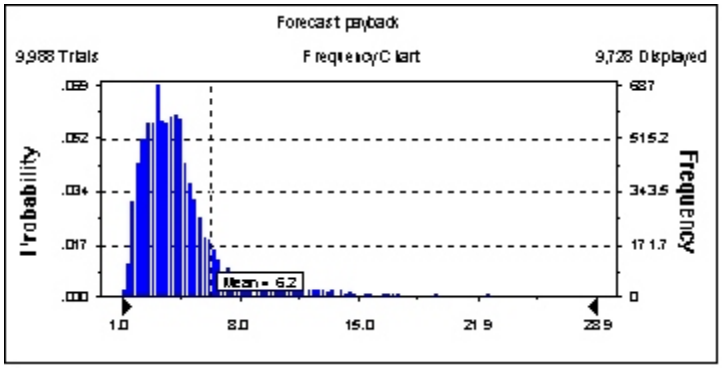

Figure 8D.2.159 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 5; High Electricity Price Scenario

8D.2.5.8 Medium Load Growth

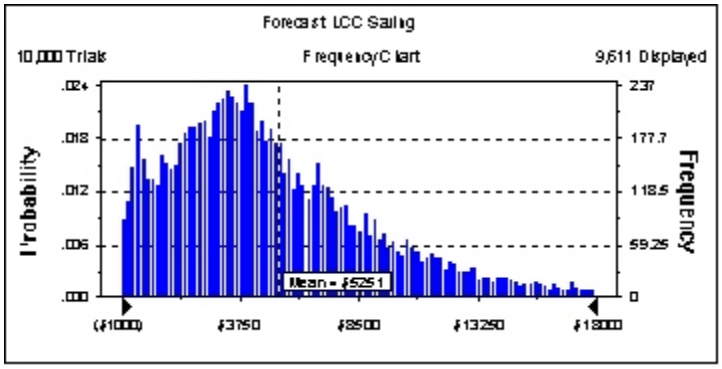

Figure 8D.2.160 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 5; Medium Load Growth Scenario

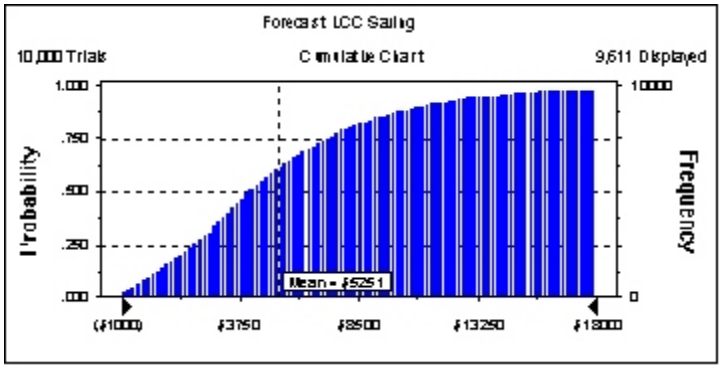

Figure 8D.2.161 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 5; Medium Load Growth Scenario

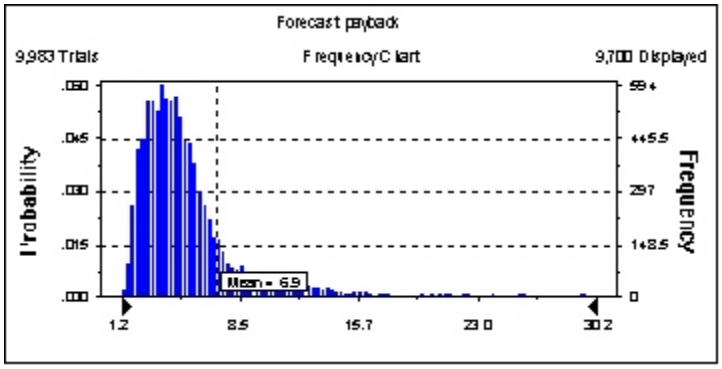

Figure 8D.2.162 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 5; Medium Load Growth Scenario

8D.2.5.9 High Load Growth

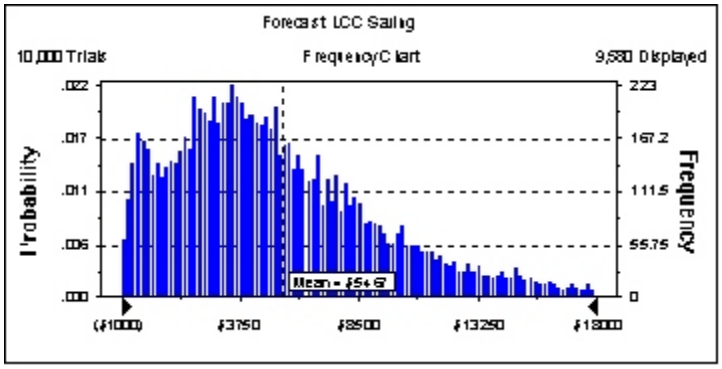

Figure 8D.2.163 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 5; High Load Growth Scenario

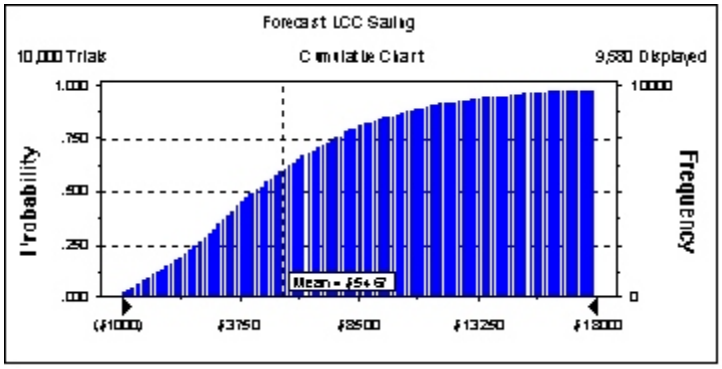

Figure 8D.2.164 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 5; High Load Growth Scenario

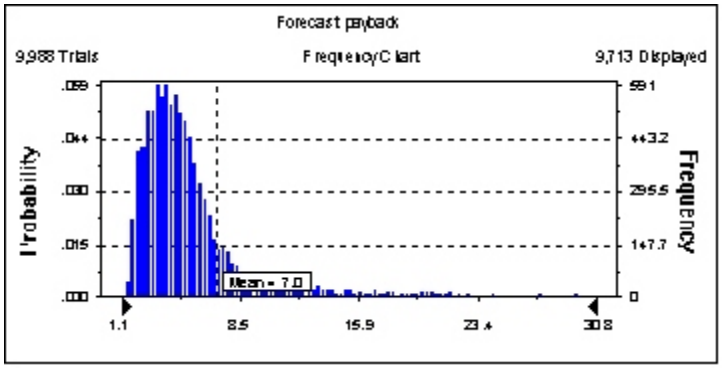

Figure 8D.2.165 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 5; High Load Growth Scenario

8D.2.5.10 Low Equipment Price

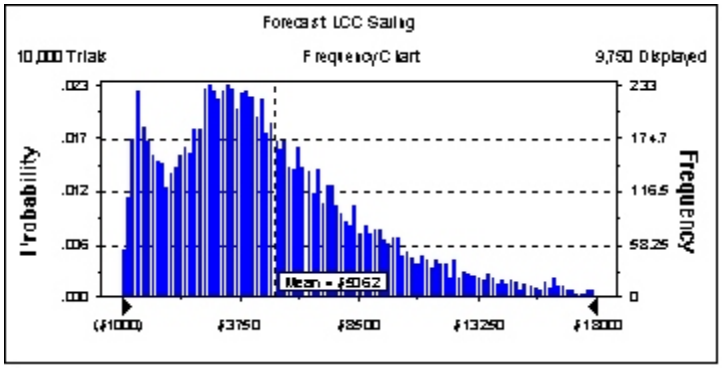

Figure 8D.2.166 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 5; Low Equipment Price Scenario

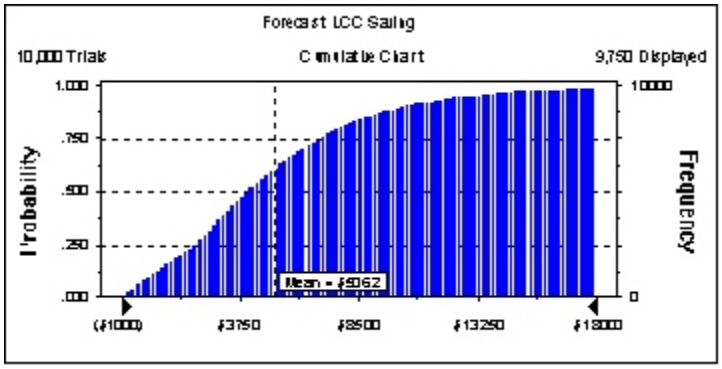

Figure 8D.2.167 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 5; Low Equipment Price Scenario

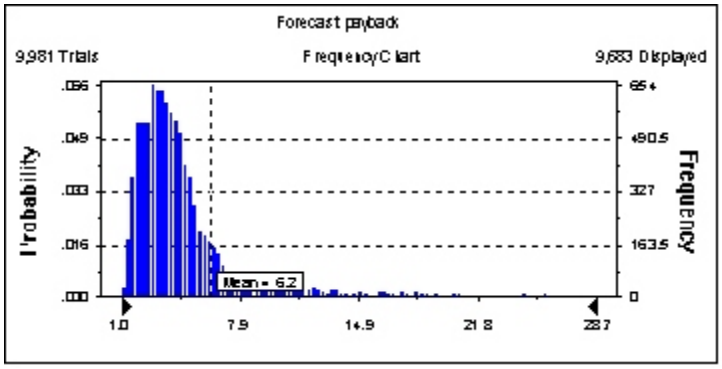

Figure 8D.2.168 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 5; Low Equipment Price Scenario

8D.2.5.11 High Equipment Price

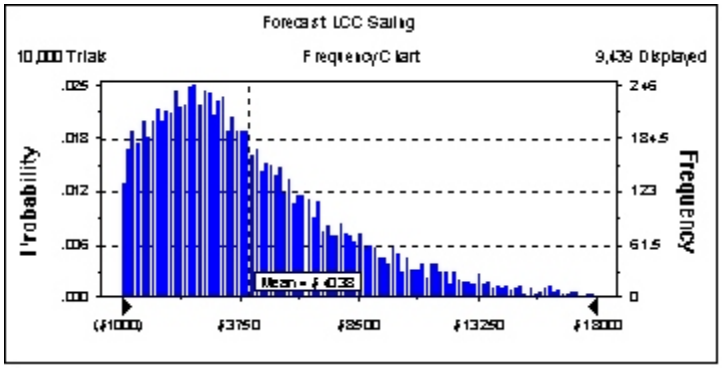

Figure 8D.2.169 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 5; High Equipment Price Scenario

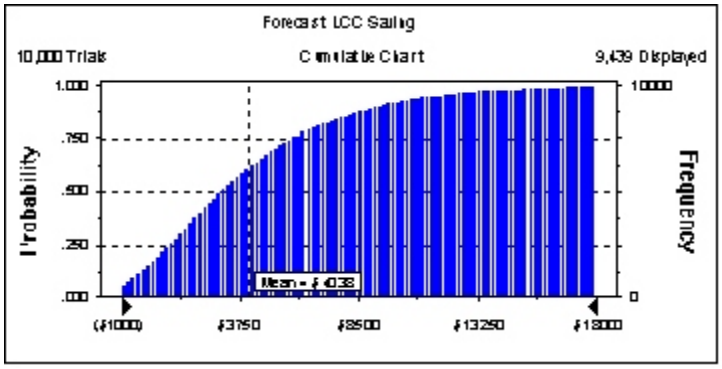

Figure 8D.2.170 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 5; High Equipment Price Scenario

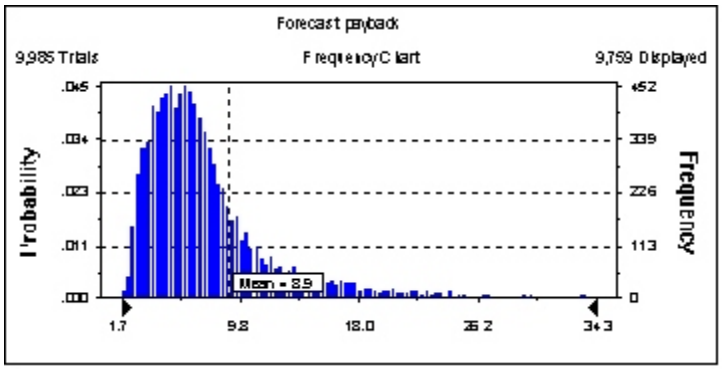

Figure 8D.2.171 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 5; High Equipment Price Scenario

8D.2.6 Design Line 7; Candidate Standard Level 6

Table 8D.2.7 Candidate Standard Level: 6; Summary Table

	Transformers having LCC Savings > $0 (%)	Mean LCC Savings ($)	Mean Payback (Years)
Baseline	91.0	5,262	7.1
Non Evaluating A & B Distribution	95.6	5,302	5.4
High Evaluating A & B Distribution	41.1	212	21.4
Low Loading	89.8	4,279	7.4
High Loading	90.5	5,170	6.9
Low Electricity Price	88.5	3,808	8.1
High Electricity Price	91.9	5,789	6.1
Medium Load Growth	91.0	5,262	7.1
High Load Growth	91.6	5,354	7.0
Low Equipment Price Scenario	91.2	5,013	6.3
High Equipment Price Scenario	86.0	4,061	8.9

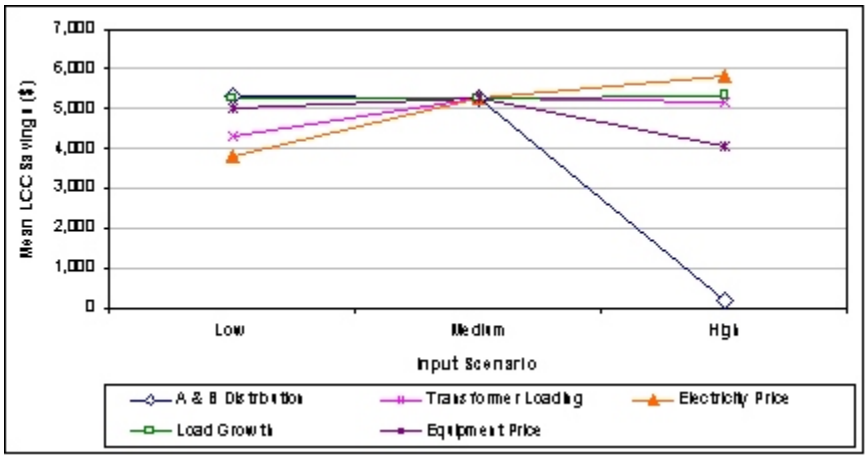

Figure 8D.2.172 Sensitivity of LCC to Input Changes for Design Line 7, Candidate Standard Level 6

8D.2.6.1 Baseline

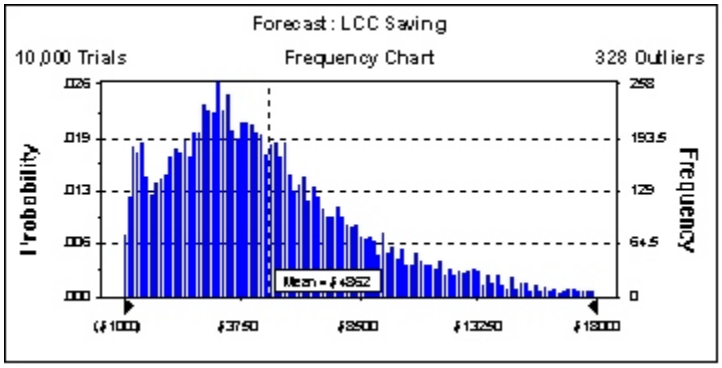

Figure 8D.2.173 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 6; Baseline Scenario

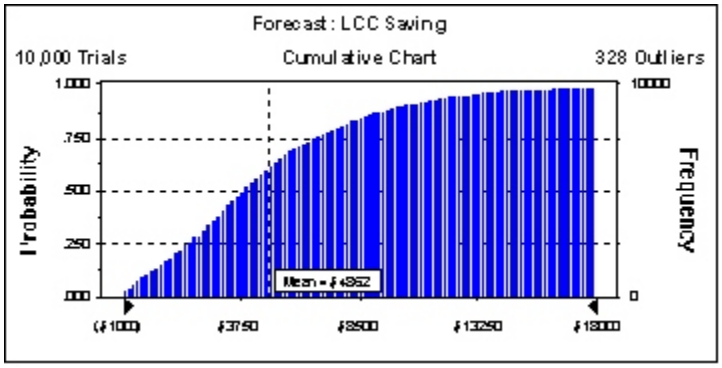

Figure 8D.2.174 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 6; Baseline Scenario

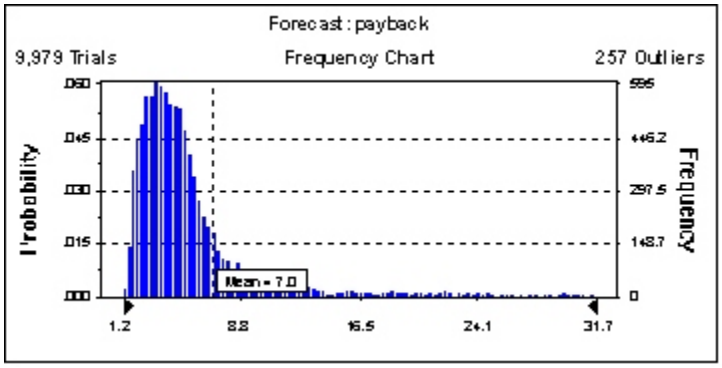

Figure 8D.2.175 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 6; Baseline Scenario

8D.2.6.2 Low A & B Distribution

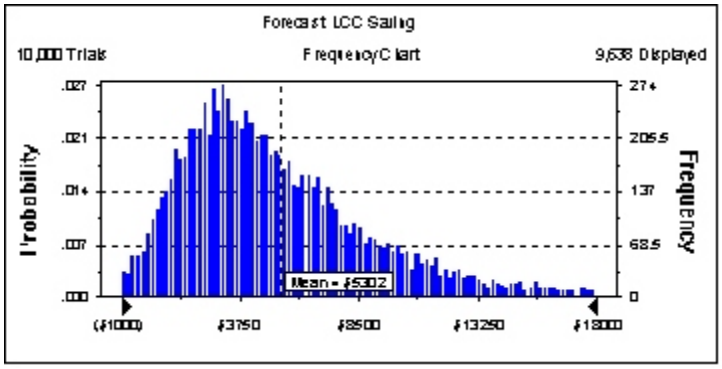

Figure 8D.2.176 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 6; Low A & B Distribution Scenario

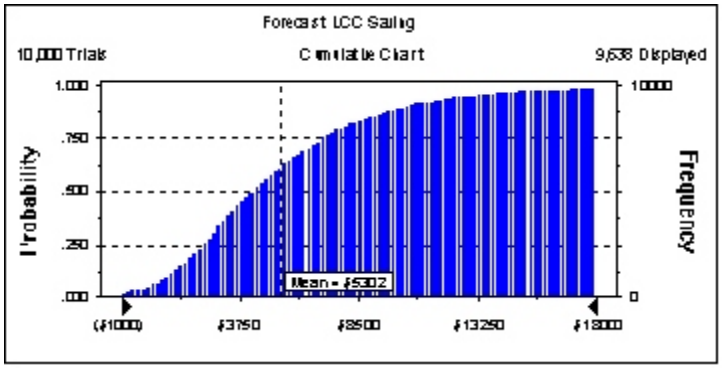

Figure 8D.2.177 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 6; Low A & B Distribution Scenario

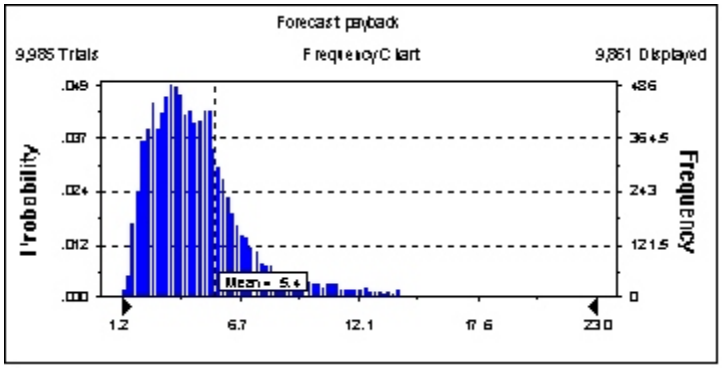

Figure 8D.2.178 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 6; Low A & B Distribution Scenario

8D.2.6.3 High A & B Distribution

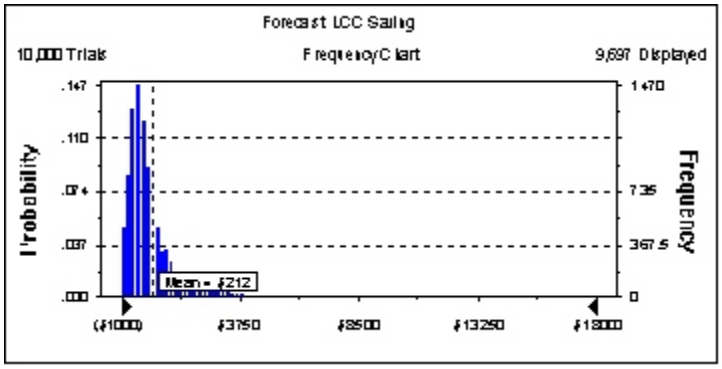

Figure 8D.2.179 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 6; High A & B Distribution Scenario

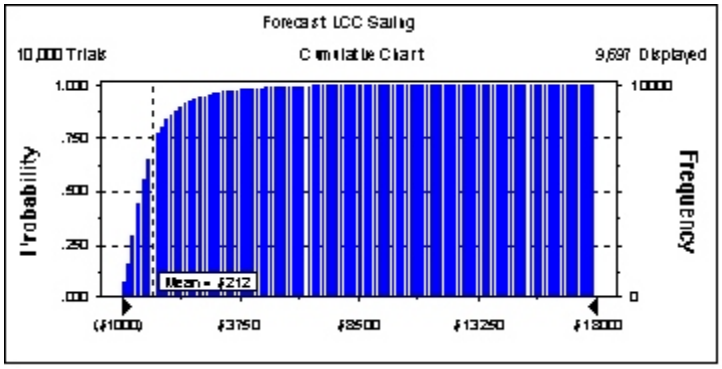

Figure 8D.2.180 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 6; High A & B Distribution Scenario

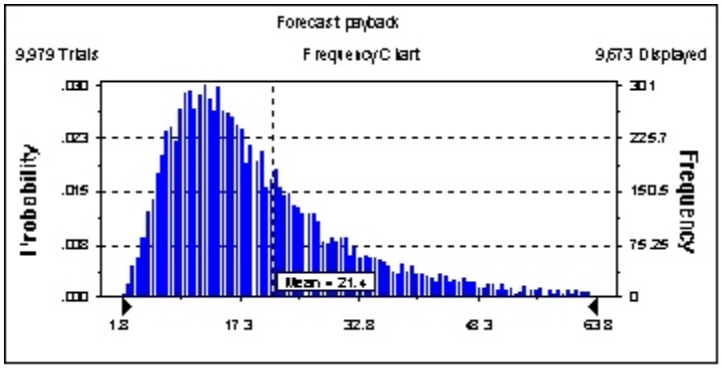

Figure 8D.2.181 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 6; High A & B Distribution Scenario

8D.2.6.4 Low Loading

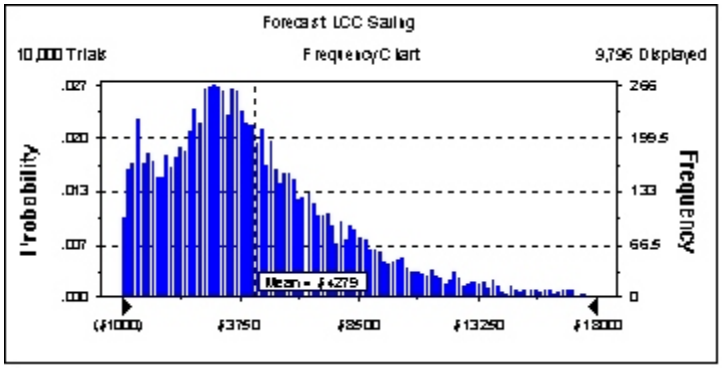

Figure 8D.2.182 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 6; Low Transformer Loading Scenario

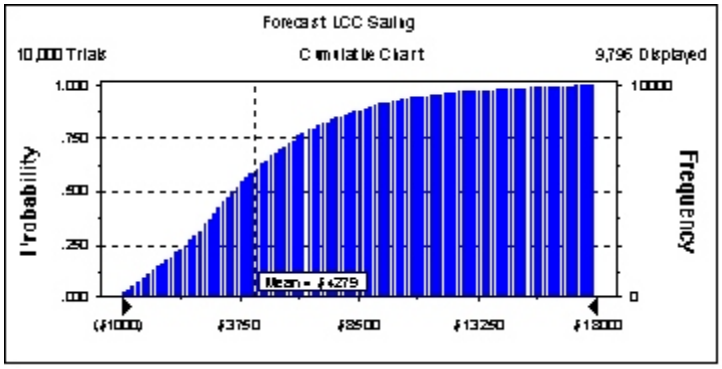

Figure 8D.2.183 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 6; Low Transformer Loading Scenario

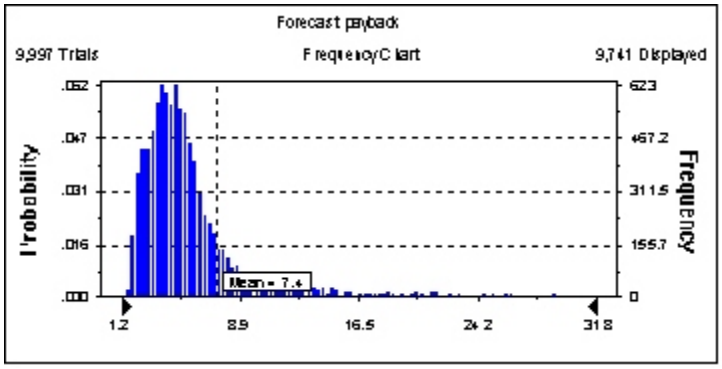

Figure 8D.2.184 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 6; Low Transformer Loading Scenario

8D.2.6.5 High Loading

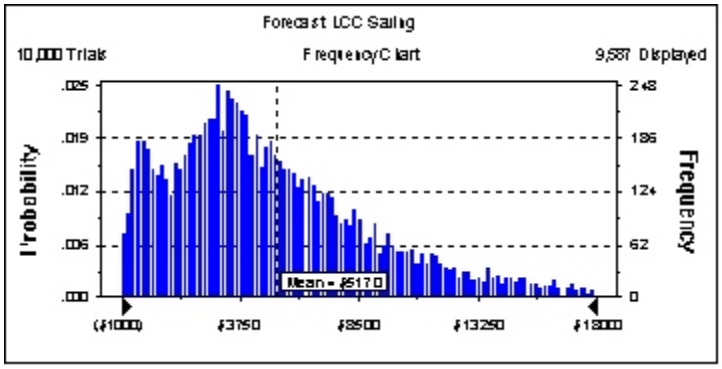

Figure 8D.2.185 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 6; High Transformer Loading Scenario

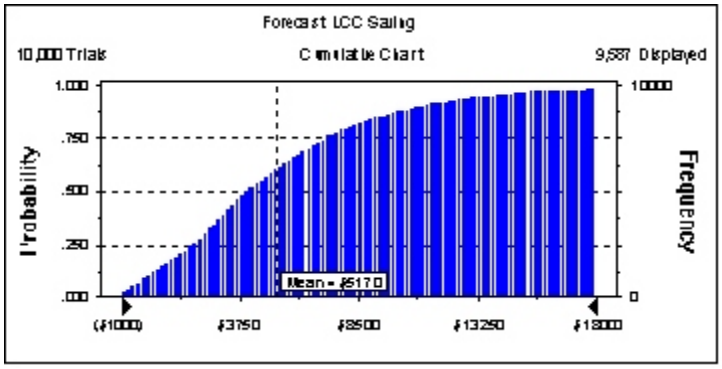

Figure 8D.2.186 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 6; High Transformer Loading Scenario

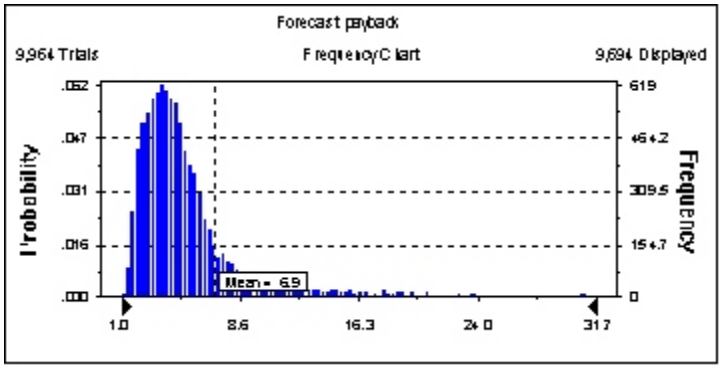

Figure 8D.2.187 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 6; High Transformer Loading Scenario

8D.2.6.6 Low Electricity Price

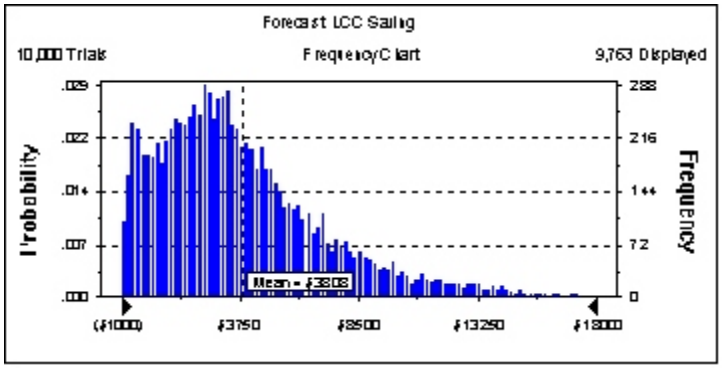

Figure 8D.2.188 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 6; Low Electricity Price Scenario

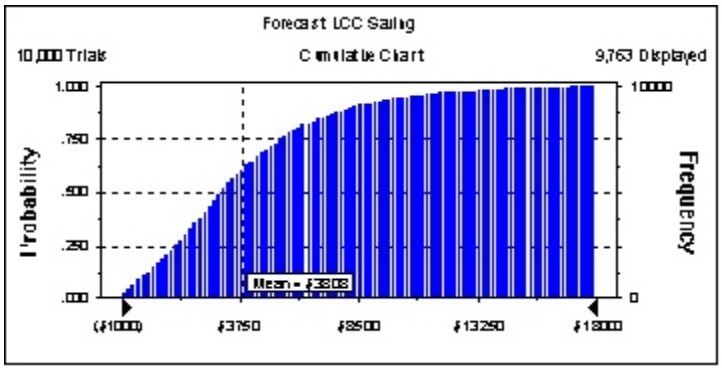

Figure 8D.2.189 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 6; Low Electricity Price Scenario

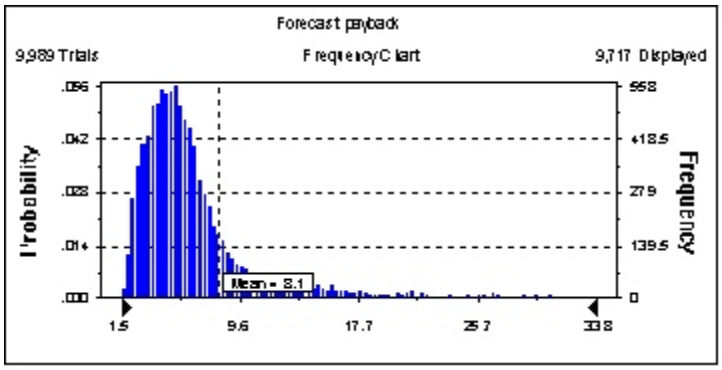

Figure 8D.2.190 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 6; Low Electricity Price Scenario

8D.2.6.7 High Electricity Price

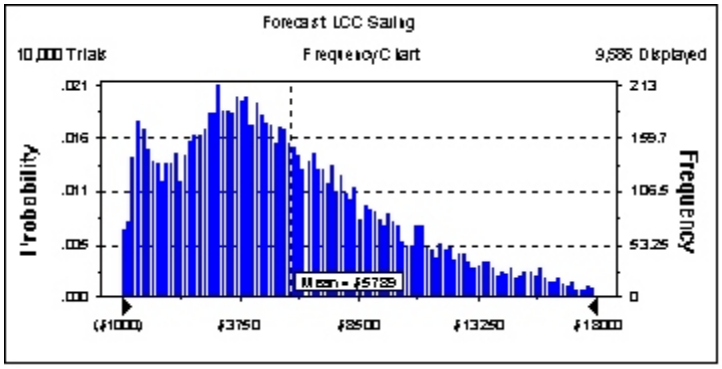

Figure 8D.2.191 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 6; High Electricity Price Scenario

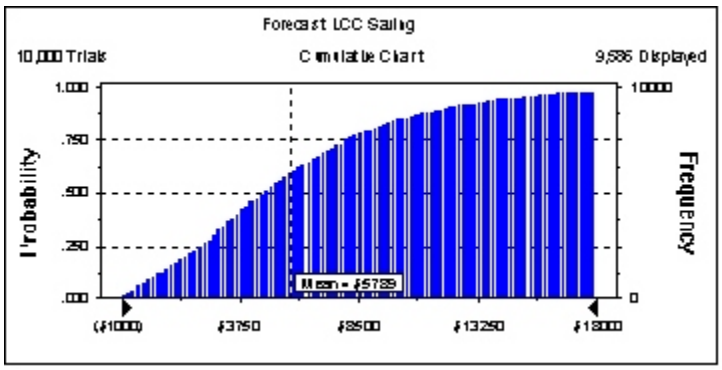

Figure 8D.2.192 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 6; High Electricity Price Scenario

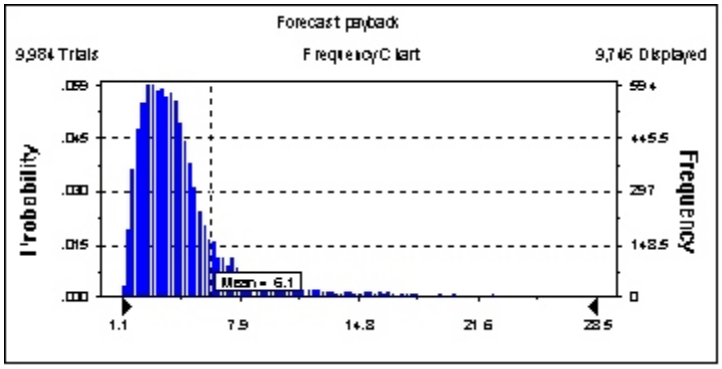

Figure 8D.2.193 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 6; High Electricity Price Scenario

8D.2.6.8 Medium Load Growth

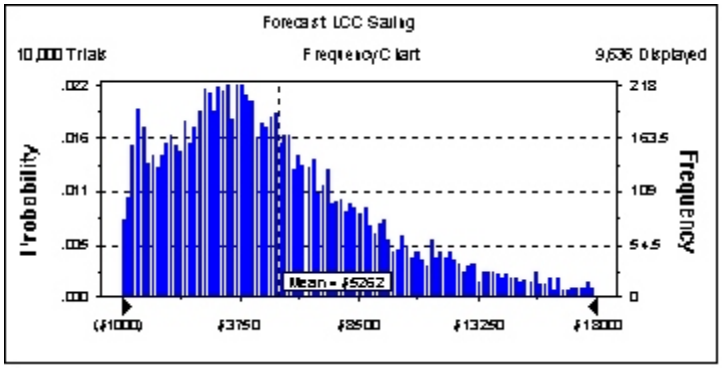

Figure 8D.2.194 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 6; Medium Load Growth Scenario

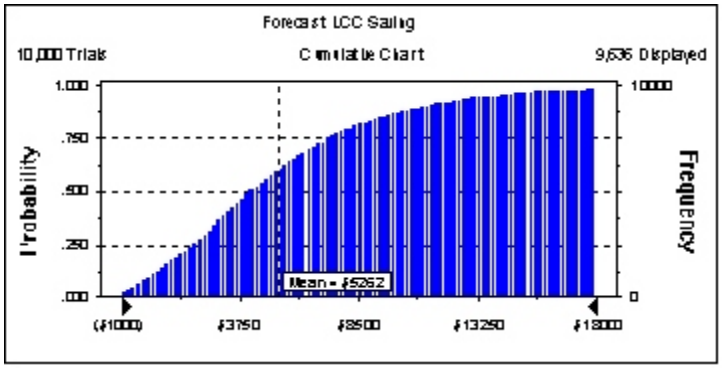

Figure 8D.2.195 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 6; Medium Load Growth Scenario

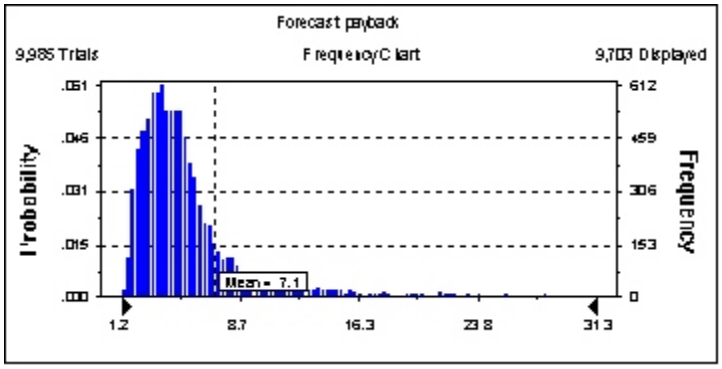

Figure 8D.2.196 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 6; Medium Load Growth Scenario

8D.2.6.9 High Load Growth

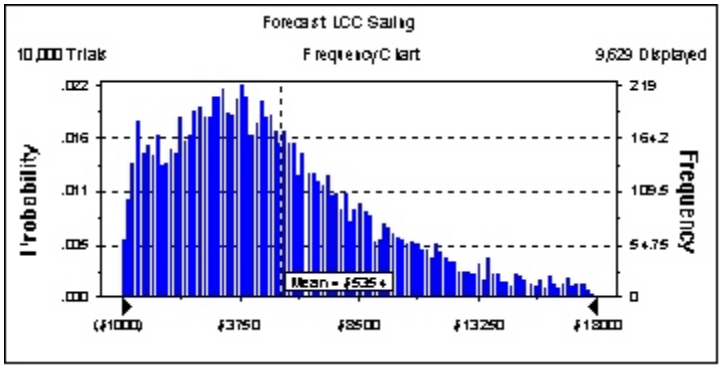

Figure 8D.2.197 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 6; High Load Growth Scenario

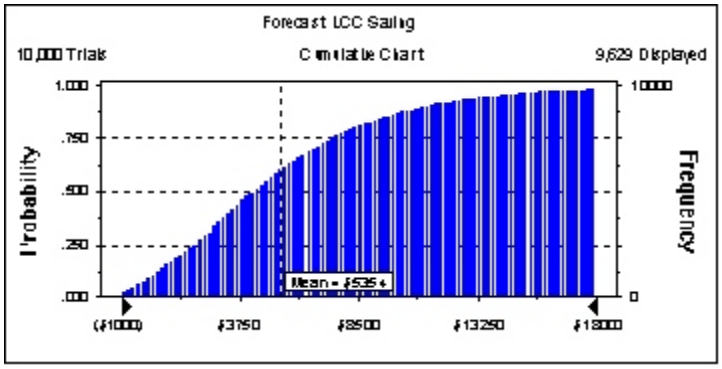

Figure 8D.2.198 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 6; High Load Growth Scenario

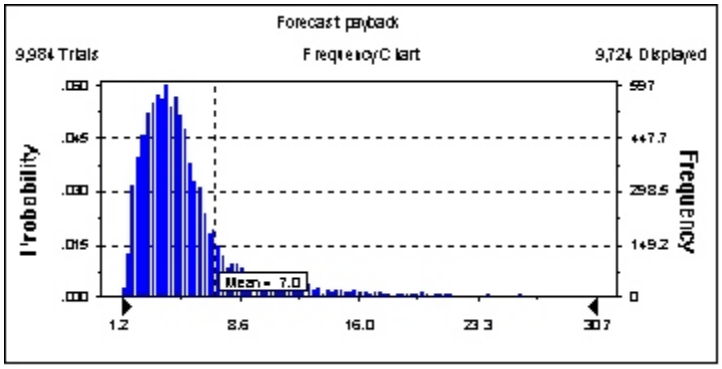

Figure 8D.2.199 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 6; High Load Growth Scenario

8D.2.6.10 Low Equipment Price

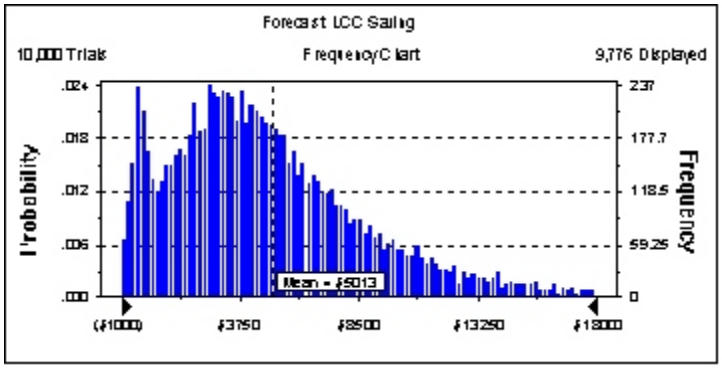

Figure 8D.2.200 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 6; Low Equipment Price Scenario

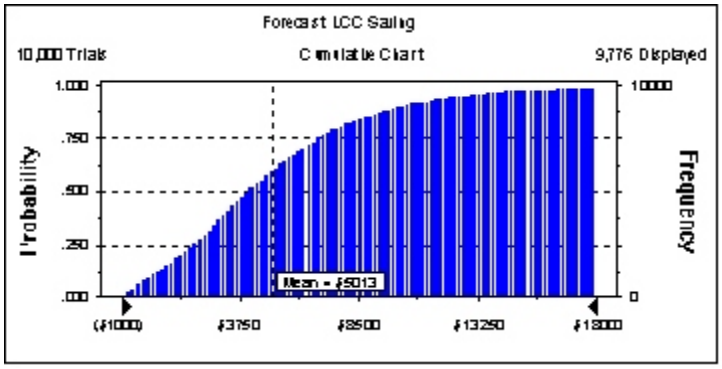

Figure 8D.2.201 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 6; Low Equipment Price Scenario

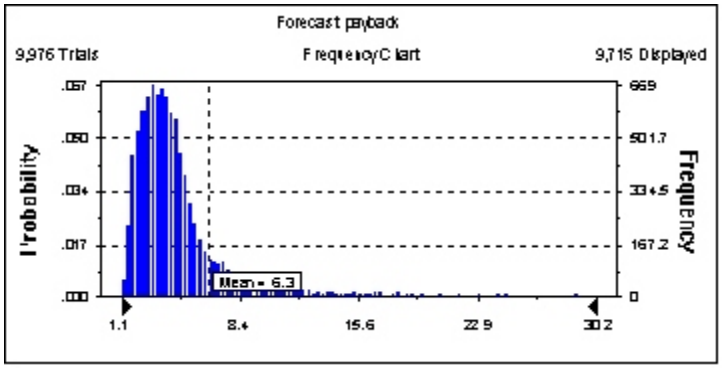

Figure 8D.2.202 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 6; Low Equipment Price Scenario

8D.2.6.11 High Equipment Price

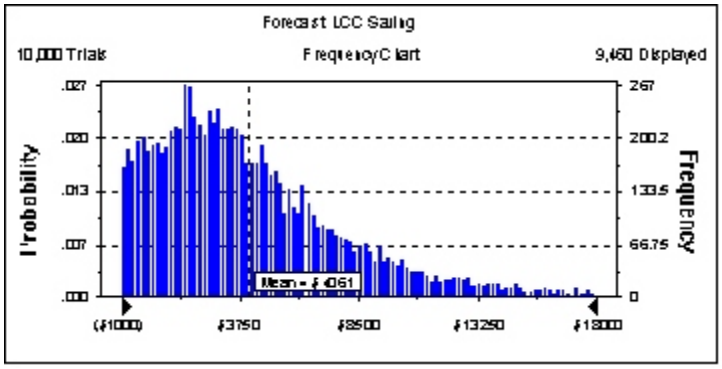

Figure 8D.2.203 LCC Savings Frequency Chart; Design Line: 7; Candidate Standard Level: 6; High Equipment Price Scenario

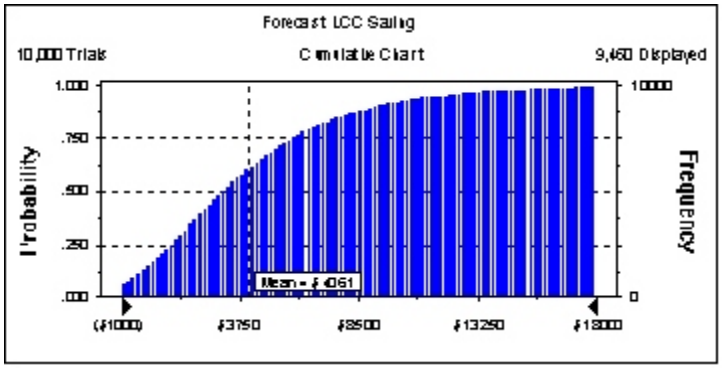

Figure 8D.2.204 LCC Savings Cumulative Chart; Design Line: 7; Candidate Standard Level: 6; High Equipment Price Scenario

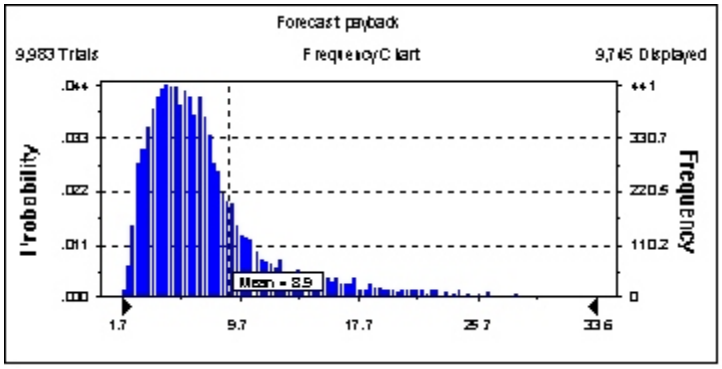

Figure 8D.2.205 Payback Period Frequency Chart; Design Line: 7; Candidate Standard Level: 6; High Equipment Price Scenario

8D.3 DESIGN LINE 12 RESULTS

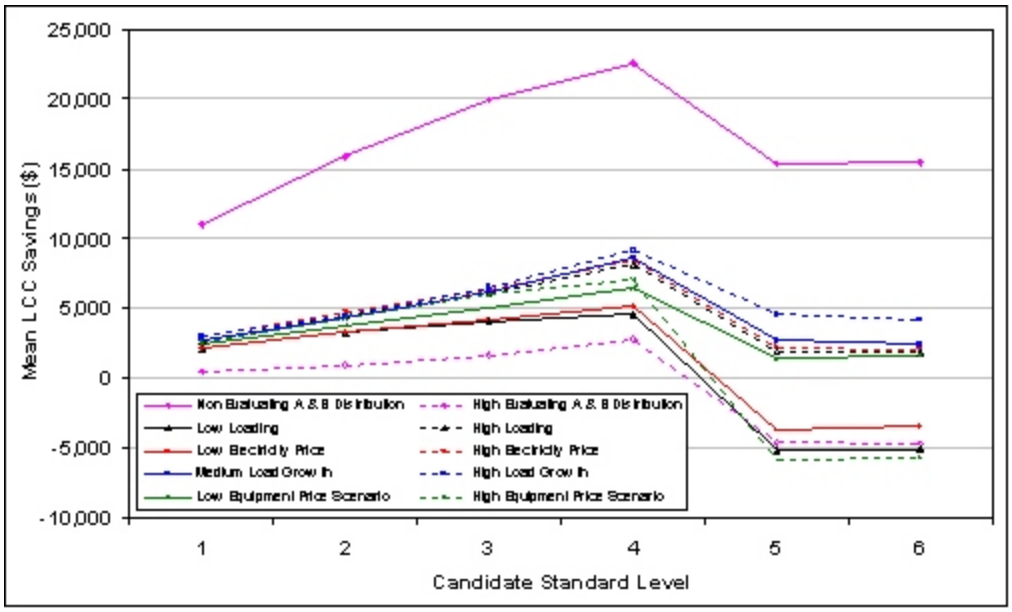

Figure 8D.3.1 Mean LCC Savings ($), by Scenario for Design Line 12

Table 8D.3.1 Mean LCC Savings ($), Summary Table for Design Line 12

	Candidate Standard Level					
	1	**2**	**3**	**4**	**5**	**6**
Baseline	2,600	3,973	5,485	6,812	-650	-655
Non Evaluating A & B Distribution	11,033	15,868	19,944	22,607	15,289	15,436
High Evaluating A & B Distribution	424	877	1,646	2,732	-4,641	-4,699
Low Loading	2,145	3,238	4,046	4,578	-5,234	-5,091
High Loading	2,713	4,481	6,051	8,125	1,947	1,790
Low Electricity Price	2,063	3,254	4,186	5,153	-3,705	-3,500
High Electricity Price	2,917	4,748	6,340	8,458	2,232	2,044
Medium Load Growth	2,783	4,370	6,270	8,598	2,642	2,386
High Load Growth	2,984	4,436	6,497	9,108	4,525	4,184
Low Equipment Price Scenario	2,496	3,725	4,993	6,410	1,319	1,596
High Equipment Price Scenario	2,534	4,279	5,906	7,091	-5,842	-5,797

8D.3.1 Design Line 12; Candidate Standard Level 1

Table 8D.3.2 Candidate Standard Level: 1; Summary Table

	Candidate Standard Level		
	Transformers having LCC Savings > $0 (%)	**Mean LCC Savings ($)**	**Mean Payback (Years)**
Baseline	98.6	2,600	0.8
Non Evaluating A & B Distribution	95.7	11,033	0.7
High Evaluating A & B Distribution	99.5	424	1.0
Low Loading	98.4	2,145	0.8
High Loading	98.6	2,713	0.8
Low Electricity Price	98.4	2,063	0.9
High Electricity Price	98.7	2,917	0.7
Medium Load Growth	98.5	2,783	0.8
High Load Growth	98.5	2,984	0.8
Low Equipment Price Scenario	99.2	2,496	0.7
High Equipment Price Scenario	93.8	2,534	1.9

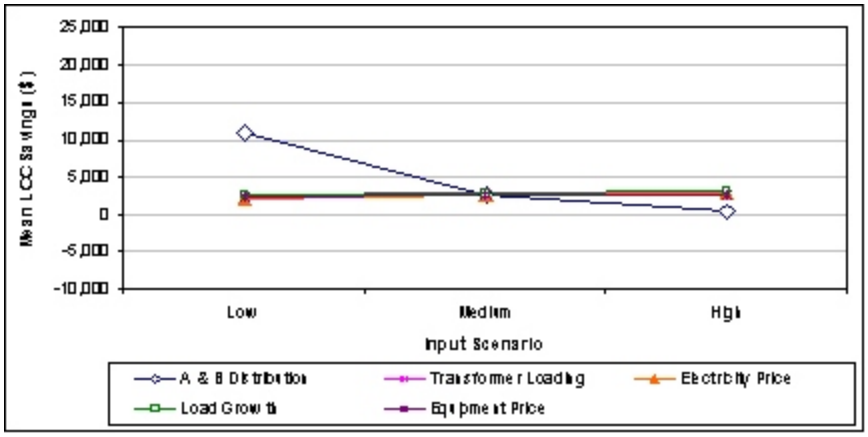

Figure 8D.3.2 Sensitivity of LCC to Input Changes for Design Line 12, Candidate Standard Level 1

8D.3.1.1 Baseline

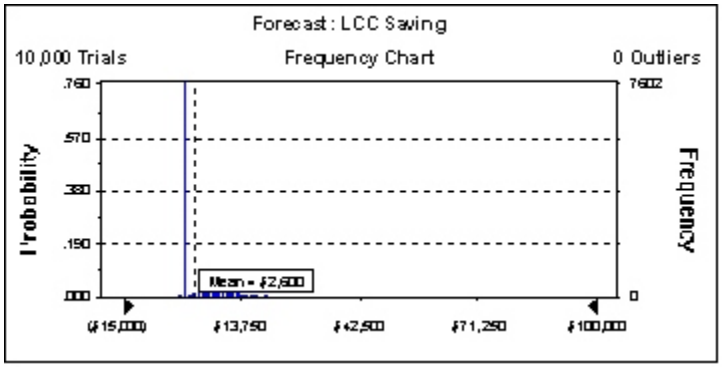

Figure 8D.3.3 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 1; Baseline Scenario

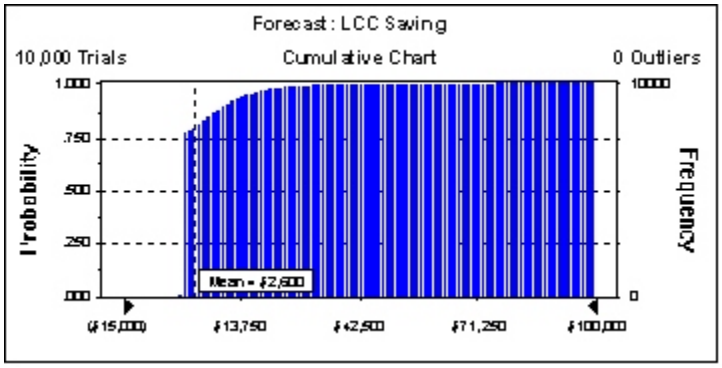

Figure 8D.3.4 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 1; Baseline Scenario

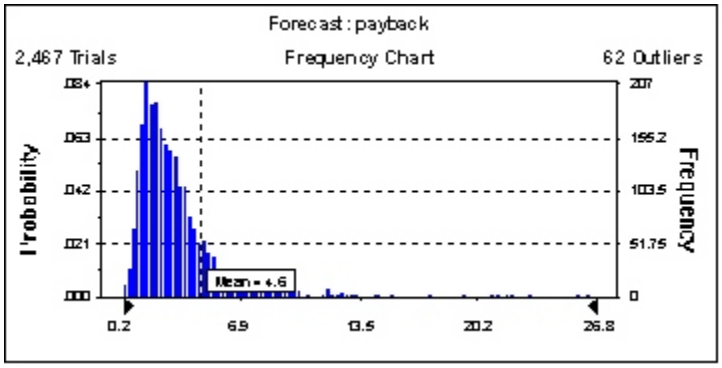

Figure 8D.3.5 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 1; Baseline Scenario

8D.3.1.2 Low A & B Distribution

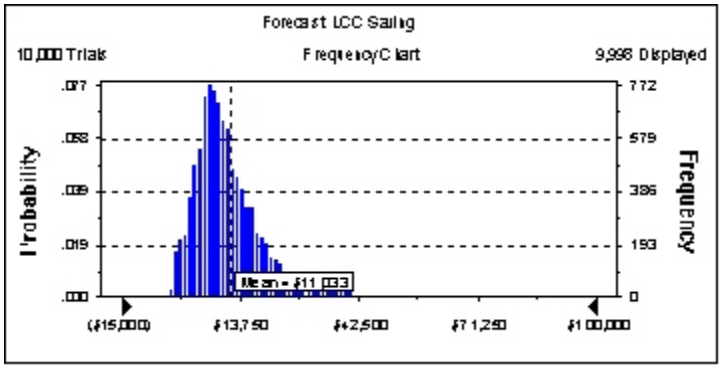

Figure 8D.3.6 **LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 1; Low A & B Distribution Scenario**

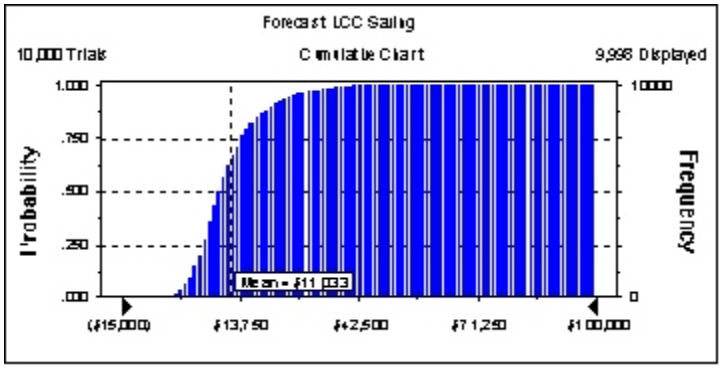

Figure 8D.3.7 **LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 1; Low A & B Distribution Scenario**

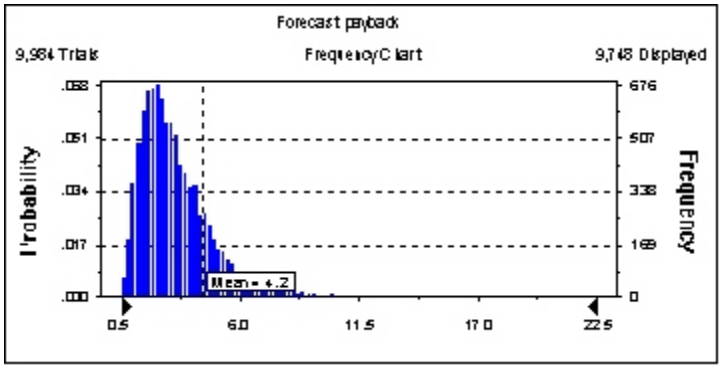

Figure 8D.3.8 **Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 1; Low A & B Distribution Scenario**

8D.3.1.3 High A & B Distribution

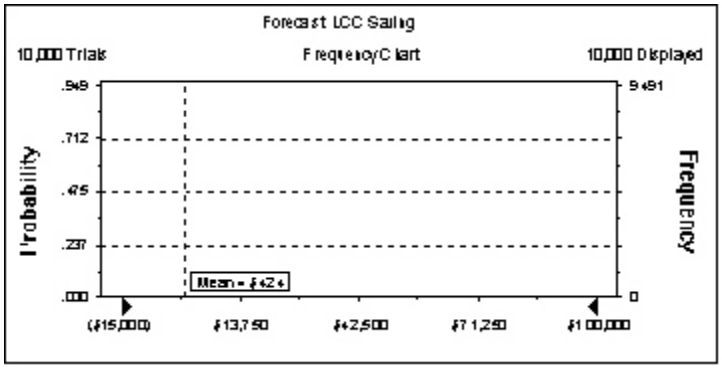

Figure 8D.3.9 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 1; High A & B Distribution Scenario

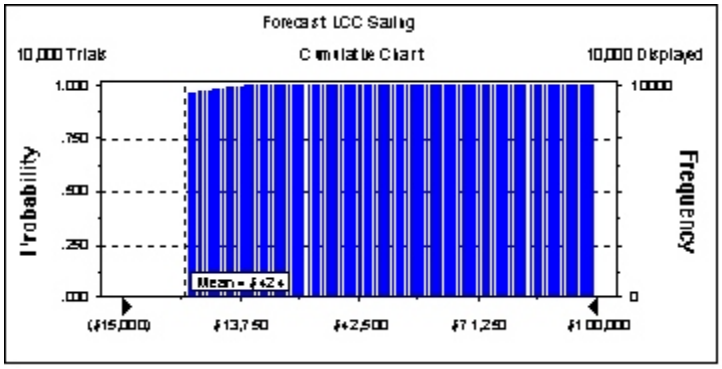

Figure 8D.3.10 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 1; High A & B Distribution Scenario

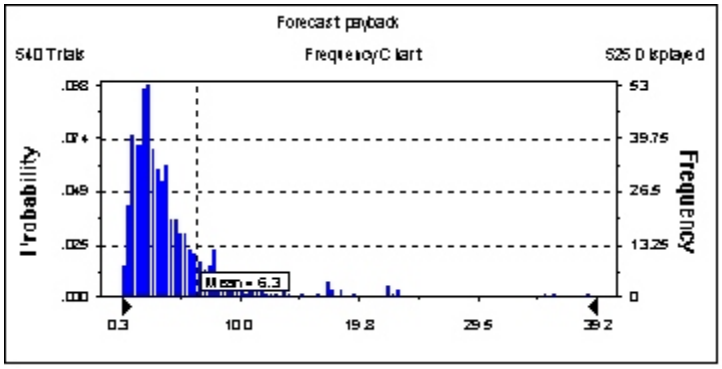

Figure 8D.3.11 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 1; High A & B Distribution Scenario

8D.3.1.4 Low Loading

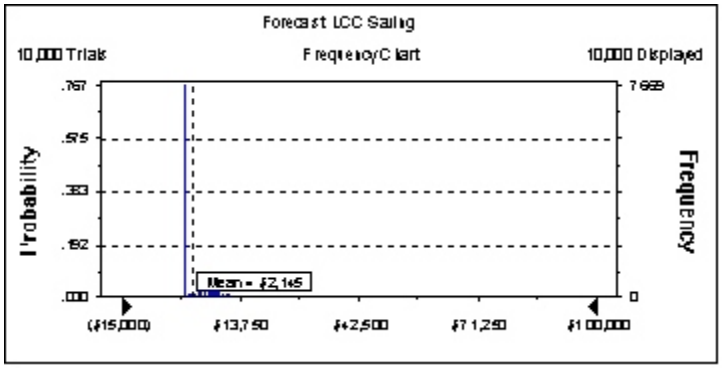

Figure 8D.3.12 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 1; Low Transformer Loading Scenario

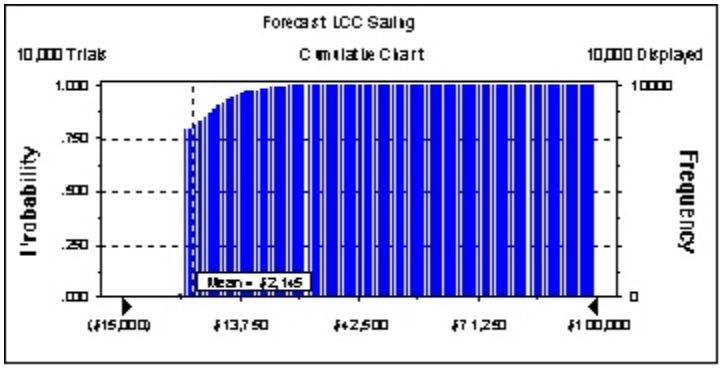

Figure 8D.3.13 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 1; Low Transformer Loading Scenario

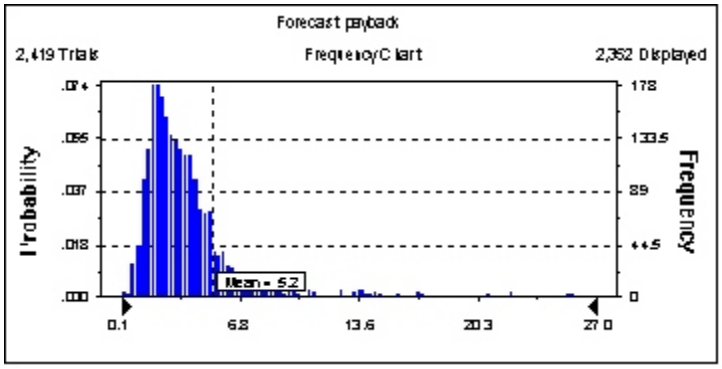

Figure 8D.3.14 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 1; Low Transformer Loading Scenario

8D.3.1.5 High Loading

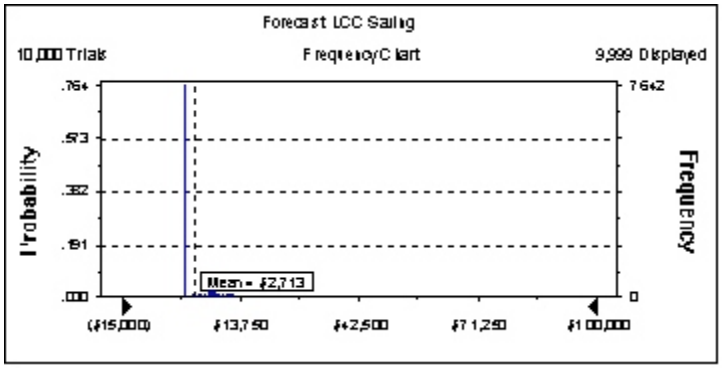

Figure 8D.3.15 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 1; High Transformer Loading Scenario

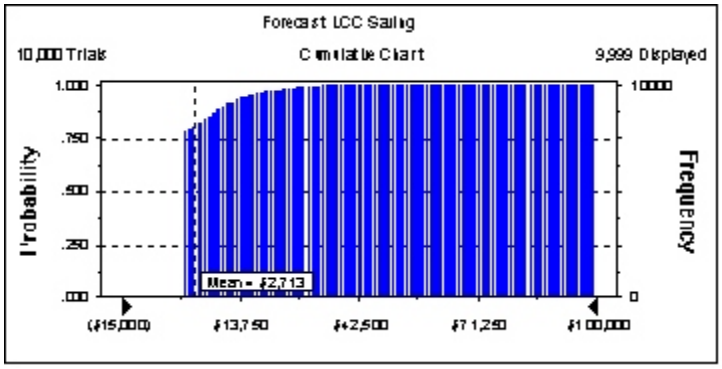

Figure 8D.3.16 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 1; High Transformer Loading Scenario

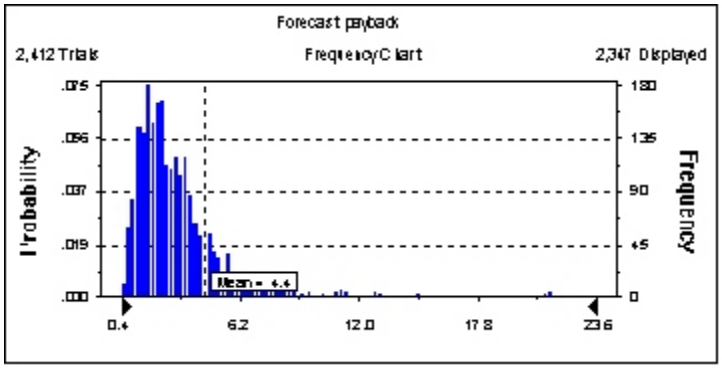

Figure 8D.3.17 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 1; High Transformer Loading Scenario

8D.3.1.6 Low Electricity Price

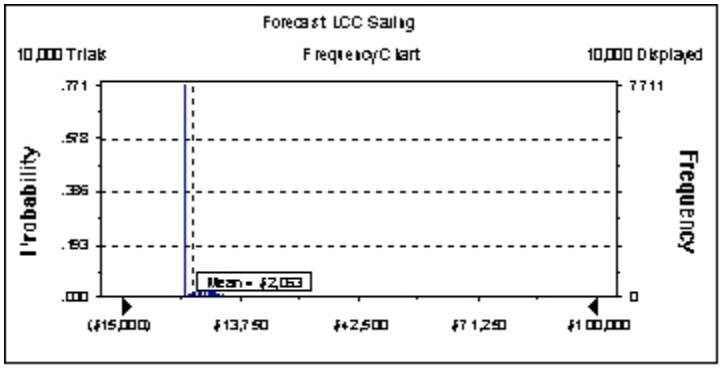

Figure 8D.3.18 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 1; Low Electricity Price Scenario

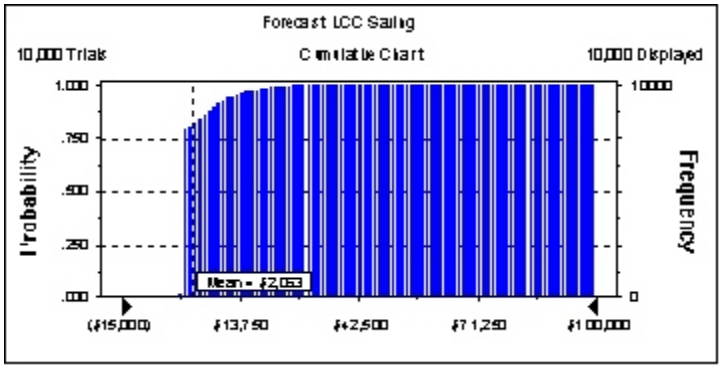

Figure 8D.3.19 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 1; Low Electricity Price Scenario

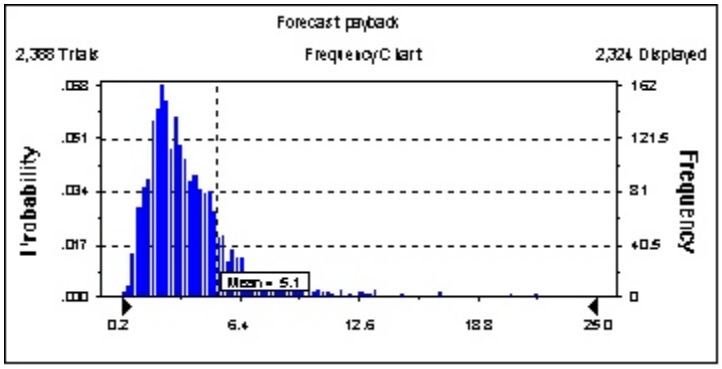

Figure 8D.3.20 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 1; Low Electricity Price Scenario

8D.3.1.7 High Electricity Price

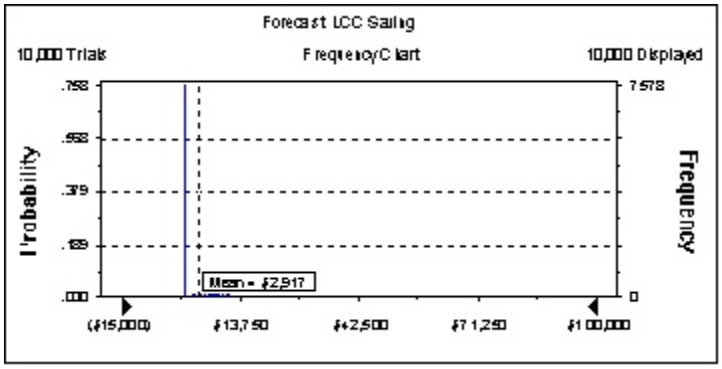

Figure 8D.3.21 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 1; High Electricity Price Scenario

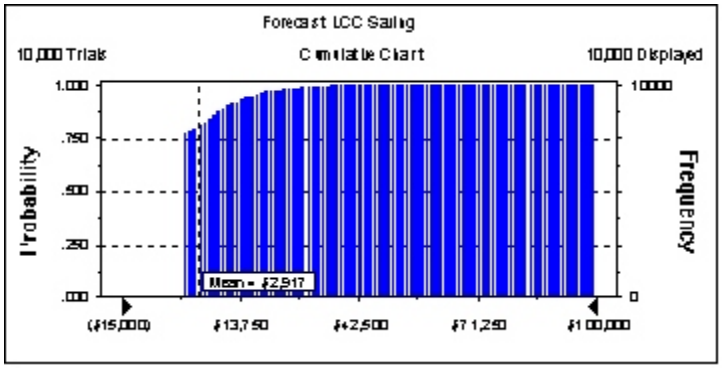

Figure 8D.3.22 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 1; High Electricity Price Scenario

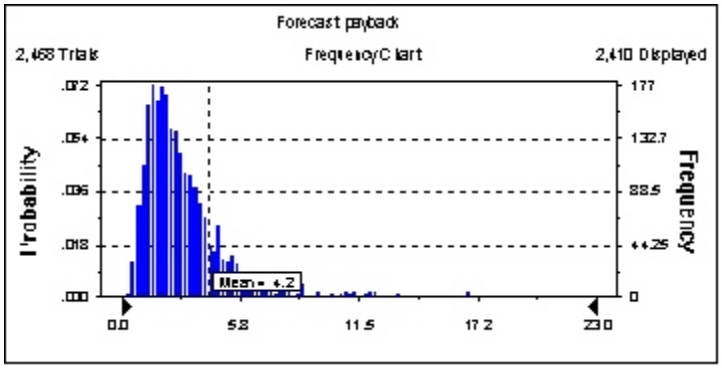

Figure 8D.3.23 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 1; High Electricity Price Scenario

8D.3.1.8 Medium Load Growth

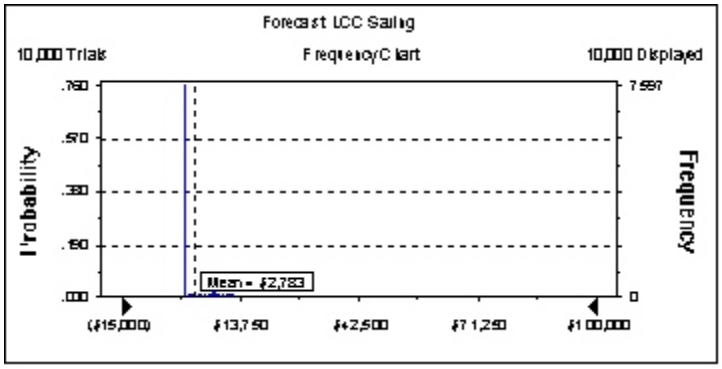

Figure 8D.3.24 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 1; Medium Load Growth Scenario

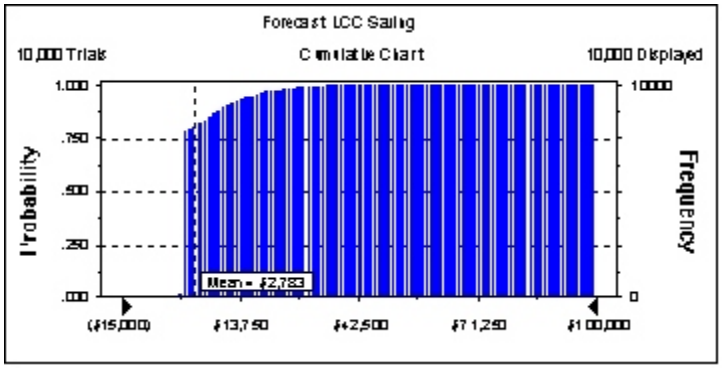

Figure 8D.3.25 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 1; Medium Load Growth Scenario

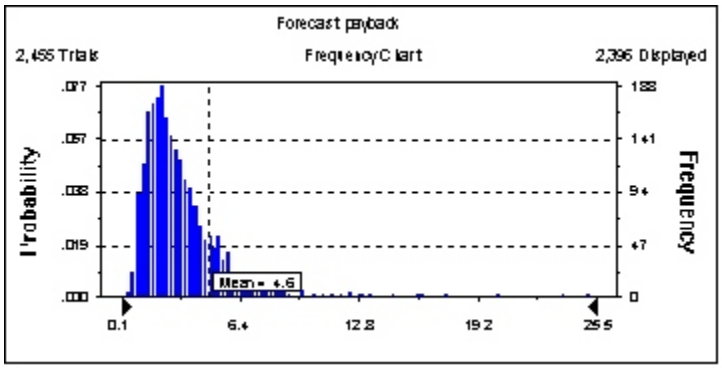

Figure 8D.3.26 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 1; Medium Load Growth Scenario

8D.3.1.9 High Load Growth

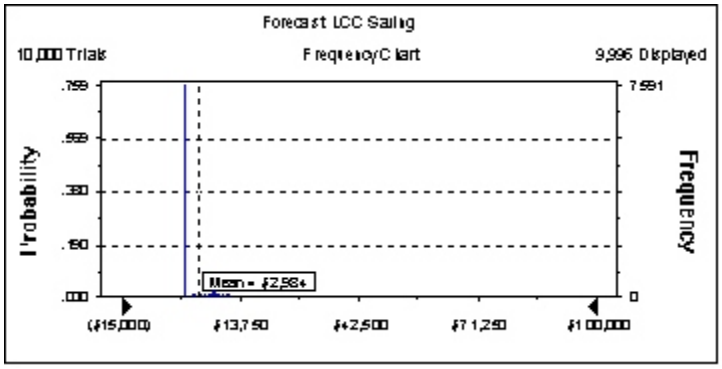

Figure 8D.3.27 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 1; High Load Growth Scenario

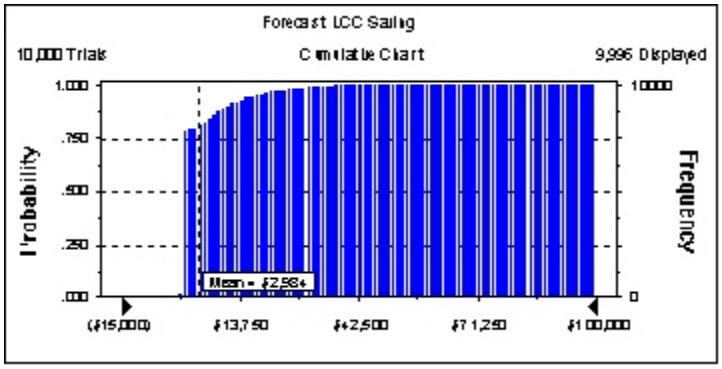

Figure 8D.3.28 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 1; High Load Growth Scenario

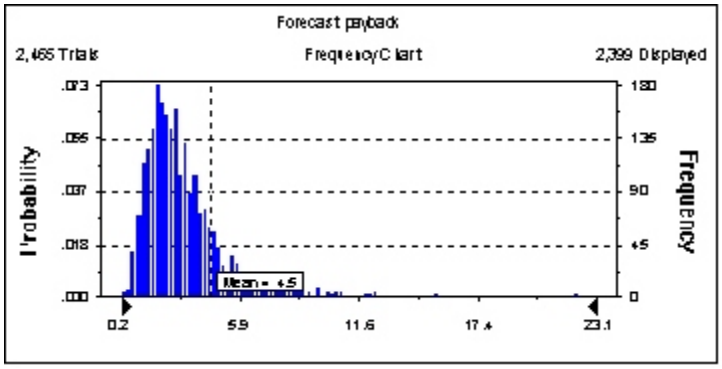

Figure 8D.3.29 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 1; High Load Growth Scenario

8D.3.1.10 Low Equipment Price

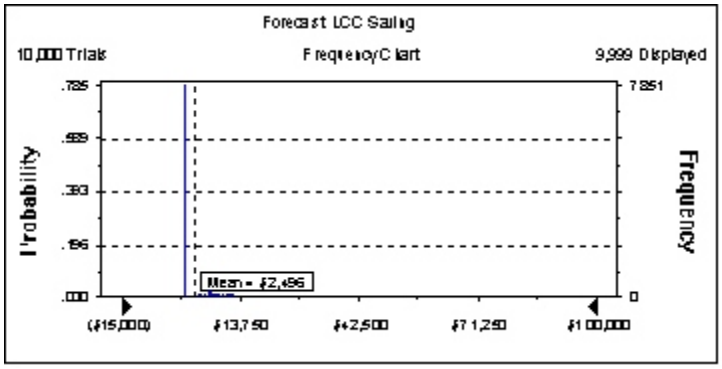

Figure 8D.3.30 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 1; Low Equipment Price Scenario

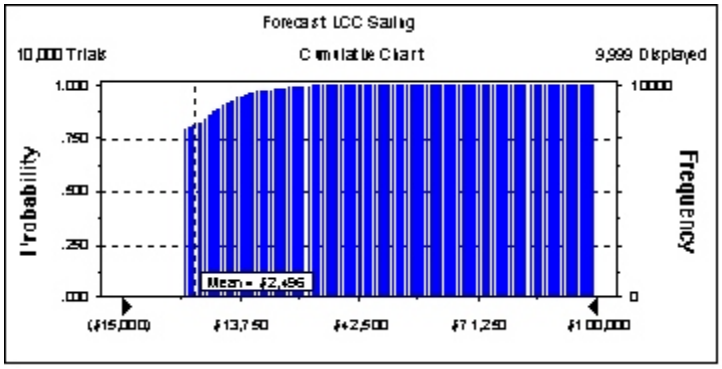

Figure 8D.3.31 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 1; Low Equipment Price Scenario

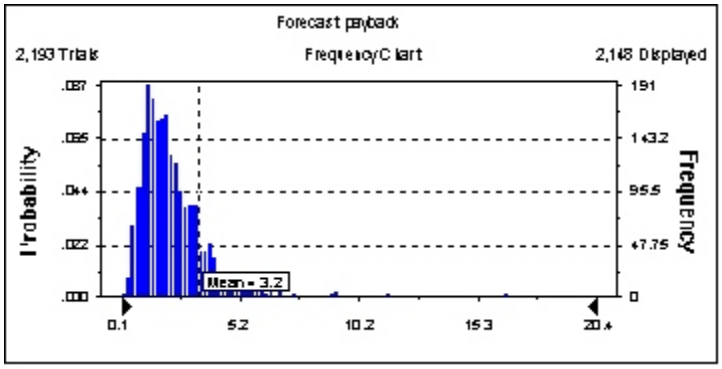

Figure 8D.3.32 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 1; Low Equipment Price Scenario

8D.3.1.11 High Equipment Price

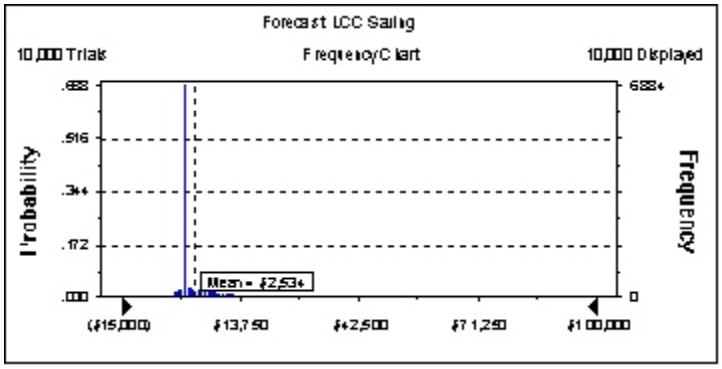

Figure 8D.3.33 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 1; High Equipment Price Scenario

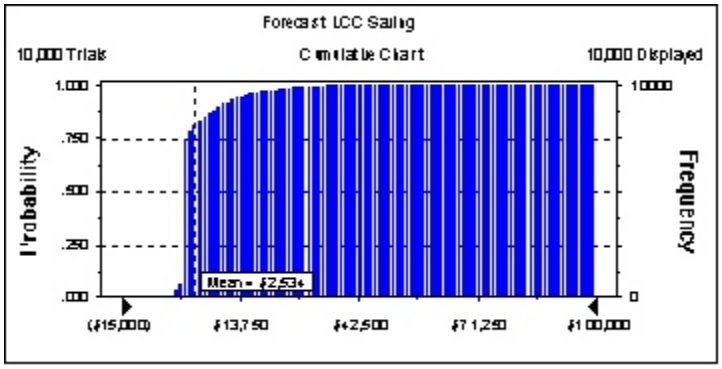

Figure 8D.3.34 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 1; High Equipment Price Scenario

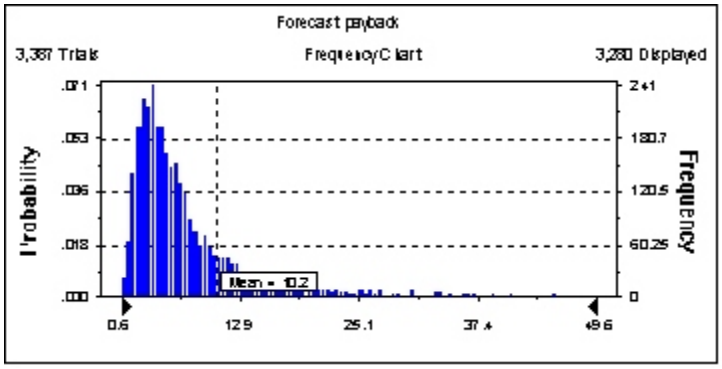

Figure 8D.3.35 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 1; High Equipment Price Scenario

8D.3.2 Design Line 12; Candidate Standard Level 2

Table 8D.3.3 Candidate Standard Level: 2; Summary Table

	Candidate Standard Level		
	Transformers having LCC Savings > $0 (%)	**Mean LCC Savings ($)**	**Mean Payback (Years)**
Baseline	98.5	3,973	1.6
Non Evaluating A & B Distribution	95.4	15,868	1.4
High Evaluating A & B Distribution	99.0	877	6.5
Low Loading	98.3	3,238	1.5
High Loading	98.5	4,481	1.5
Low Electricity Price	98.0	3,254	1.8
High Electricity Price	98.2	4,748	1.3
Medium Load Growth	98.2	4,370	1.5
High Load Growth	98.4	4,436	1.6
Low Equipment Price Scenario	98.9	3,725	1.3
High Equipment Price Scenario	95.7	4,279	2.8

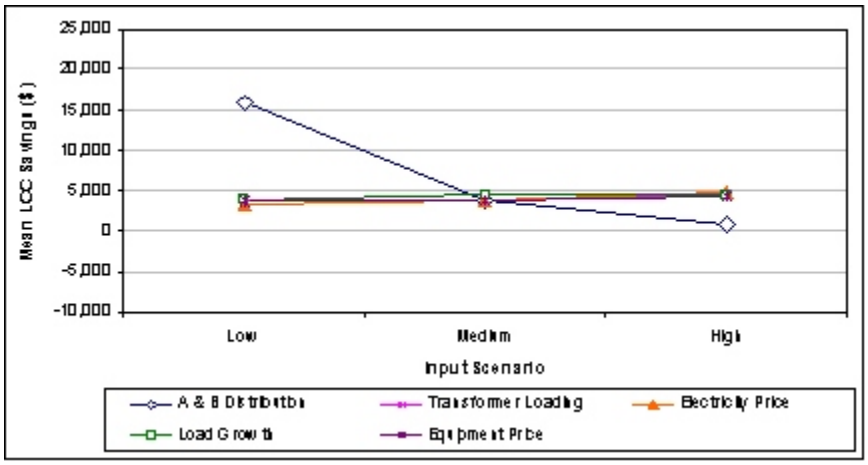

Figure 8D.3.36 Sensitivity of LCC to Input Changes for Design Line 12 , Candidate Standard Level 2

8D.3.2.1 Baseline

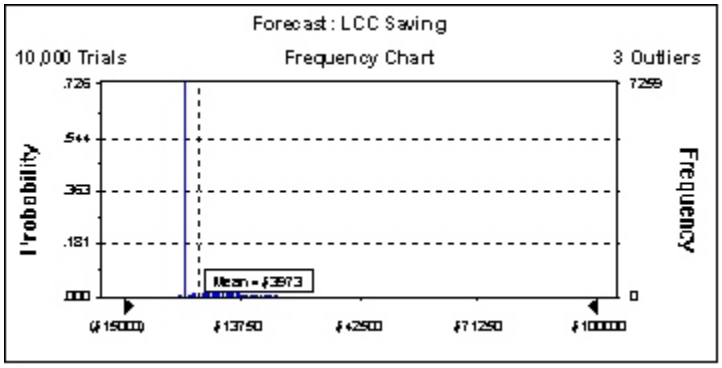

Figure 8D.3.37 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 2; Baseline Scenario

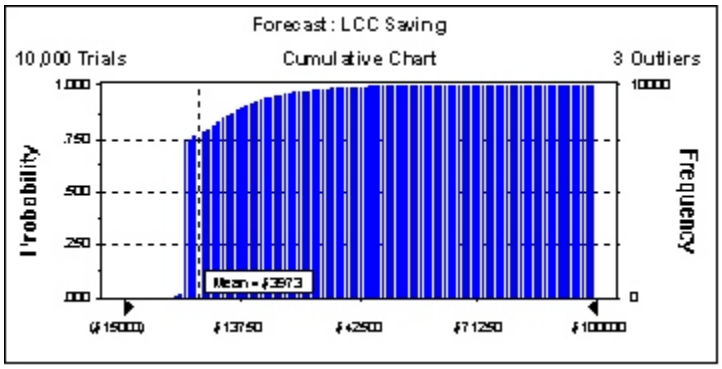

Figure 8D.3.38 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 2; Baseline Scenario

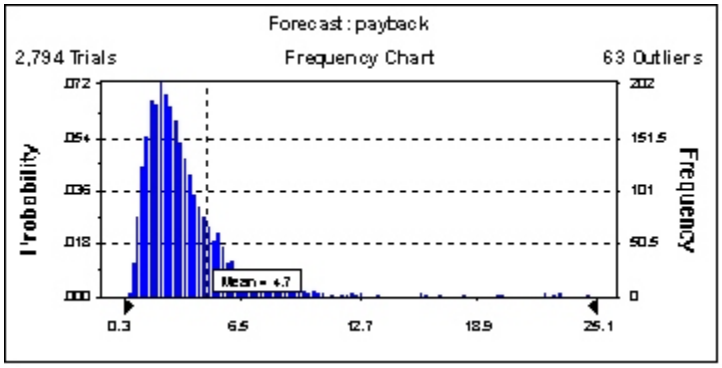

Figure 8D.3.39 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 2; Baseline Scenario

8D.3.2.2 Low A & B Distribution

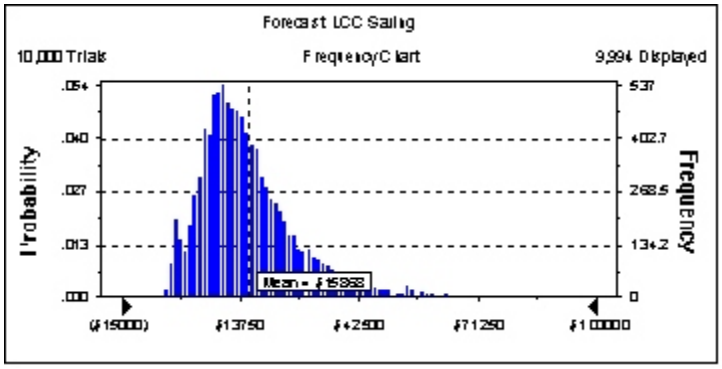

Figure 8D.3.40 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 2; Low A & B Distribution Scenario

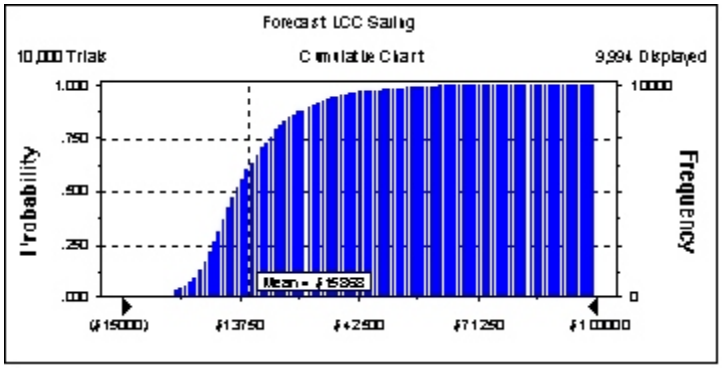

Figure 8D.3.41 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 2; Low A & B Distribution Scenario

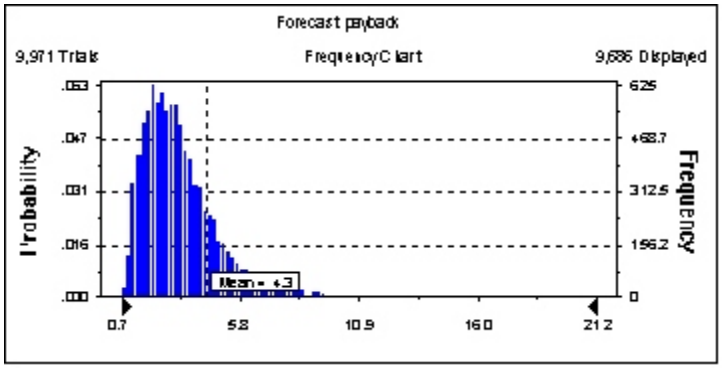

Figure 8D.3.42 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 2; Low A & B Distribution Scenario

8D.3.2.3 High A & B Distribution

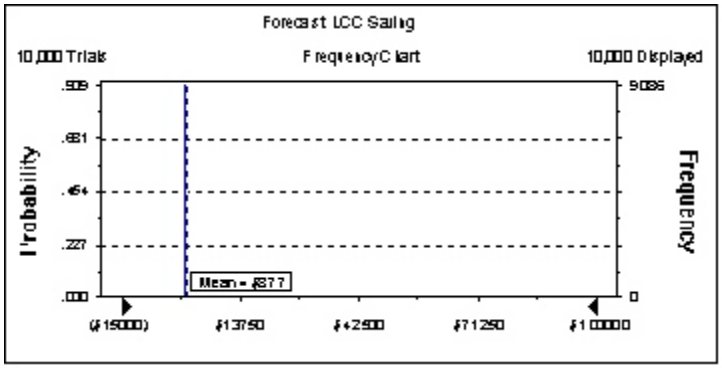

Figure 8D.3.43 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 2; High A & B Distribution Scenario

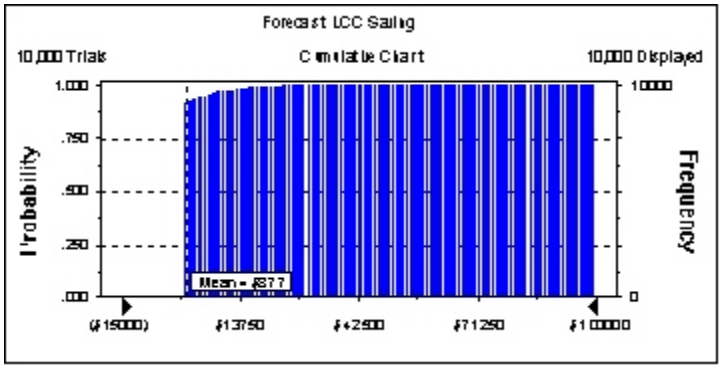

Figure 8D.3.44 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 2; High A & B Distribution Scenario

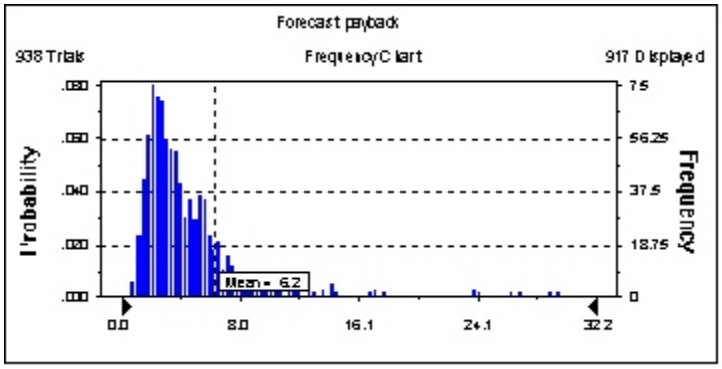

Figure 8D.3.45 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 2; High A & B Distribution Scenario

8D.3.2.4 Low Loading

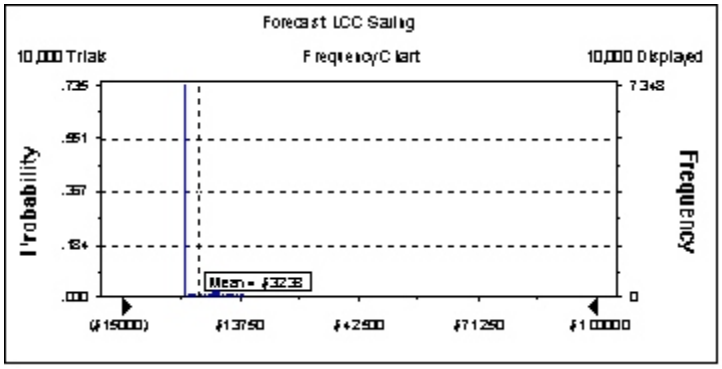

Figure 8D.3.46 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 2; Low Transformer Loading Scenario

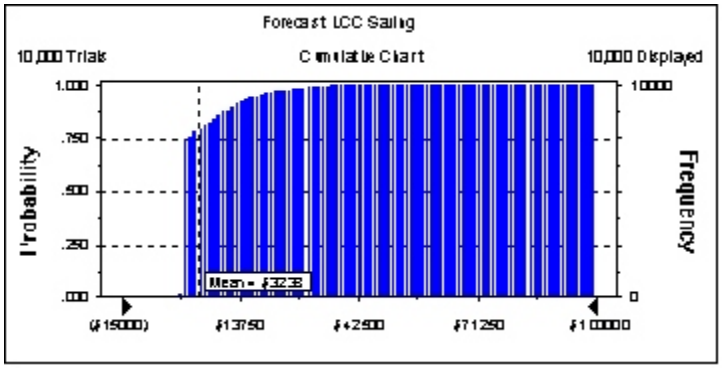

Figure 8D.3.47 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 2; Low Transformer Loading Scenario

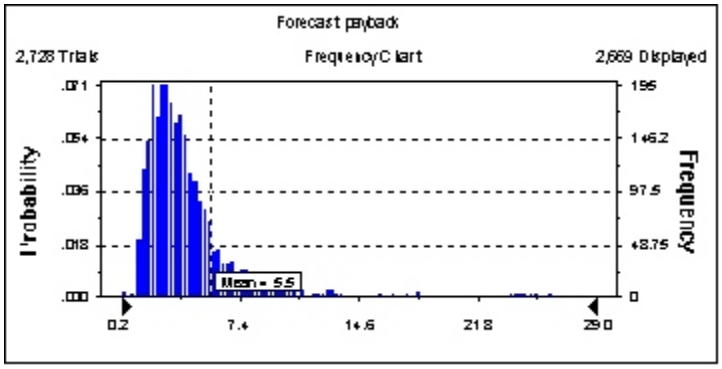

Figure 8D.3.48 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 2; Low Transformer Loading Scenario

8D.3.2.5 High Loading

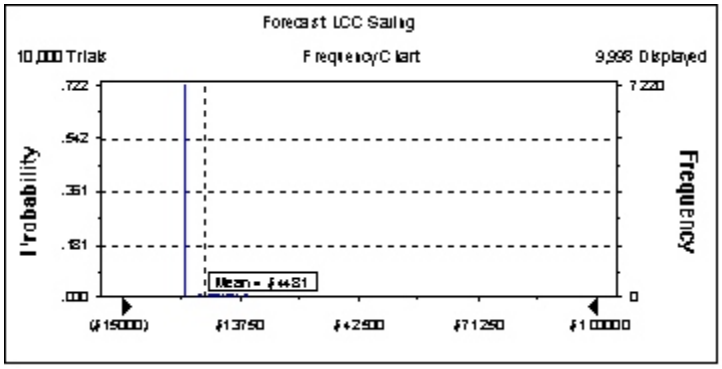

Figure 8D.3.49 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 2; High Transformer Loading Scenario

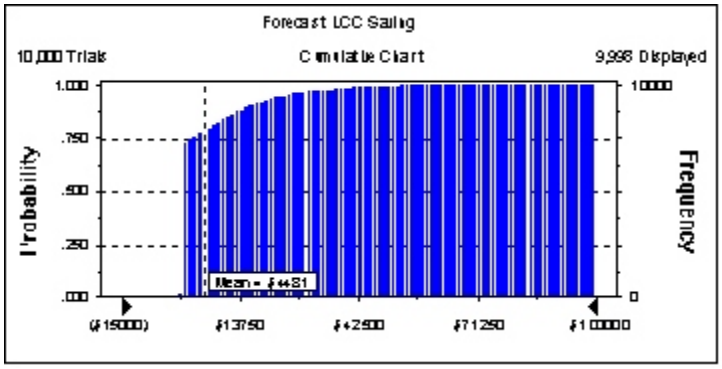

Figure 8D.3.50 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 2; High Transformer Loading Scenario

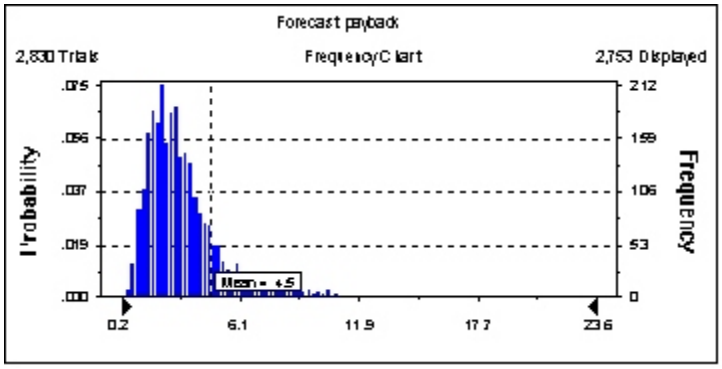

Figure 8D.3.51 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 2; High Transformer Loading Scenario

8D.3.2.6 Low Electricity Price

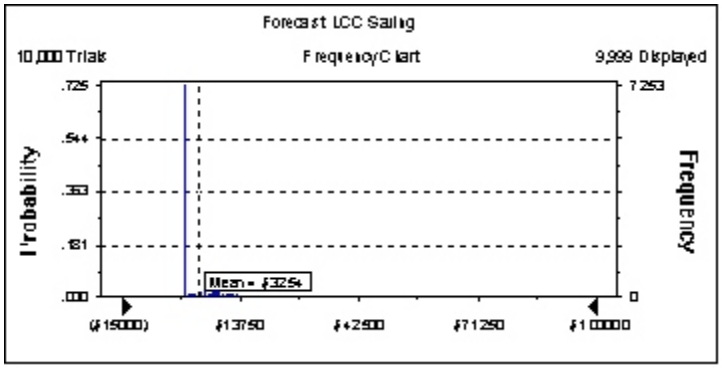

Figure 8D.3.52 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 2; Low Electricity Price Scenario

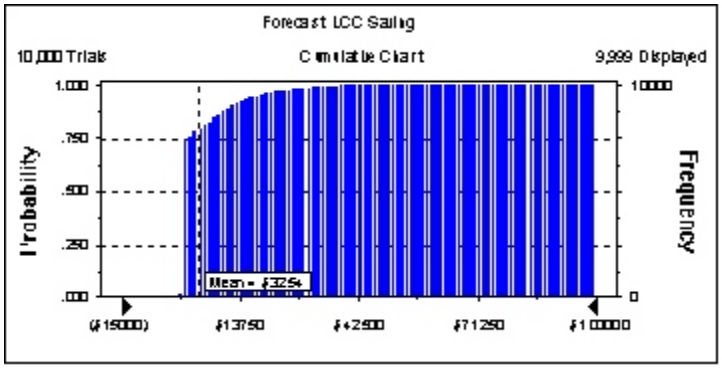

Figure 8D.3.53 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 2; Low Electricity Price Scenario

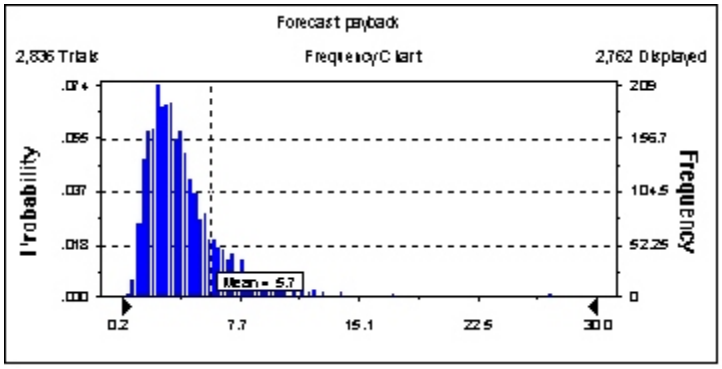

Figure 8D.3.54 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 2; Low Electricity Price Scenario

8D.3.2.7 High Electricity Price

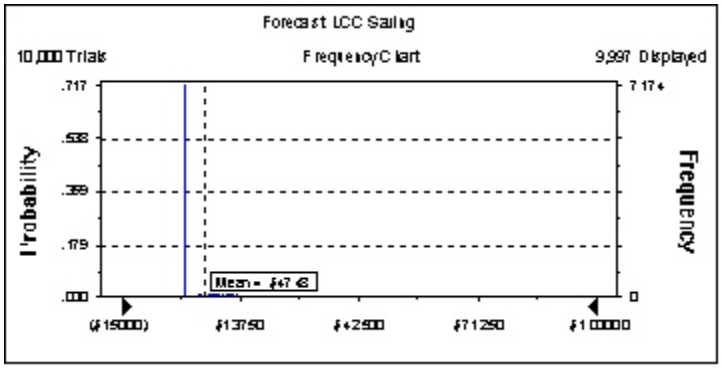

Figure 8D.3.55 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 2; High Electricity Price Scenario

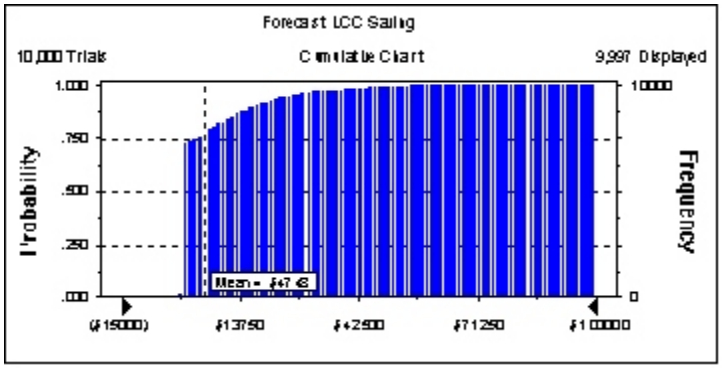

Figure 8D.3.56 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 2; High Electricity Price Scenario

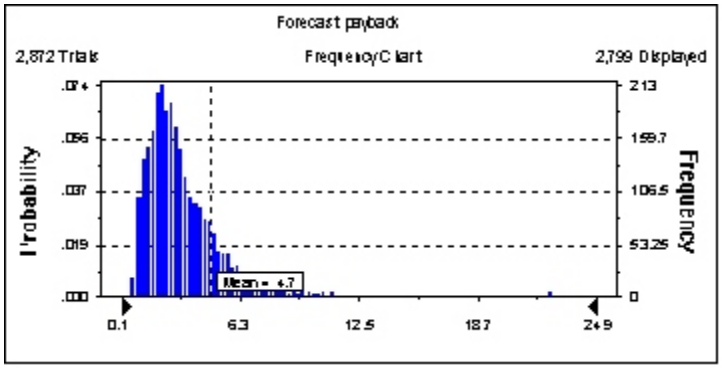

Figure 8D.3.57 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 2; High Electricity Price Scenario

8D.3.2.8 Medium Load Growth

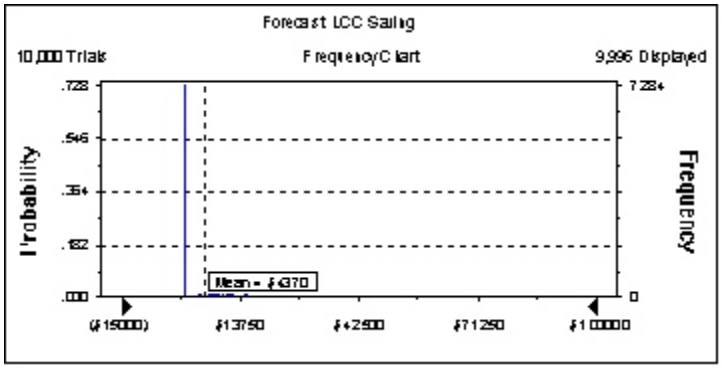

Figure 8D.3.58 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 2; Medium Load Growth Scenario

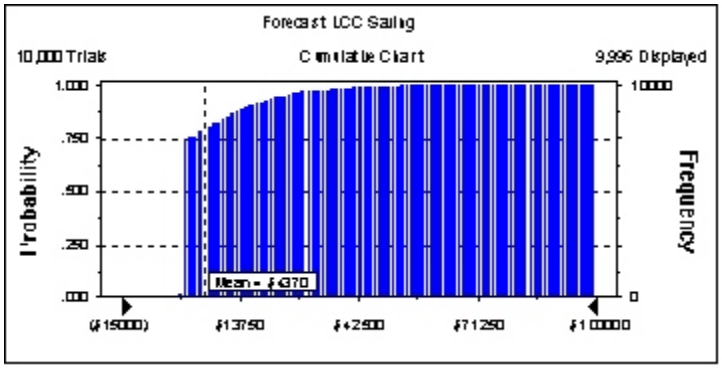

Figure 8D.3.59 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 2; Medium Load Growth Scenario

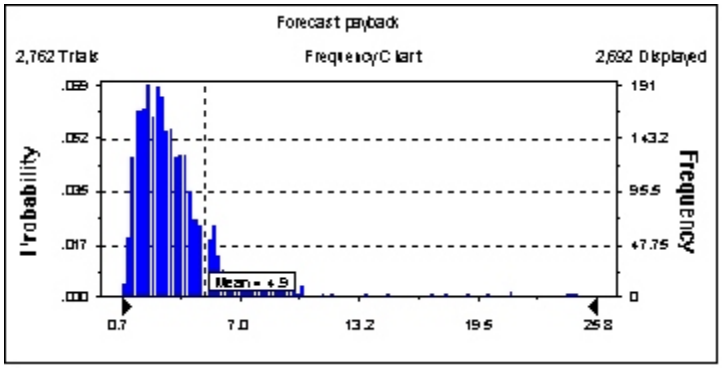

Figure 8D.3.60 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 2; Medium Load Growth Scenario

8D.3.2.9 High Load Growth

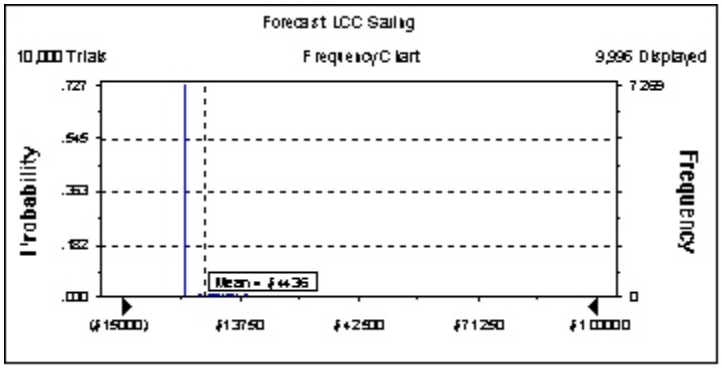

Figure 8D.3.61 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 2; High Load Growth Scenario

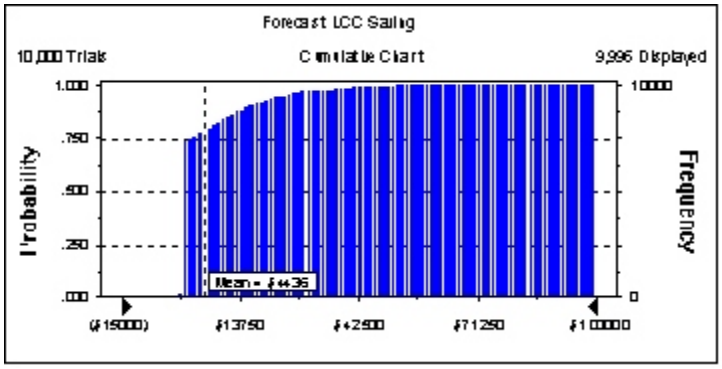

Figure 8D.3.62 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 2; High Load Growth Scenario

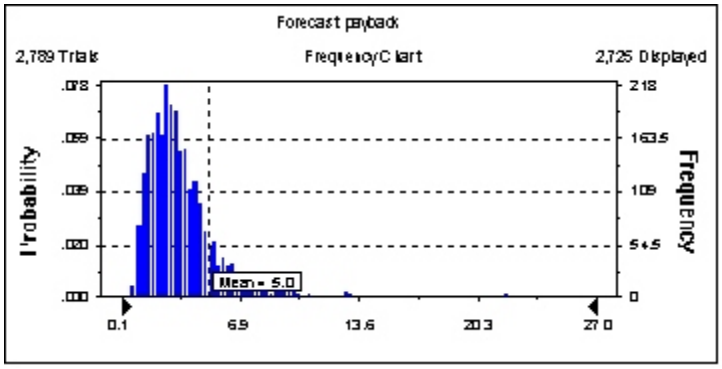

Figure 8D.3.63 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 2; High Load Growth Scenario

8D.3.2.10 Low Equipment Price

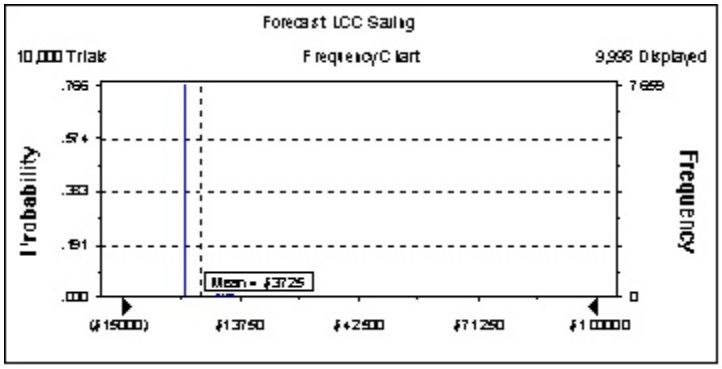

Figure 8D.3.64 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 2; Low Equipment Price Scenario

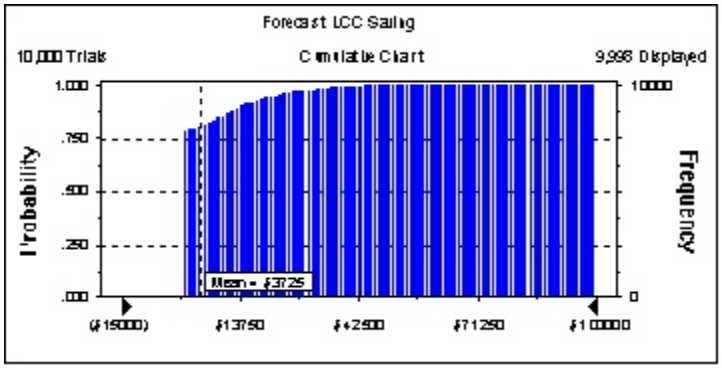

Figure 8D.3.65 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 2; Low Equipment Price Scenario

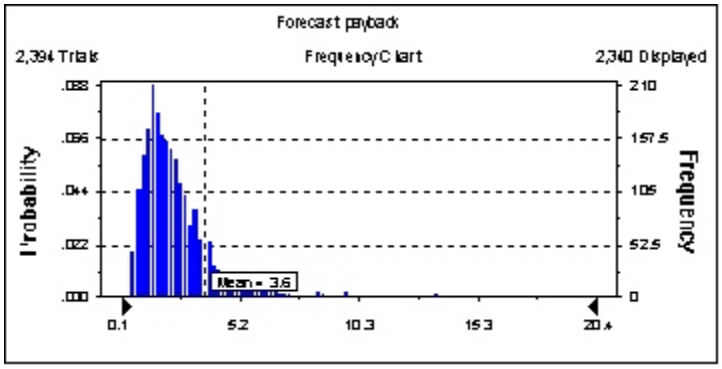

Figure 8D.3.66 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 2; Low Equipment Price Scenario

8D.3.2.11 High Equipment Price

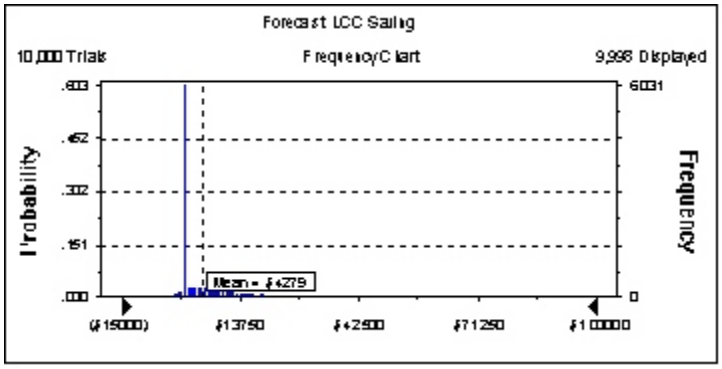

Figure 8D.3.67 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 2; High Equipment Price Scenario

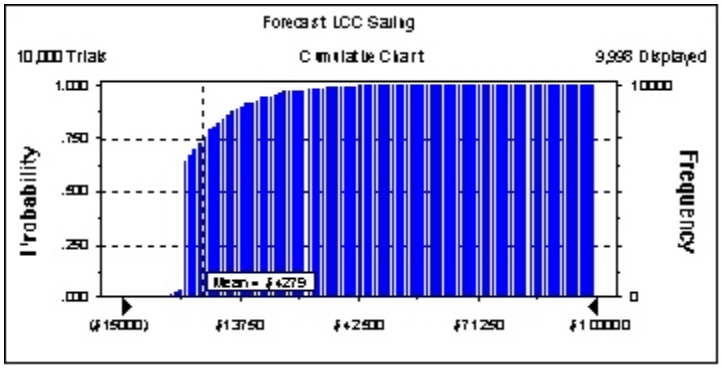

Figure 8D.3.68 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 2; High Equipment Price Scenario

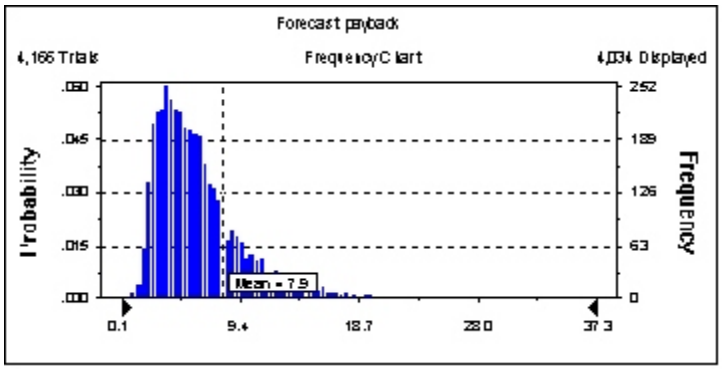

Figure 8D.3.69 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 2; High Equipment Price Scenario

8D.3.3 Design Line 12; Candidate Standard Level 3

Table 8D.3.4 Candidate Standard Level: 3; Summary Table

	Candidate Standard Level		
	Transformers having LCC Savings > $0 (%)	**Mean LCC Savings ($)**	**Mean Payback (Years)**
Baseline	94.2	5,485	2.3
Non Evaluating A & B Distribution	94.4	19,944	2.2
High Evaluating A & B Distribution	94.4	1,646	6.2
Low Loading	93.3	4,046	2.2
High Loading	94.4	6,051	2.2
Low Electricity Price	93.2	4,186	2.6
High Electricity Price	95.6	6,340	2.0
Medium Load Growth	94.8	6,270	2.3
High Load Growth	94.8	6,497	2.3
Low Equipment Price Scenario	96.3	4,993	1.8
High Equipment Price Scenario	90.6	5,906	4.4

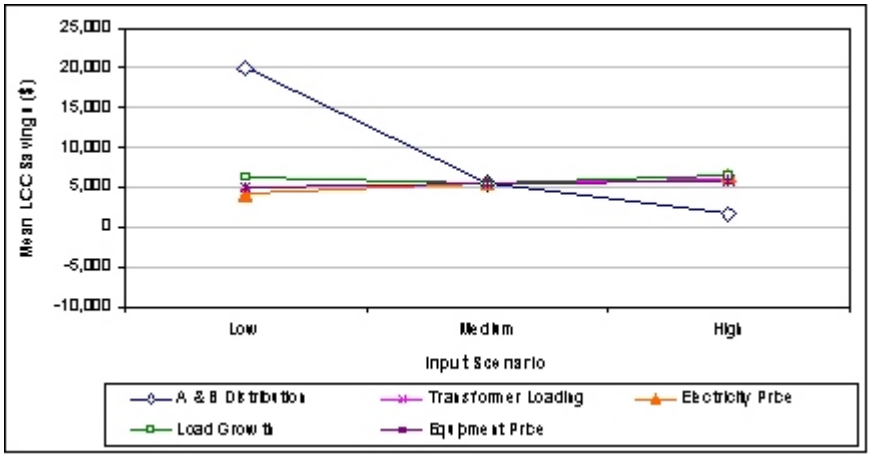

Figure 8D.3.70 Sensitivity of LCC to Input Changes for Design Line 12 , Candidate Standard Level 3

8D.3.3.1 Baseline

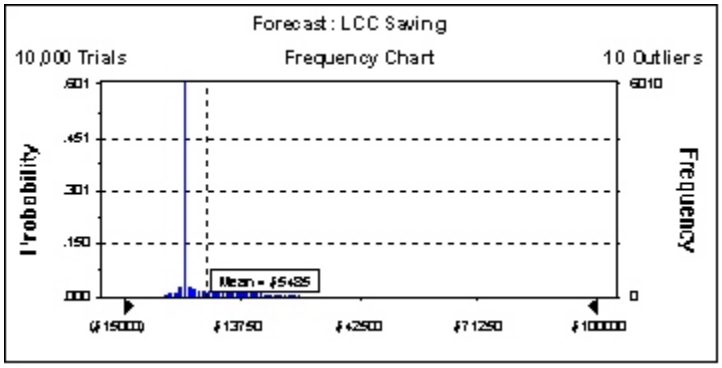

Figure 8D.3.71 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 3; Baseline Scenario

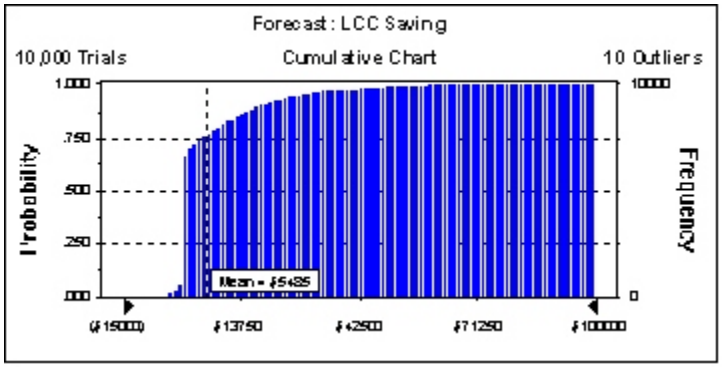

Figure 8D.3.72 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 3; Baseline Scenario

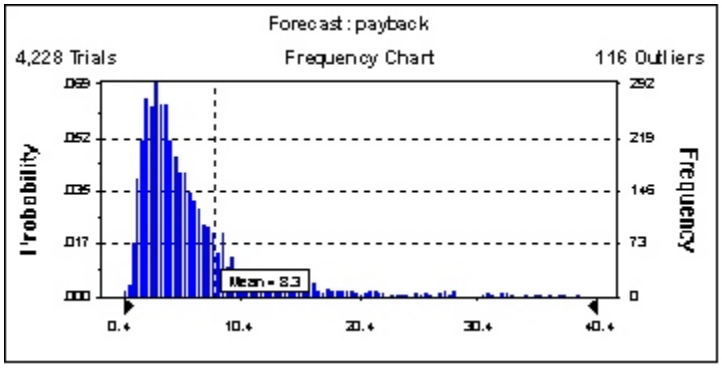

Figure 8D.3.73 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 3; Baseline Scenario

8D.3.3.2 Low A & B Distribution

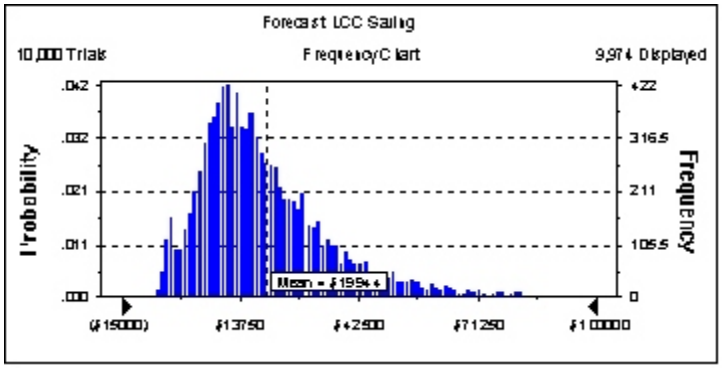

Figure 8D.3.74 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 3; Low A & B Distribution Scenario

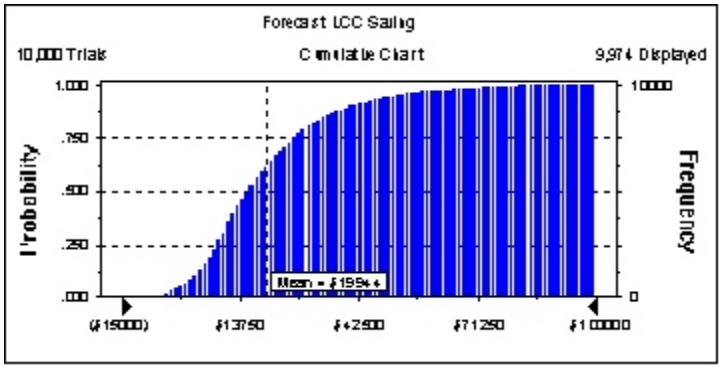

Figure 8D.3.75 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 3; Low A & B Distribution Scenario

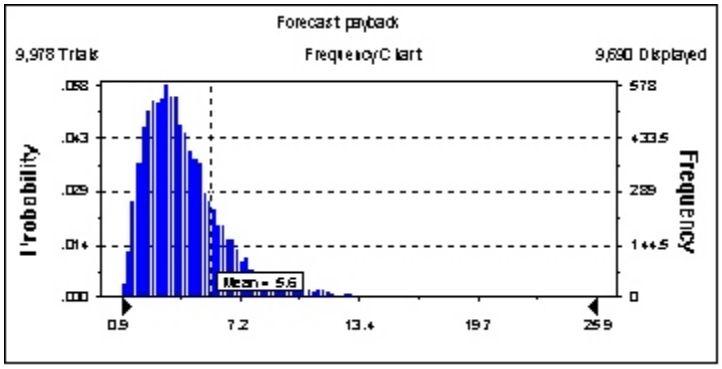

Figure 8D.3.76 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 3; Low A & B Distribution Scenario

8D.3.3.3 High A & B Distribution

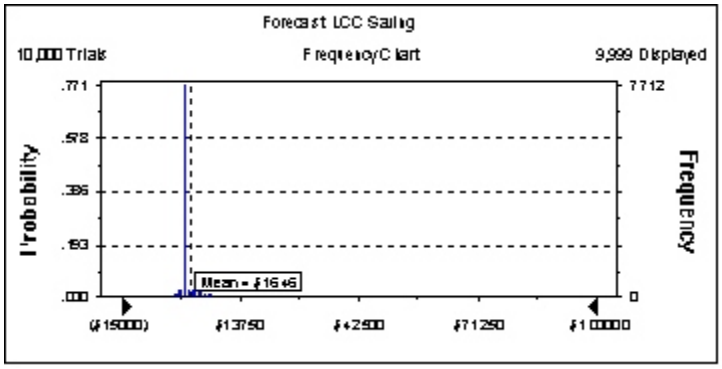

Figure 8D.3.77 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 3; High A & B Distribution Scenario

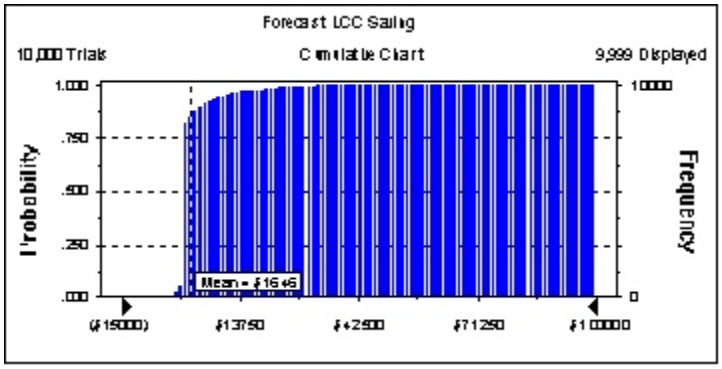

Figure 8D.3.78 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 3; High A & B Distribution Scenario

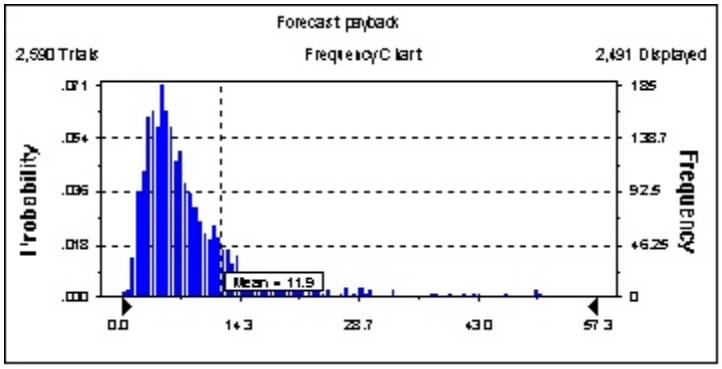

Figure 8D.3.79 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 3; High A & B Distribution Scenario

8D.3.3.4 Low Loading

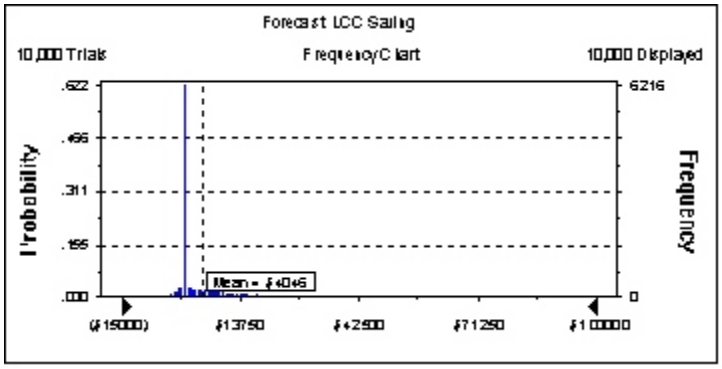

Figure 8D.3.80 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 3; Low Transformer Loading Scenario

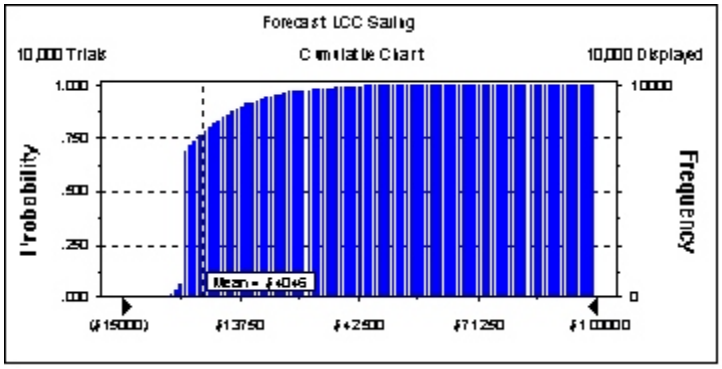

Figure 8D.3.81 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 3; Low Transformer Loading Scenario

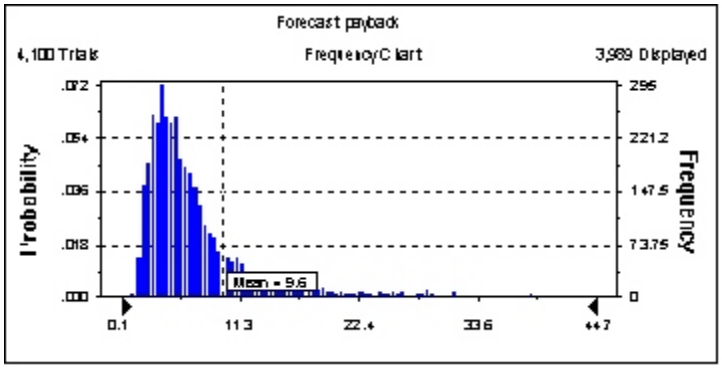

Figure 8D.3.82 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 3; Low Transformer Loading Scenario

8D.3.3.5 High Loading

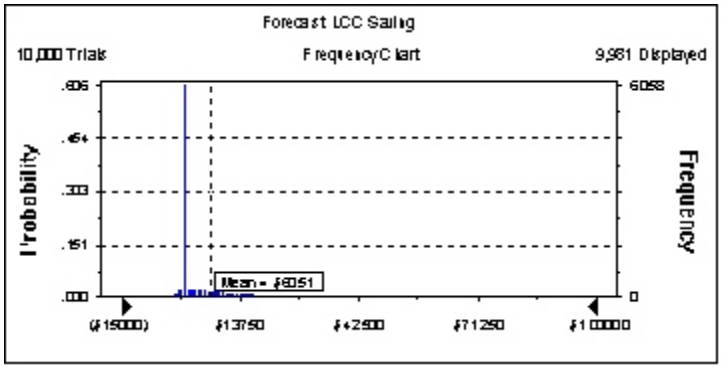

Figure 8D.3.83 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 3; High Transformer Loading Scenario

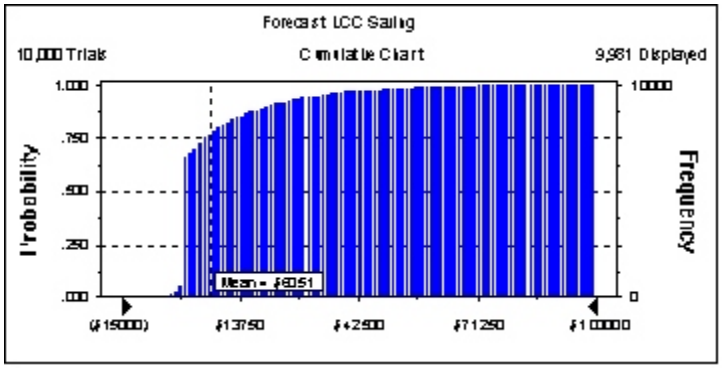

Figure 8D.3.84 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 3; High Transformer Loading Scenario

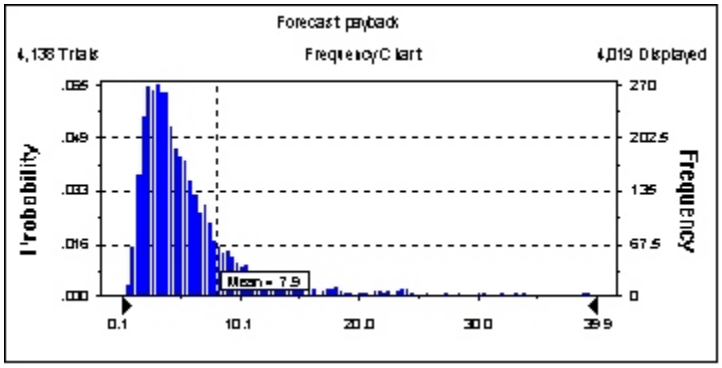

Figure 8D.3.85 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 3; High Transformer Loading Scenario

8D.3.3.6 Low Electricity Price

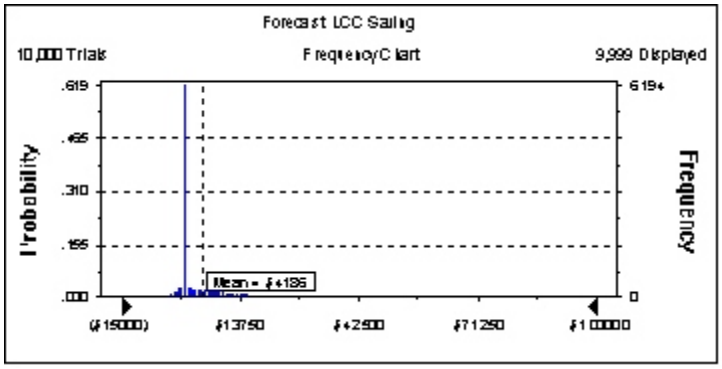

Figure 8D.3.86 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 3; Low Electricity Price Scenario

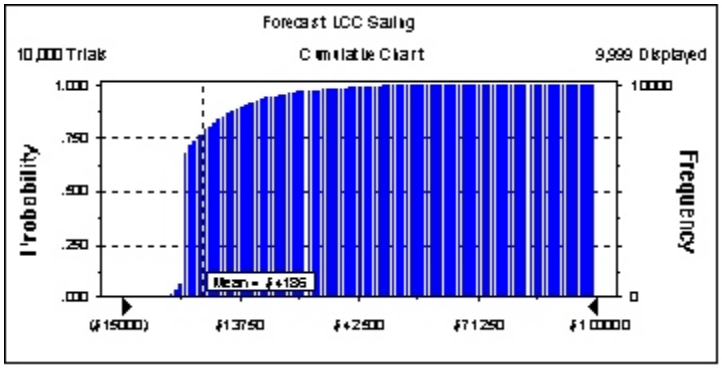

Figure 8D.3.87 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 3; Low Electricity Price Scenario

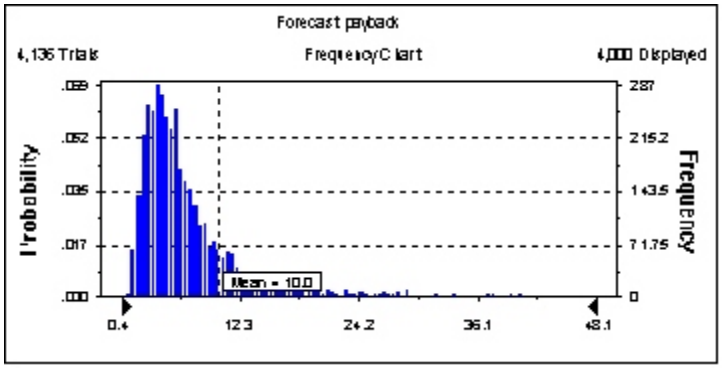

Figure 8D.3.88 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 3; Low Electricity Price Scenario

8D.3.3.7 High Electricity Price

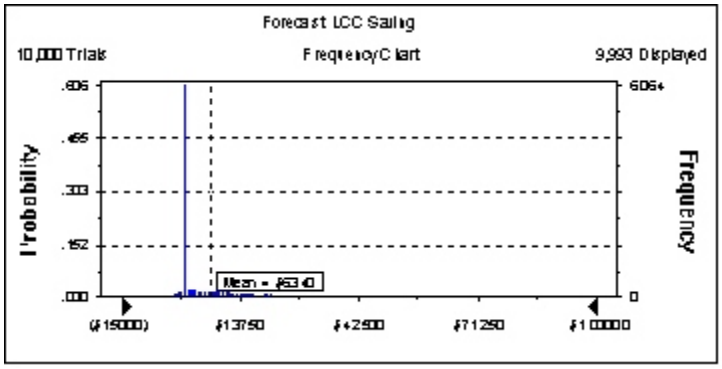

Figure 8D.3.89 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 3; High Electricity Price Scenario

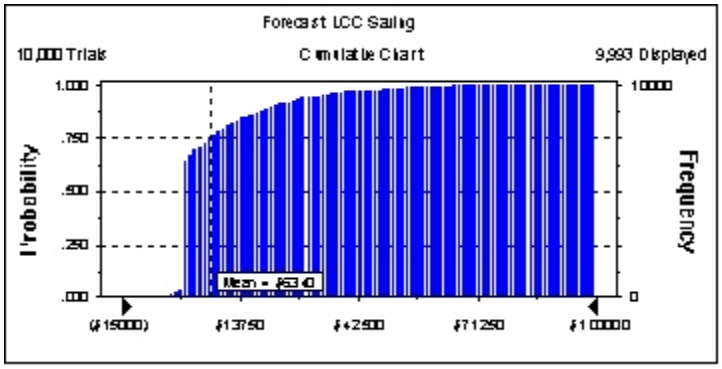

Figure 8D.3.90 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 3; High Electricity Price Scenario

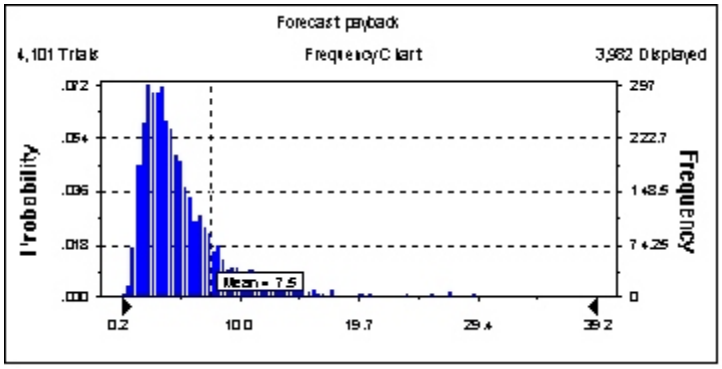

Figure 8D.3.91 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 3; High Electricity Price Scenario

8D.3.3.8 Medium Load Growth

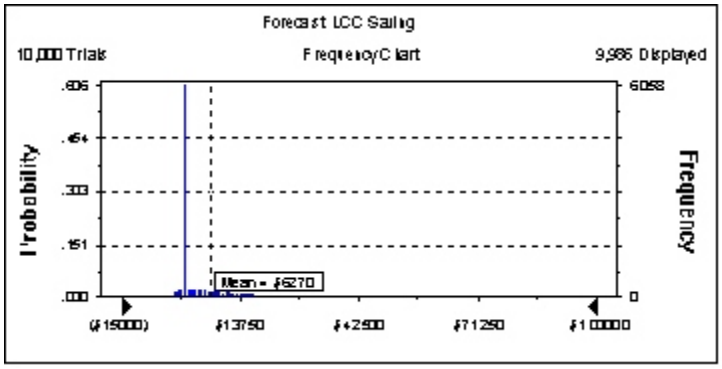

Figure 8D.3.92 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 3; Medium Load Growth Scenario

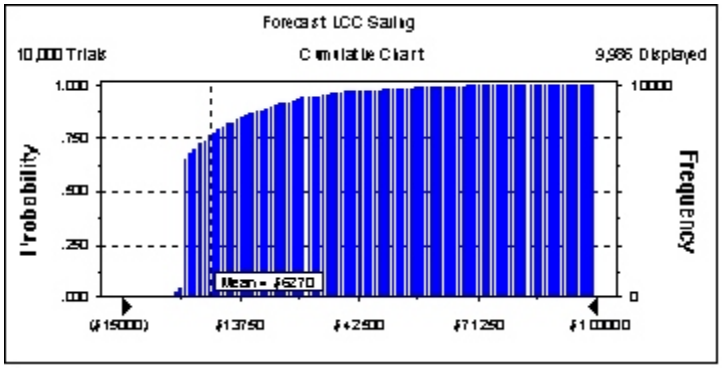

Figure 8D.3.93 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 3; Medium Load Growth Scenario

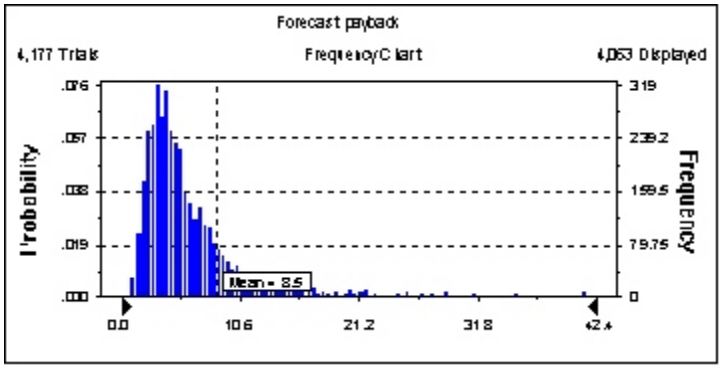

Figure 8D.3.94 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 3; Medium Load Growth Scenario

8D.3.3.9 High Load Growth

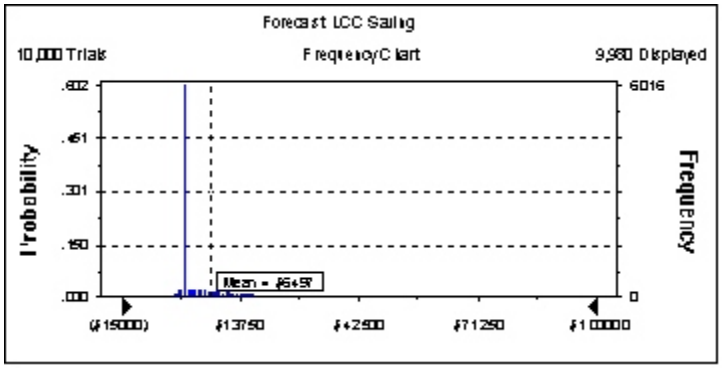

Figure 8D.3.95 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 3; High Load Growth Scenario

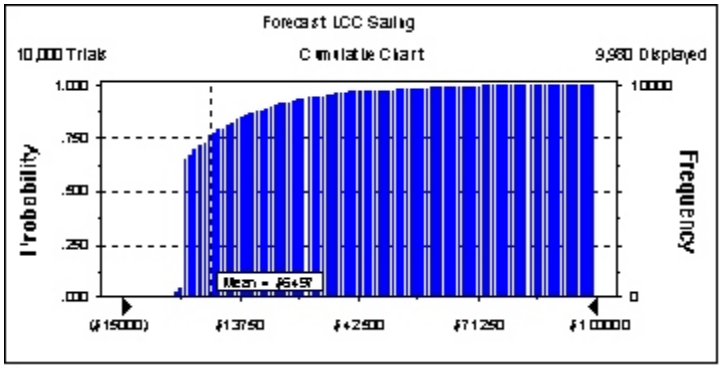

Figure 8D.3.96 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 3; High Load Growth Scenario

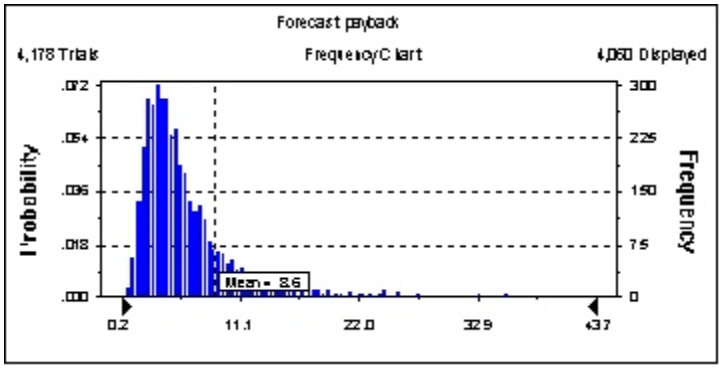

Figure 8D.3.97 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 3; High Load Growth Scenario

8D.3.3.10 Low Equipment Price

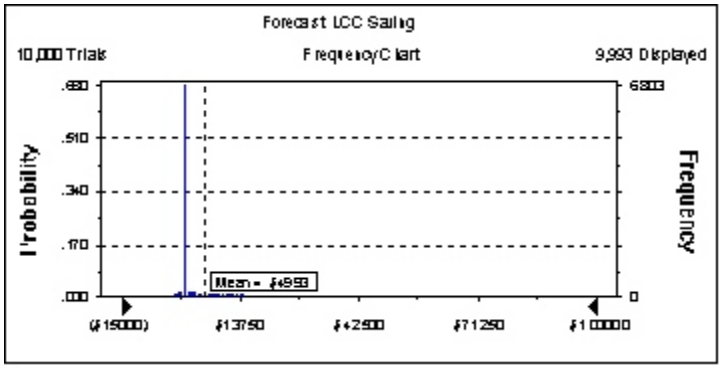

Figure 8D.3.98 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 3; Low Equipment Price Scenario

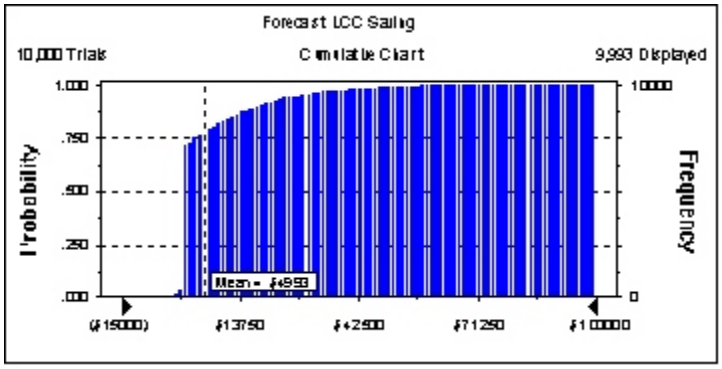

Figure 8D.3.99 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 3; Low Equipment Price Scenario

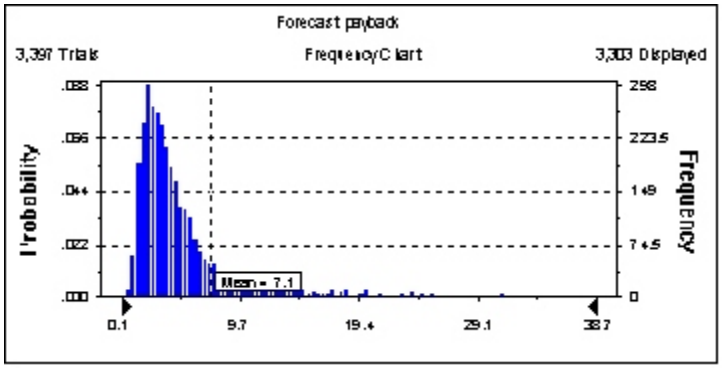

Figure 8D.3.100 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 3; Low Equipment Price Scenario

8D.3.3.11 High Equipment Price

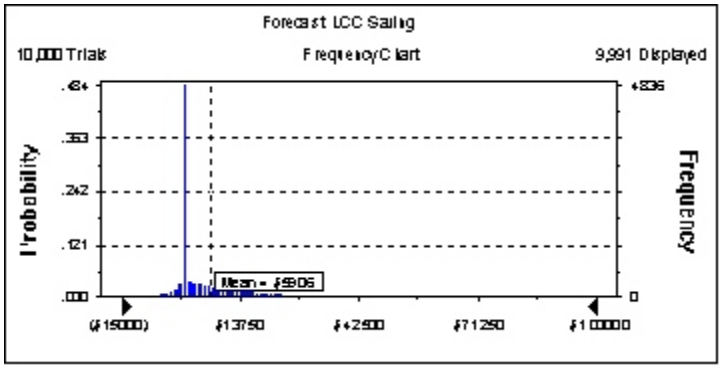

Figure 8D.3.101 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 3; High Equipment Price Scenario

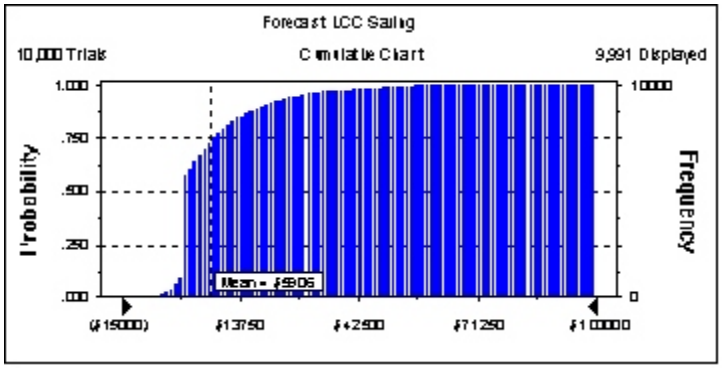

Figure 8D.3.102 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 3; High Equipment Price Scenario

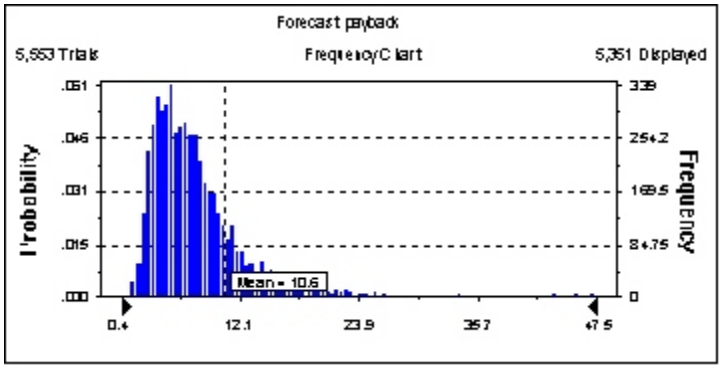

Figure 8D.3.103 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 3; High Equipment Price Scenario

8D.3.4 Design Line 12; Candidate Standard Level 4

Table 8D.3.5 Candidate Standard Level: 4; Summary Table

	Candidate Standard Level		
	Transformers having LCC Savings > $0 (%)	**Mean LCC Savings ($)**	**Mean Payback (Years)**
Baseline	81.8	6,812	3.9
Non Evaluating A & B Distribution	91.2	22,607	3.1
High Evaluating A & B Distribution	78.8	2,732	11.5
Low Loading	76.1	4,578	4.2
High Loading	83.4	8,125	3.6
Low Electricity Price	77.2	5,153	4.5
High Electricity Price	84.4	8,458	3.3
Medium Load Growth	83.8	8,598	3.9
High Load Growth	85.0	9,108	4.0
Low Equipment Price Scenario	82.3	6,410	3.3
High Equipment Price Scenario	76.1	7,091	5.3

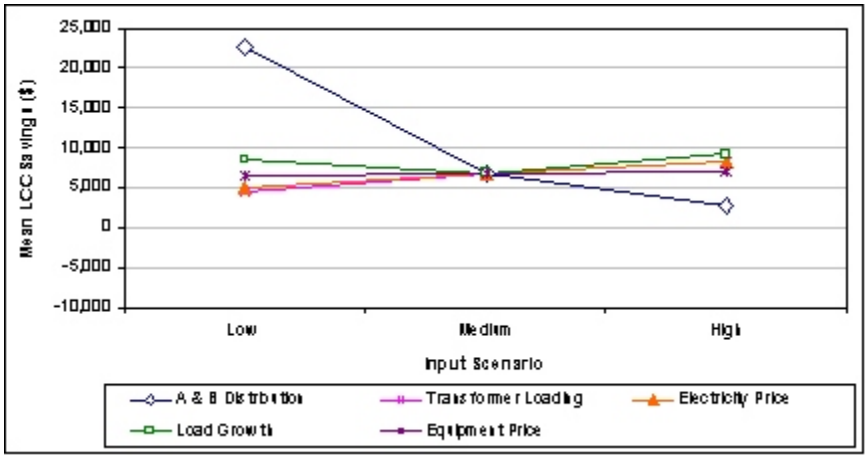

Figure 8D.3.104 Sensitivity of LCC to Input Changes for Design Line 12 , Candidate Standard Level 4

8D.3.4.1 Baseline

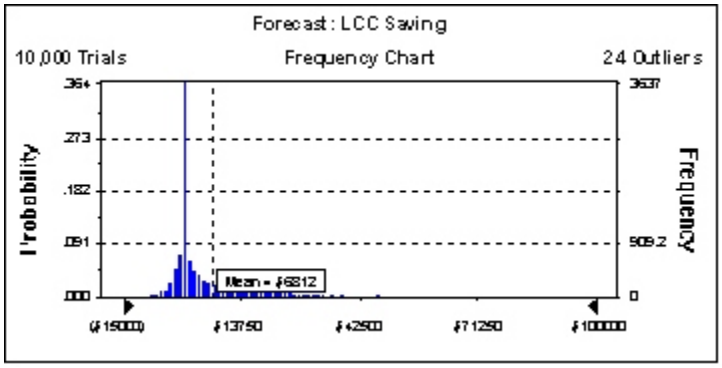

Figure 8D.3.105 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 4; Baseline Scenario

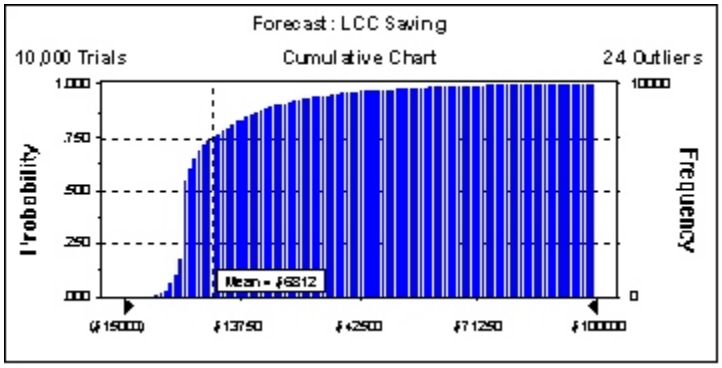

Figure 8D.3.106 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 4; Baseline Scenario

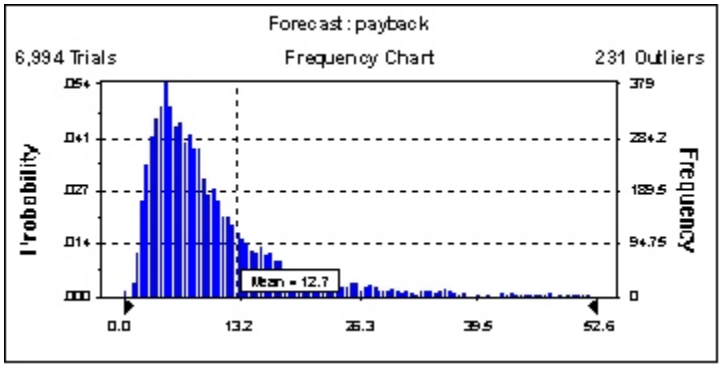

Figure 8D.3.107 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 4; Baseline Scenario

8D.3.4.2 Low A & B Distribution

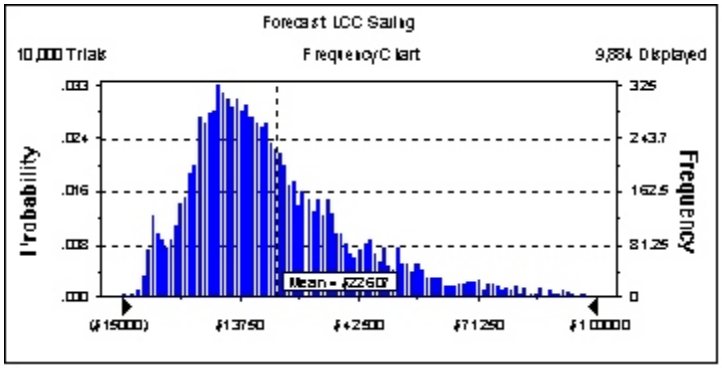

Figure 8D.3.108 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 4; Low A & B Distribution Scenario

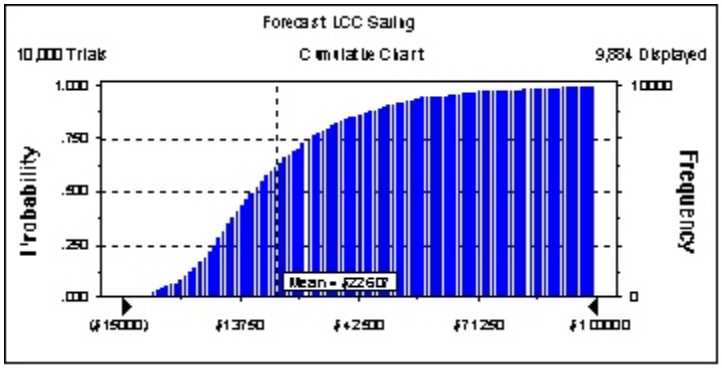

Figure 8D.3.109 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 4; Low A & B Distribution Scenario

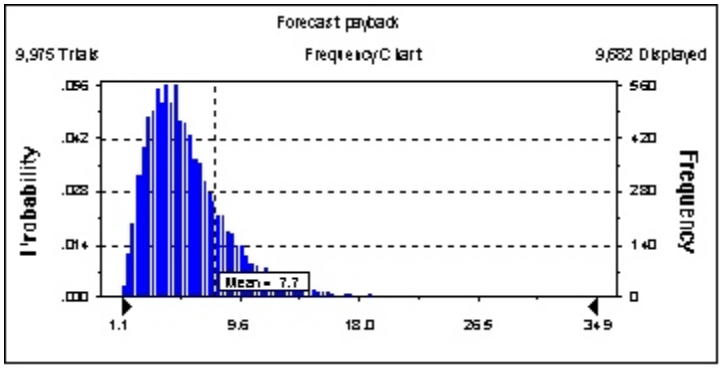

Figure 8D.3.110 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 4; Low A & B Distribution Scenario

8D.3.4.3 High A & B Distribution

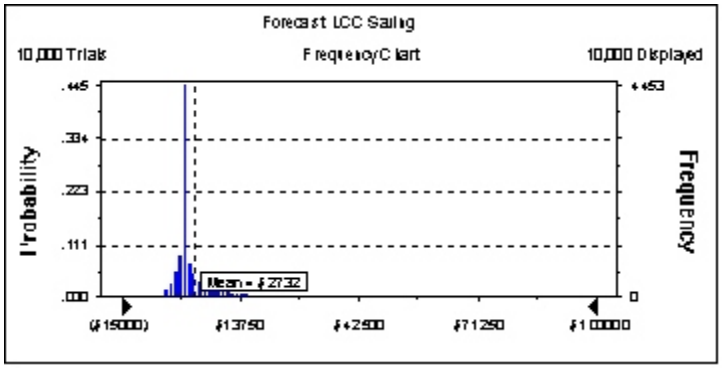

Figure 8D.3.111 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 4; High A & B Distribution Scenario

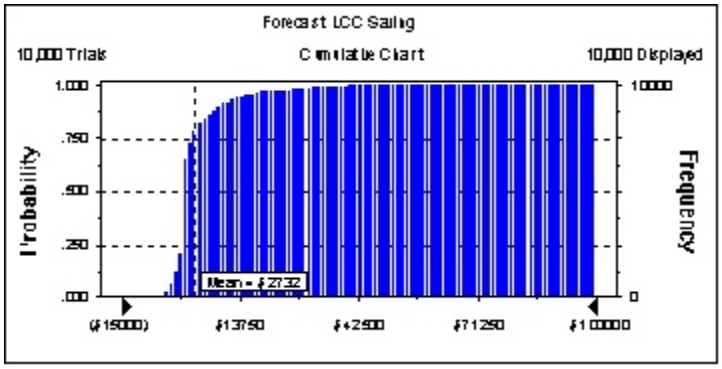

Figure 8D.3.112 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 4; High A & B Distribution Scenario

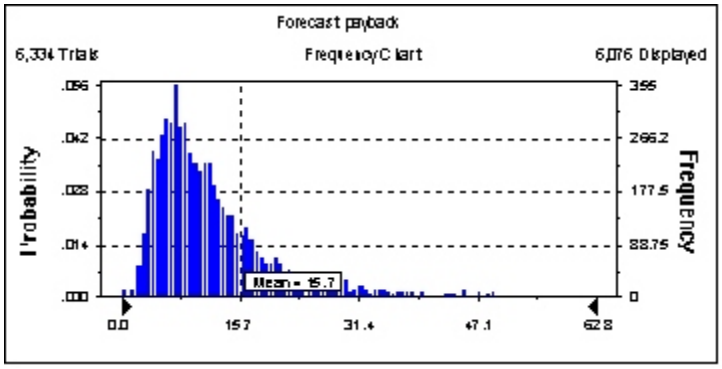

Figure 8D.3.113 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 4; High A & B Distribution Scenario

8D.3.4.4 Low Loading

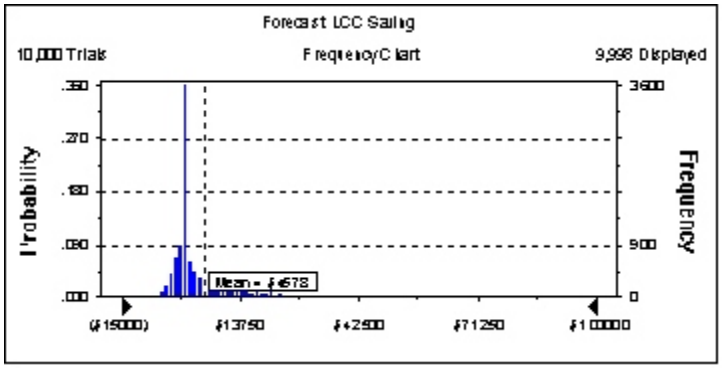

Figure 8D.3.114 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 4; Low Transformer Loading Scenario

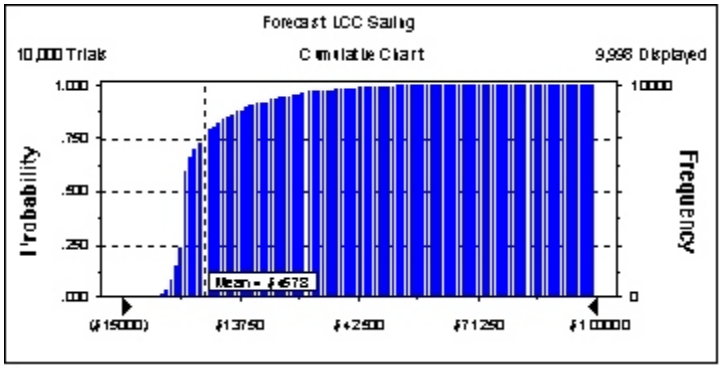

Figure 8D.3.115 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 4; Low Transformer Loading Scenario

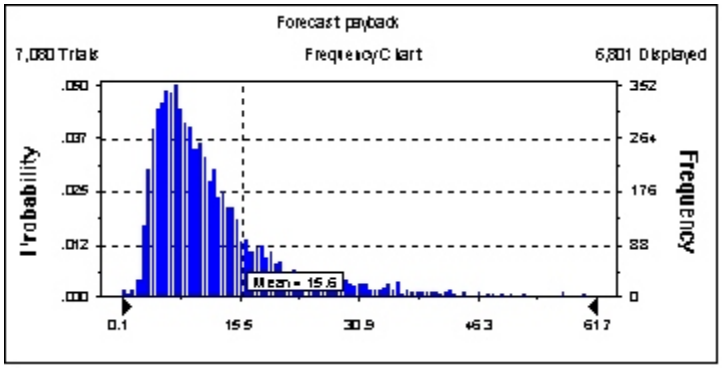

Figure 8D.3.116 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 4; Low Transformer Loading Scenario

8D.3.4.5 High Loading

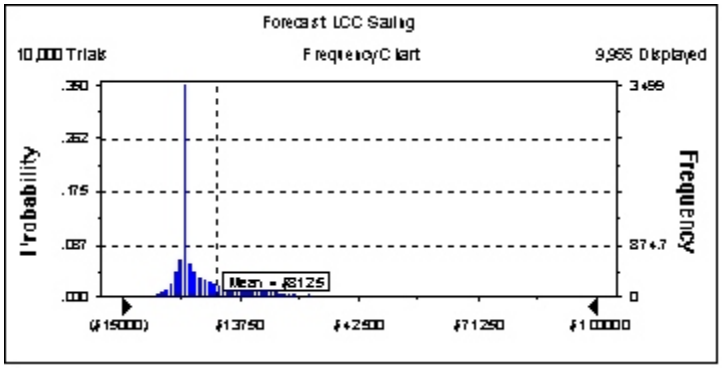

Figure 8D.3.117 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 4; High Transformer Loading Scenario

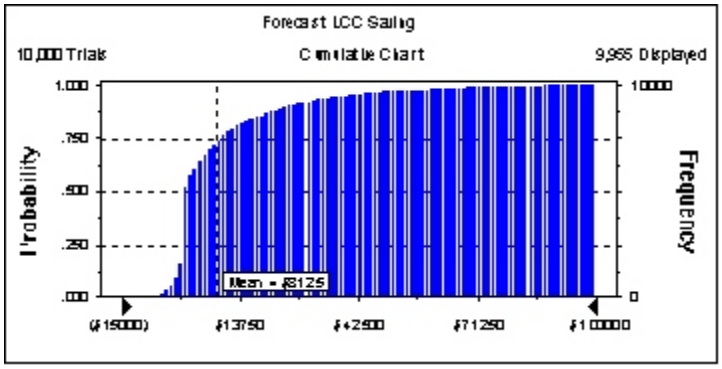

Figure 8D.3.118 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 4; High Transformer Loading Scenario

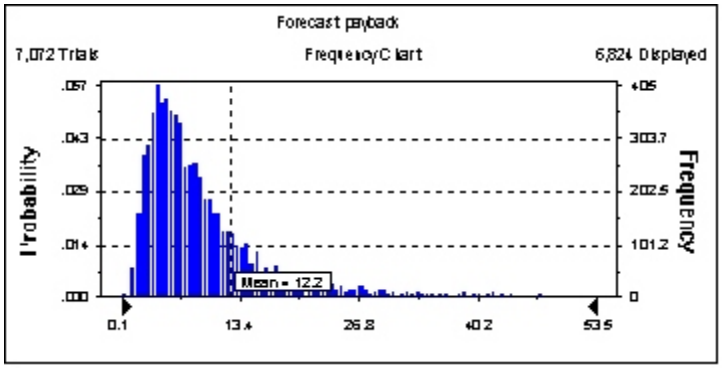

Figure 8D.3.119 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 4; High Transformer Loading Scenario

8D.3.4.6 Low Electricity Price

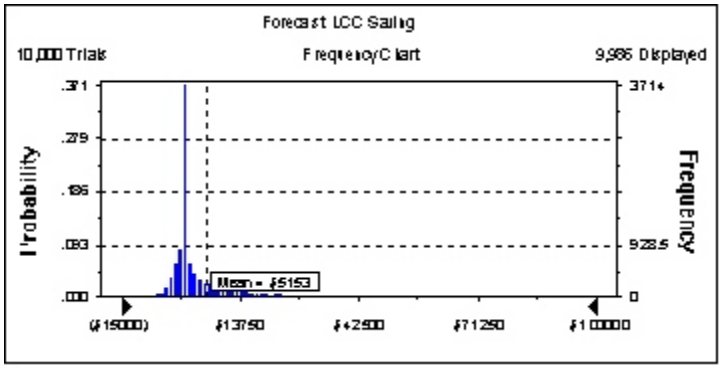

Figure 8D.3.120 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 4; Low Electricity Price Scenario

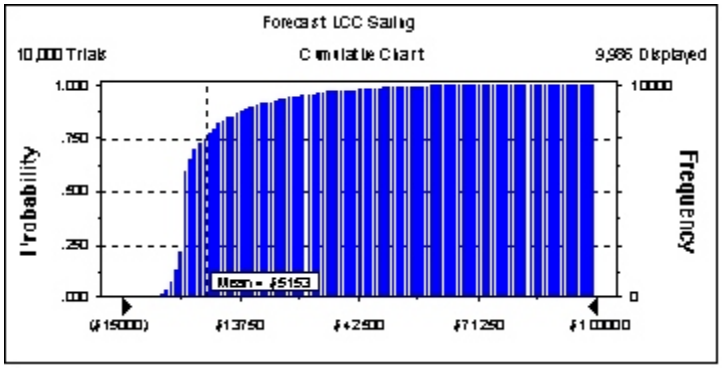

Figure 8D.3.121 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 4; Low Electricity Price Scenario

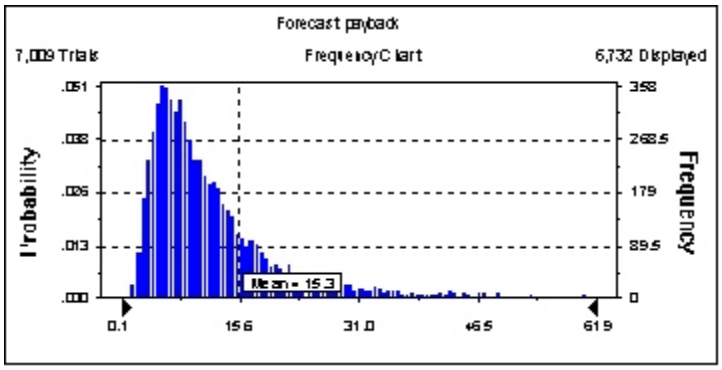

Figure 8D.3.122 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 4; Low Electricity Price Scenario

8D.3.4.7 High Electricity Price

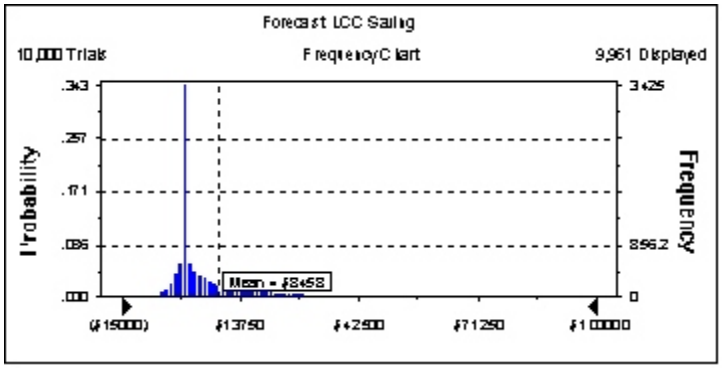

Figure 8D.3.123 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 4; High Electricity Price Scenario

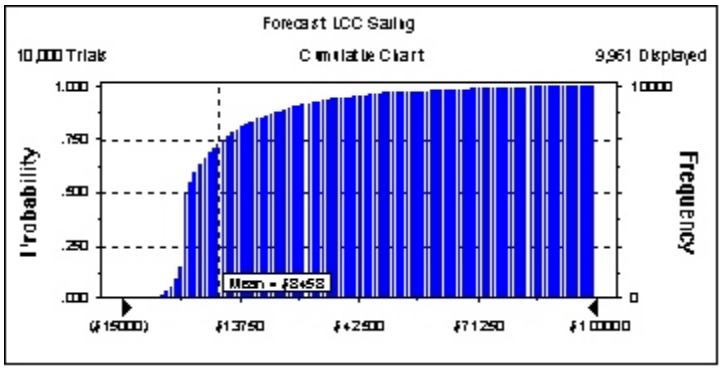

Figure 8D.3.124 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 4; High Electricity Price Scenario

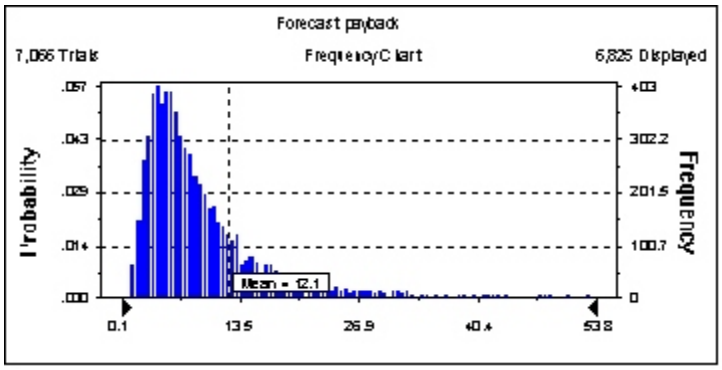

Figure 8D.3.125 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 4; High Electricity Price Scenario

8D.3.4.8 Medium Load Growth

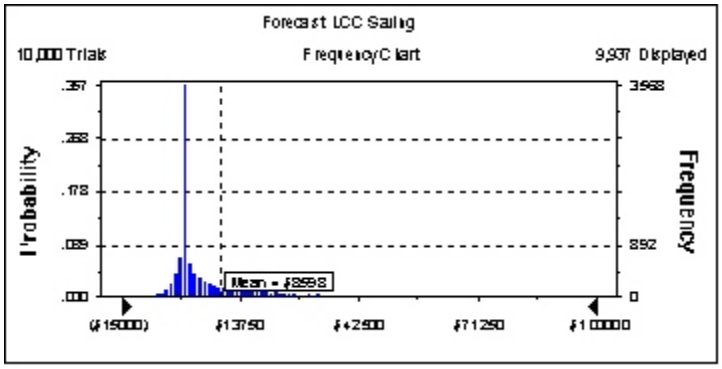

Figure 8D.3.126 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 4; Medium Load Growth Scenario

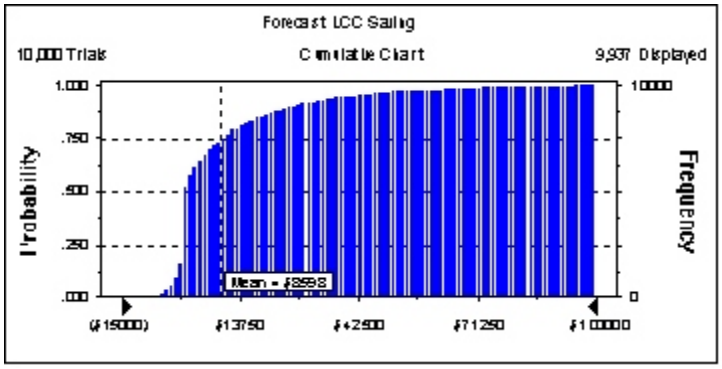

Figure 8D.3.127 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 4; Medium Load Growth Scenario

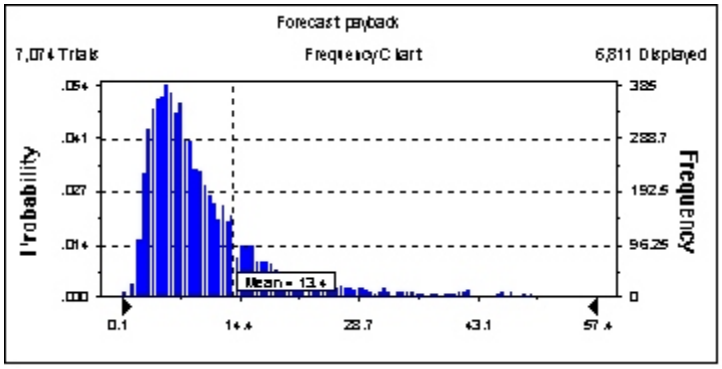

Figure 8D.3.128 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 4; Medium Load Growth Scenario

8D.3.4.9 High Load Growth

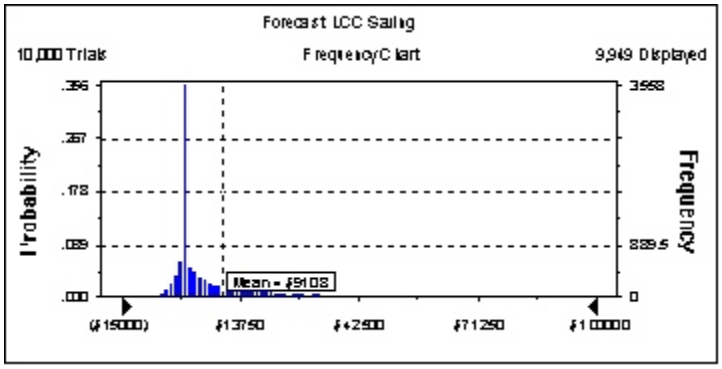

Figure 8D.3.129 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 4; High Load Growth Scenario

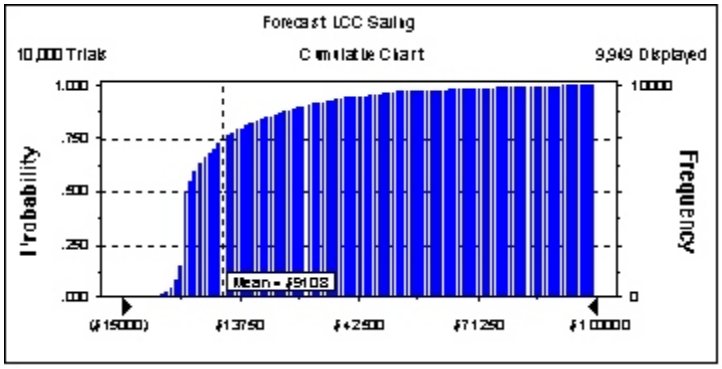

Figure 8D.3.130 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 4; High Load Growth Scenario

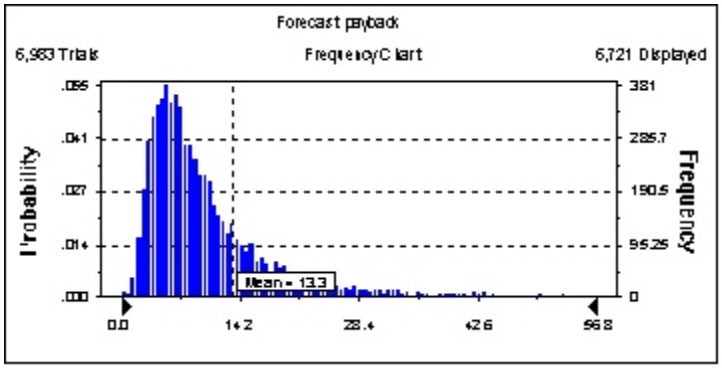

Figure 8D.3.131 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 4; High Load Growth Scenario

8D.3.4.10 Low Equipment Price

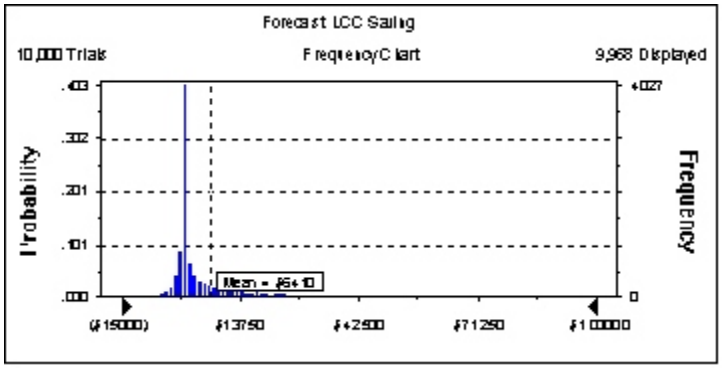

Figure 8D.3.132 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 4; Low Equipment Price Scenario

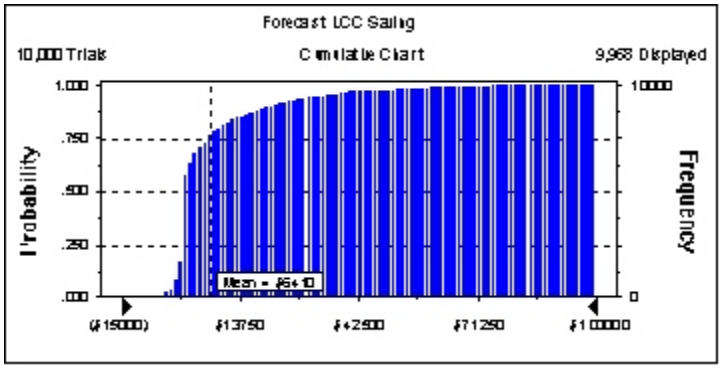

Figure 8D.3.133 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 4; Low Equipment Price Scenario

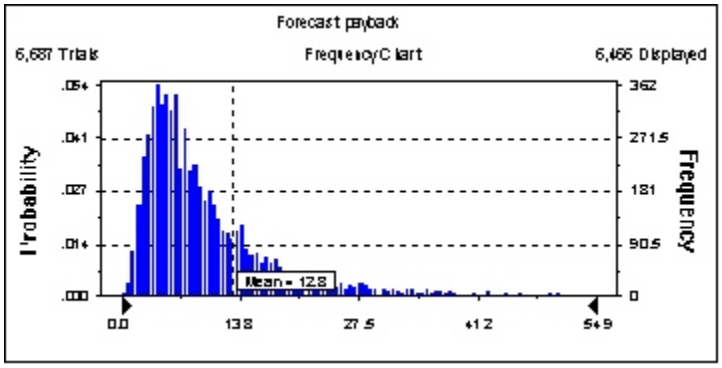

Figure 8D.3.134 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 4; Low Equipment Price Scenario

8D.3.4.11 High Equipment Price

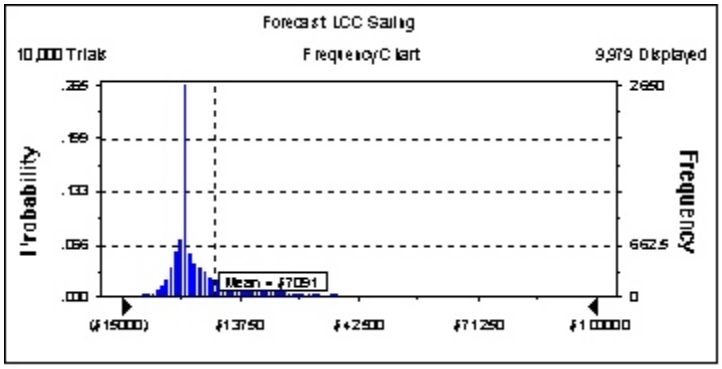

Figure 8D.3.135 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 4; High Equipment Price Scenario

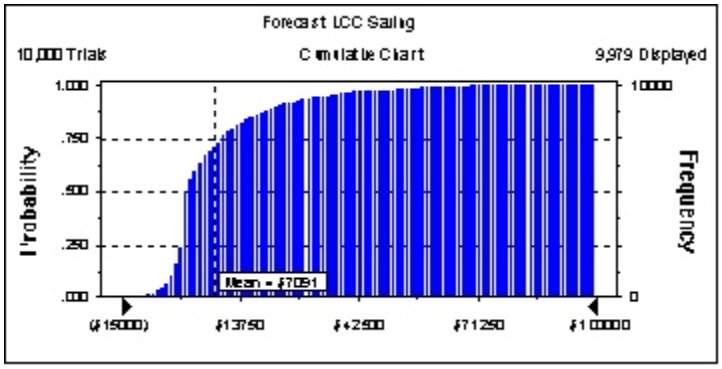

Figure 8D.3.136 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 4; High Equipment Price Scenario

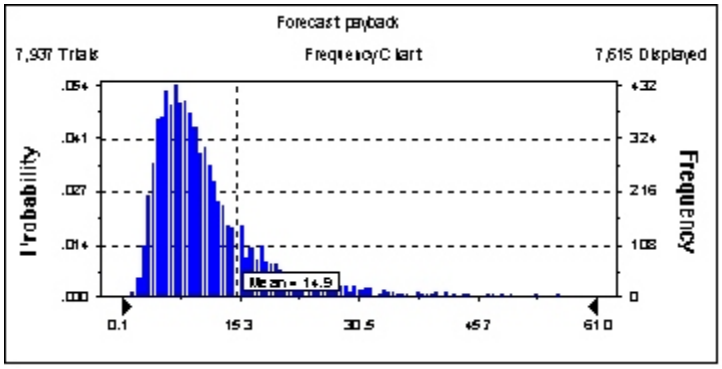

Figure 8D.3.137 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 4; High Equipment Price Scenario

8D.3.5 Design Line 12; Candidate Standard Level 5

Table 8D.3.6 Candidate Standard Level: 5; Summary Table

	Candidate Standard Level		
	Transformers having LCC Savings > $0 (%)	**Mean LCC Savings ($)**	**Mean Payback (Years)**
Baseline	29.4	-650	7.0
Non Evaluating A & B Distribution	66.5	15,289	5.3
High Evaluating A & B Distribution	19.9	-4,641	21.2
Low Loading	19.4	-5,234	7.5
High Loading	34.3	1,947	6.8
Low Electricity Price	23.1	-3,705	8.2
High Electricity Price	35.6	2,232	6.2
Medium Load Growth	34.9	2,642	6.9
High Load Growth	40.0	4,525	7.0
Low Equipment Price Scenario	33.6	1,319	6.2
High Equipment Price Scenario	23.6	-5,842	8.9

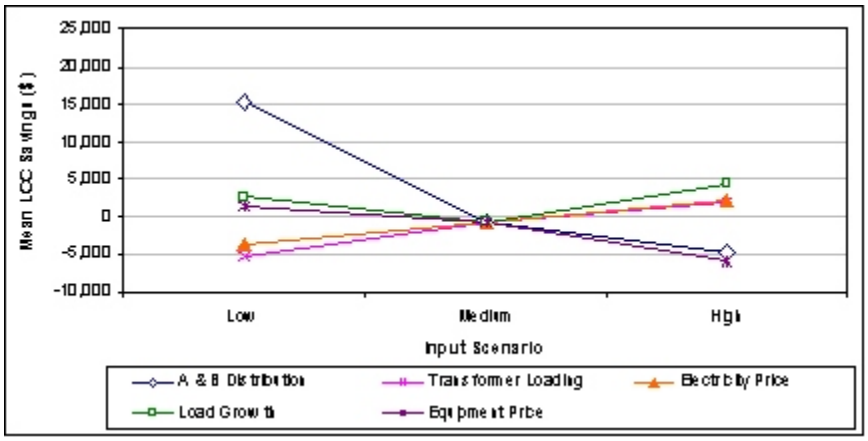

Figure 8D.3.138 Sensitivity of LCC to Input Changes for Design Line 12 , Candidate Standard Level 5

8D.3.5.1 Baseline

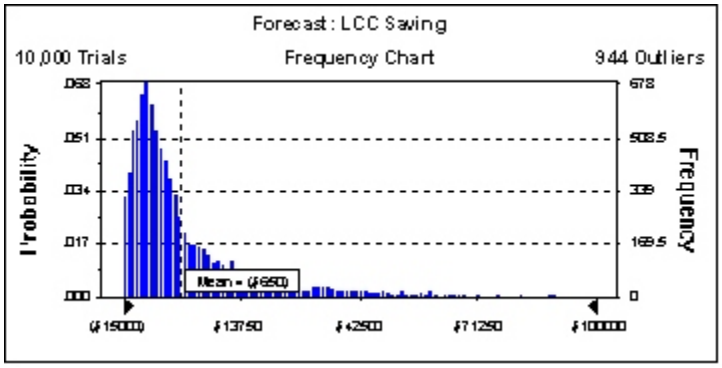

Figure 8D.3.139 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 5; Baseline Scenario

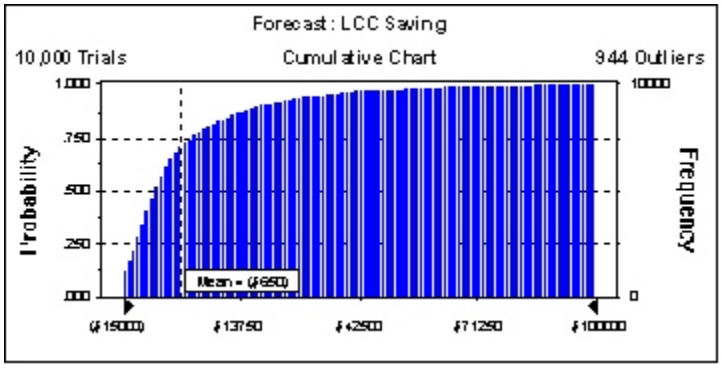

Figure 8D.3.140 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 5; Baseline Scenario

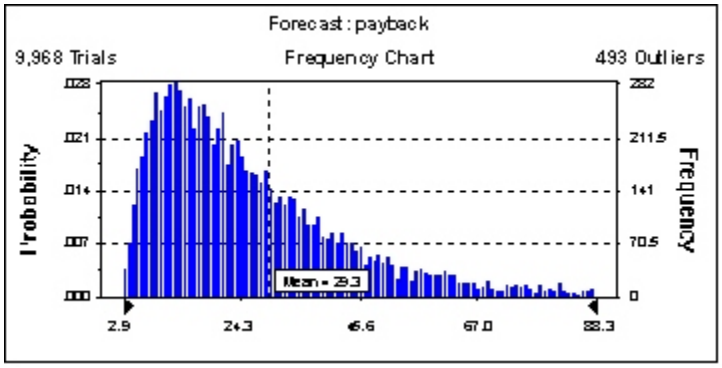

Figure 8D.3.141 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 5; Baseline Scenario

8D.3.5.2 Low A & B Distribution

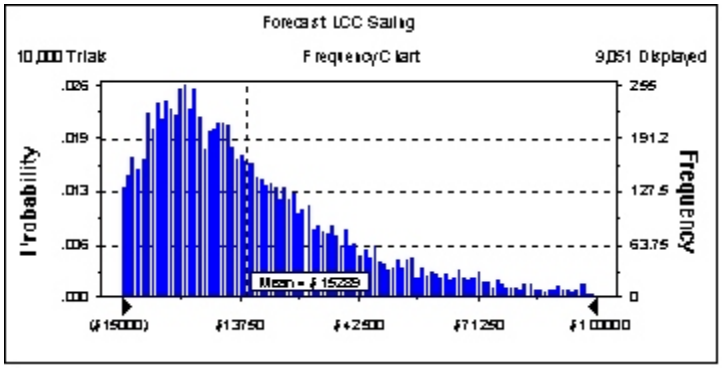

Figure 8D.3.142 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 5; Low A & B Distribution Scenario

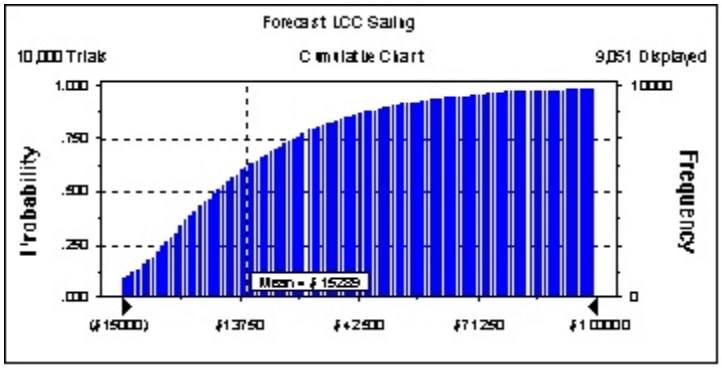

Figure 8D.3.143 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 5; Low A & B Distribution Scenario

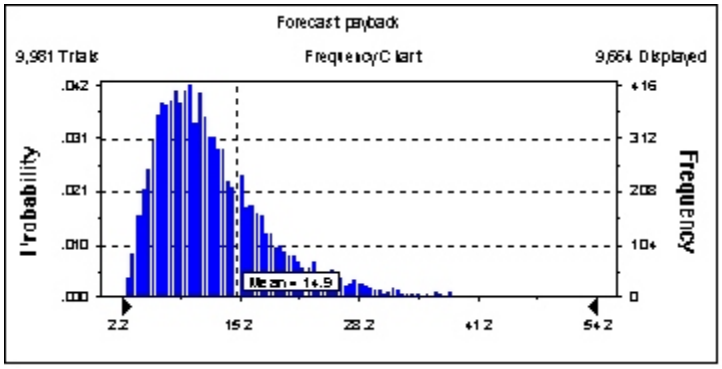

Figure 8D.3.144 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 5; Low A & B Distribution Scenario

8D.3.5.3 High A & B Distribution

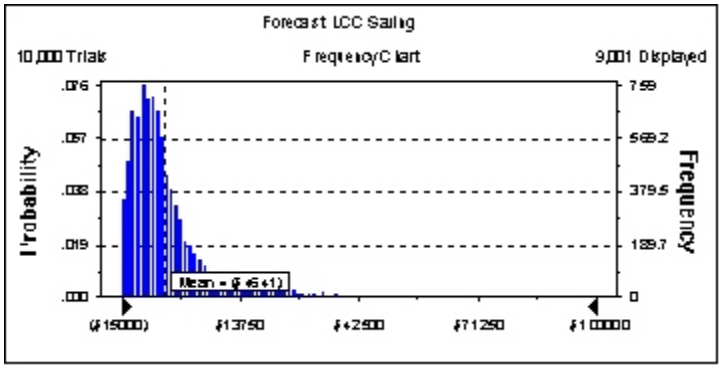

Figure 8D.3.145 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 5; High A & B Distribution Scenario

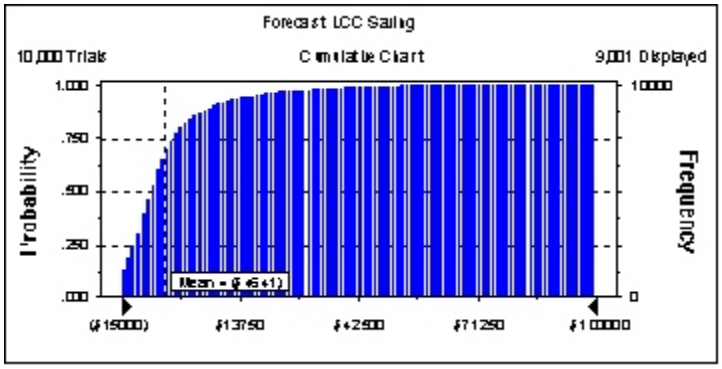

Figure 8D.3.146 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 5; High A & B Distribution Scenario

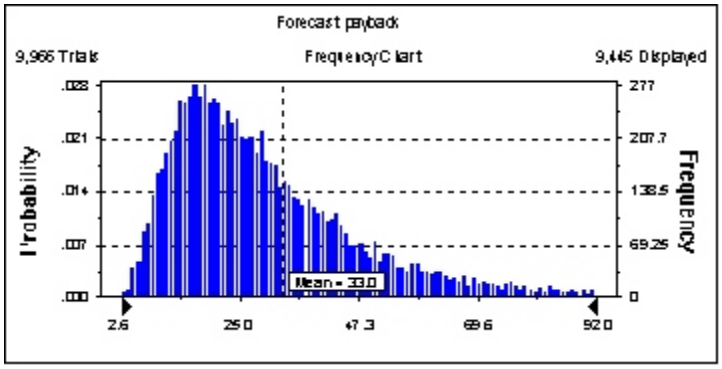

Figure 8D.3.147 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 5; High A & B Distribution Scenario

8D.3.5.4 Low Loading

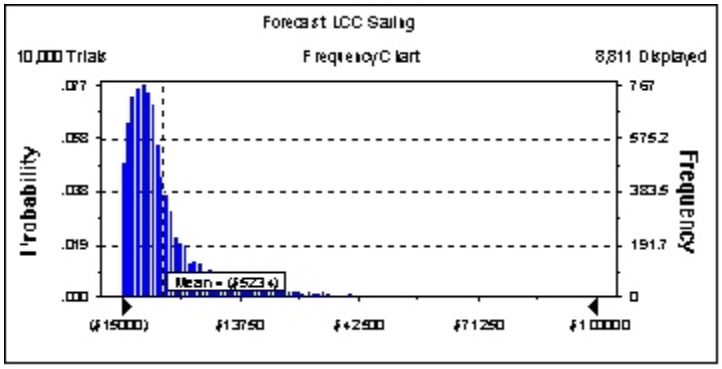

Figure 8D.3.148 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 5; Low Transformer Loading Scenario

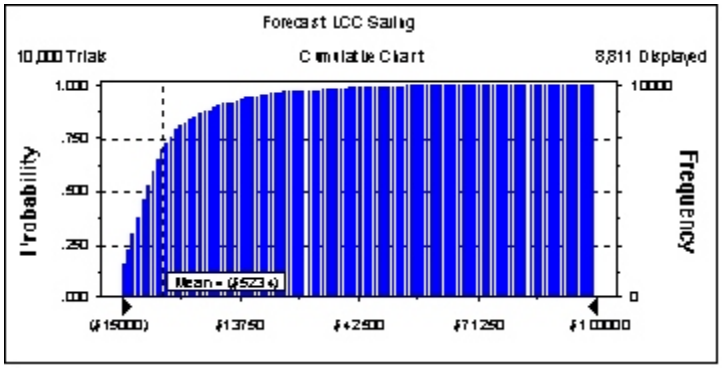

Figure 8D.3.149 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 5; Low Transformer Loading Scenario

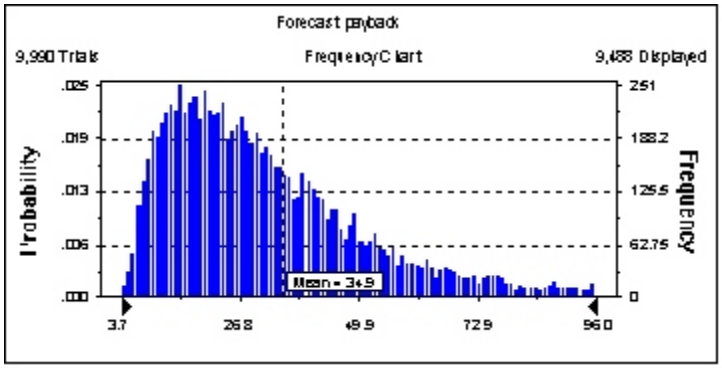

Figure 8D.3.150 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 5; Low Transformer Loading Scenario

8D.3.5.5 High Loading

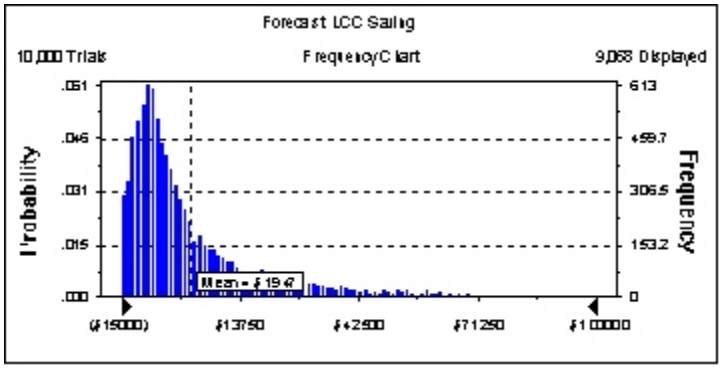

Figure 8D.3.151 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 5; High Transformer Loading Scenario

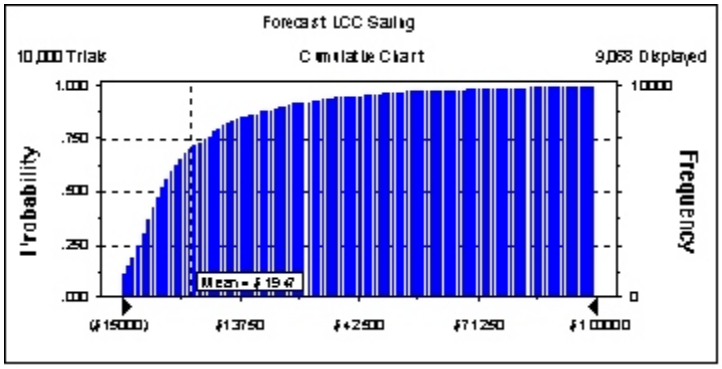

Figure 8D.3.152 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 5; High Transformer Loading Scenario

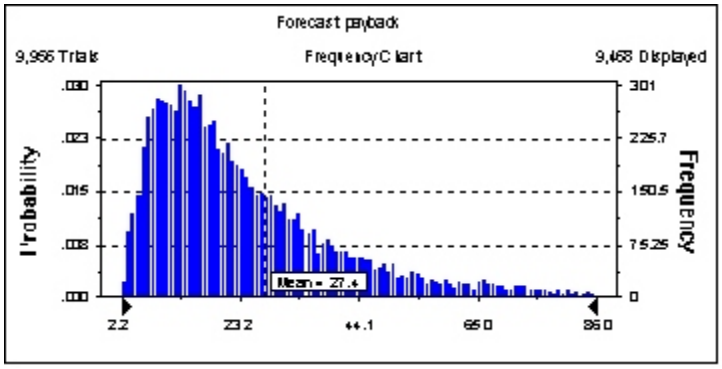

Figure 8D.3.153 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 5; High Transformer Loading Scenario

8D.3.5.6 Low Electricity Price

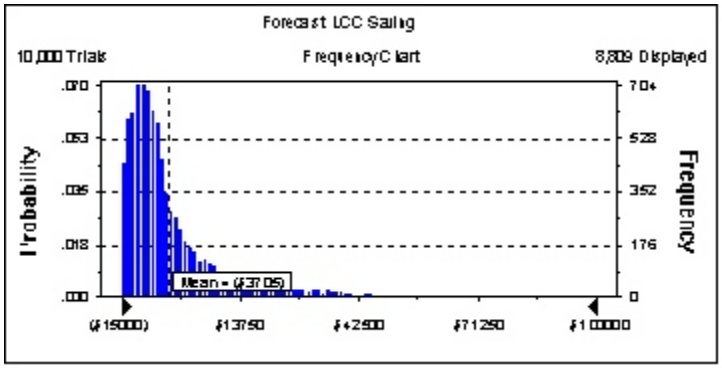

Figure 8D.3.154 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 5; Low Electricity Price Scenario

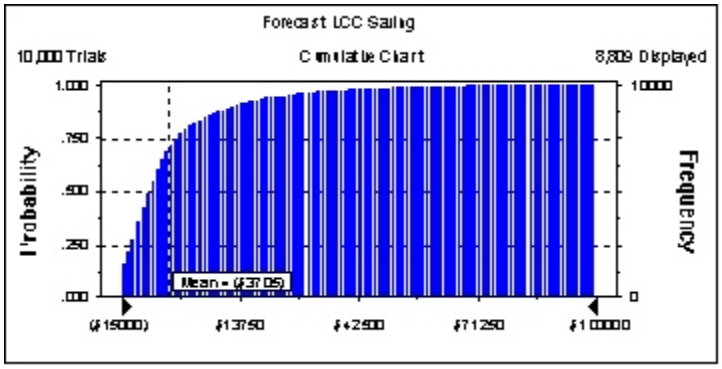

Figure 8D.3.155 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 5; Low Electricity Price Scenario

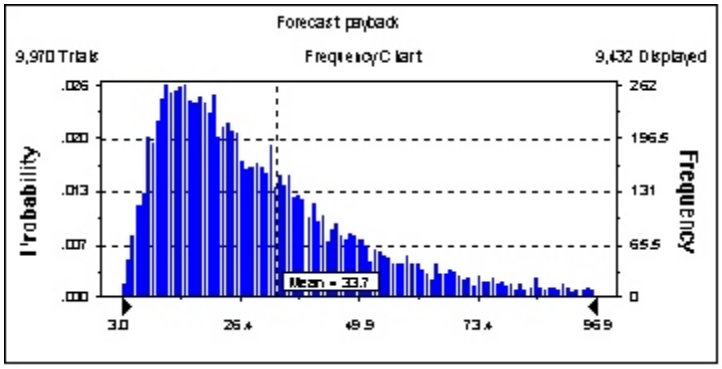

Figure 8D.3.156 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 5; Low Electricity Price Scenario

8D.3.5.7 High Electricity Price

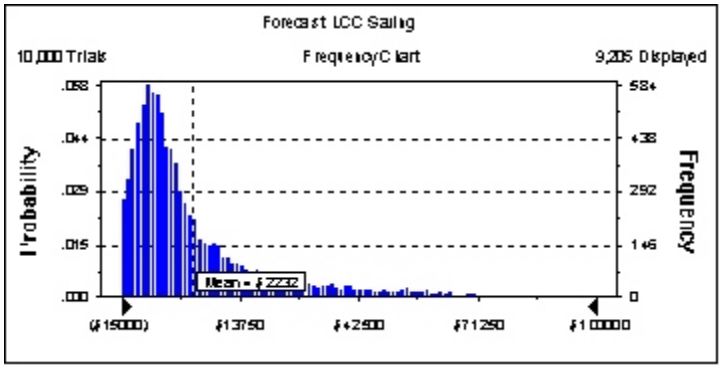

Figure 8D.3.157 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 5; High Electricity Price Scenario

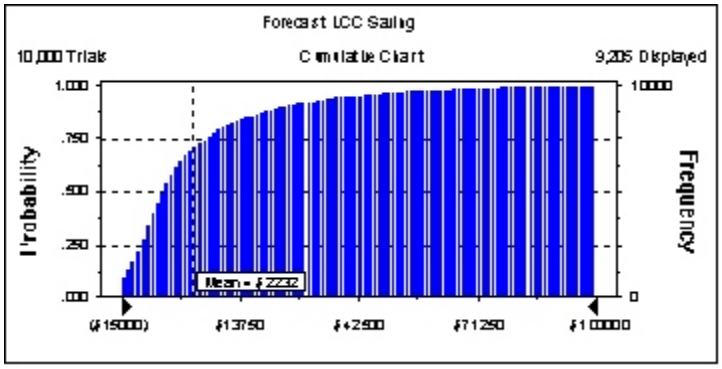

Figure 8D.3.158 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 5; High Electricity Price Scenario

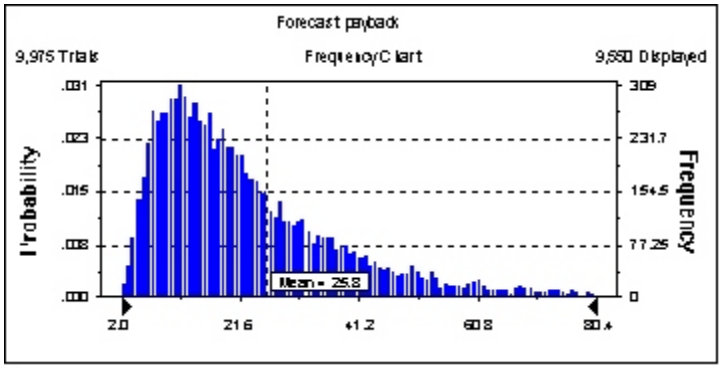

Figure 8D.3.159 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 5; High Electricity Price Scenario

8D.3.5.8 Medium Load Growth

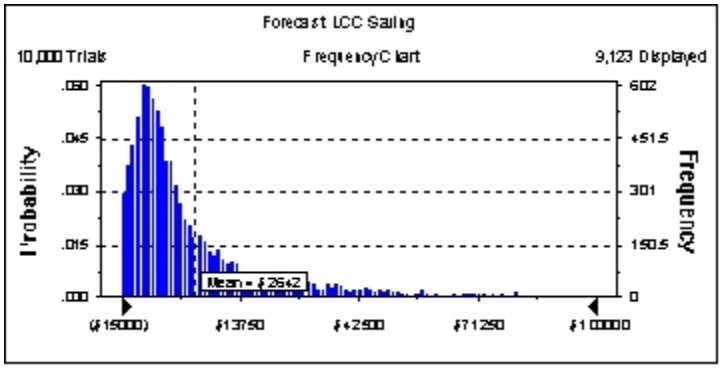

Figure 8D.3.160 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 5; Medium Load Growth Scenario

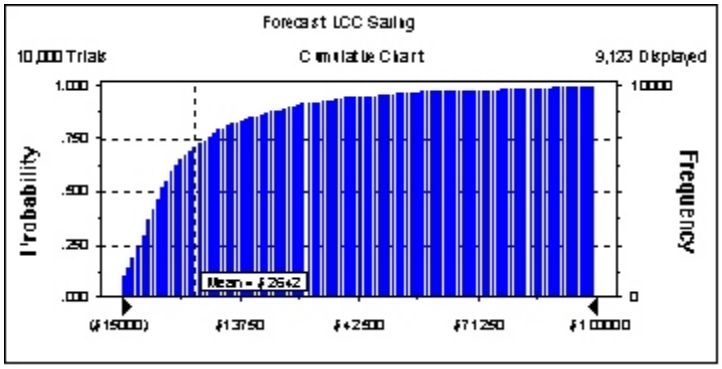

Figure 8D.3.161 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 5; Medium Load Growth Scenario

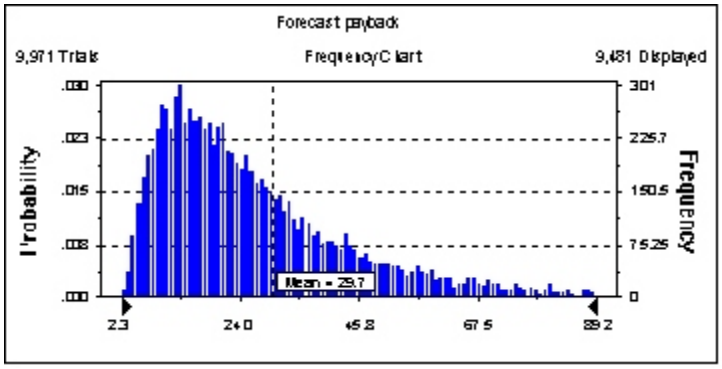

Figure 8D.3.162 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 5; Medium Load Growth Scenario

8D.3.5.9 High Load Growth

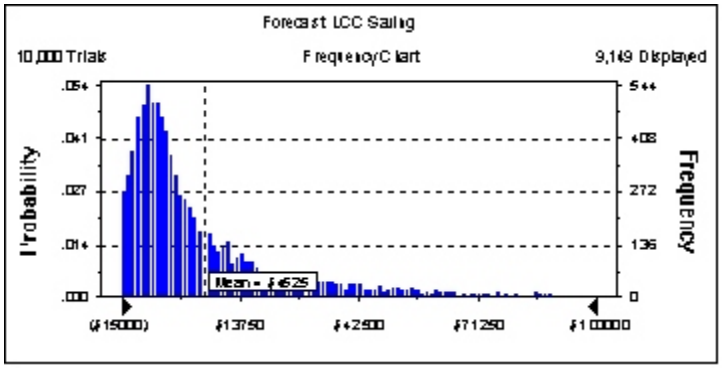

Figure 8D.3.163 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 5; High Load Growth Scenario

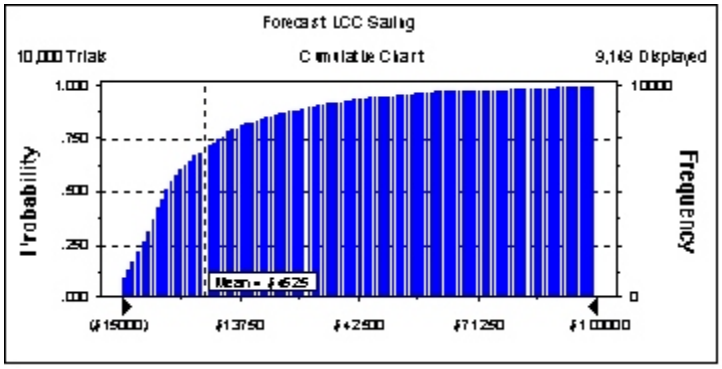

Figure 8D.3.164 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 5; High Load Growth Scenario

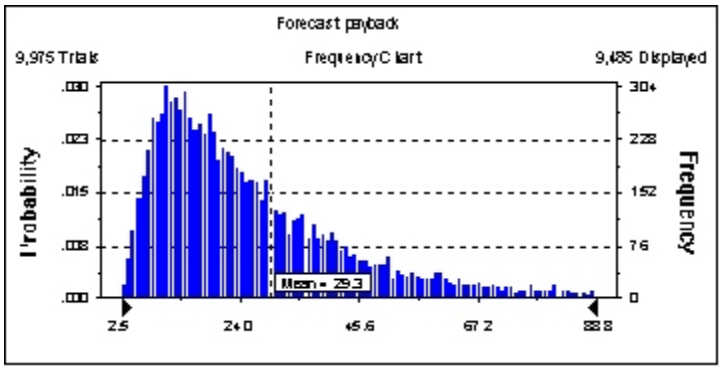

Figure 8D.3.165 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 5; High Load Growth Scenario

8D.3.5.10 Low Equipment Price

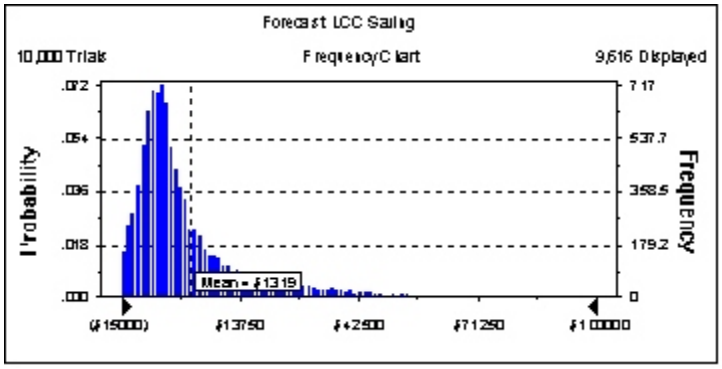

Figure 8D.3.166 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 5; Low Equipment Price Scenario

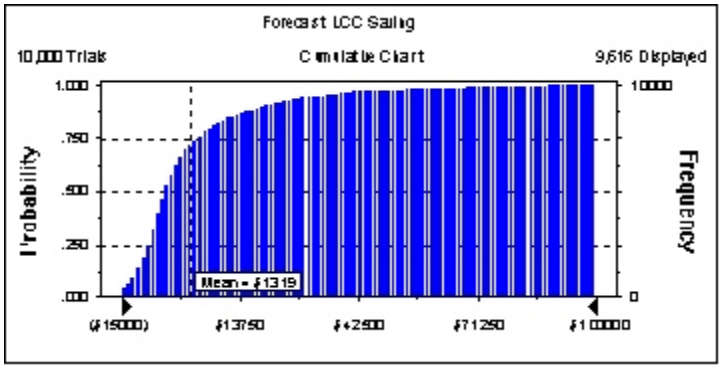

Figure 8D.3.167 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 5; Low Equipment Price Scenario

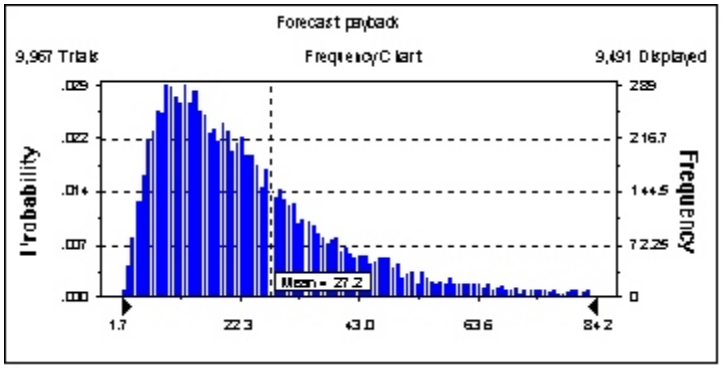

Figure 8D.3.168 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 5; Low Equipment Price Scenario

8D.3.5.11 High Equipment Price

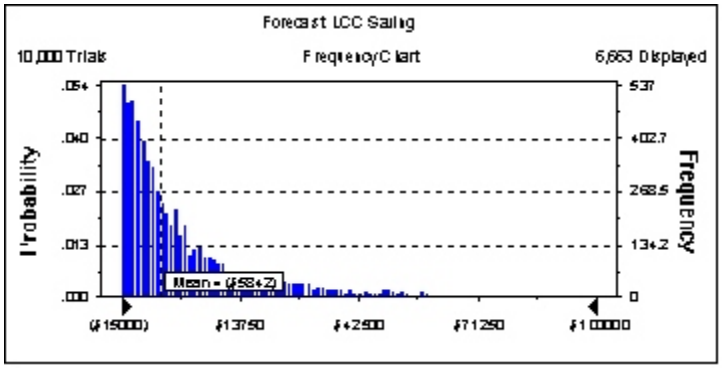

Figure 8D.3.169 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 5; High Equipment Price Scenario

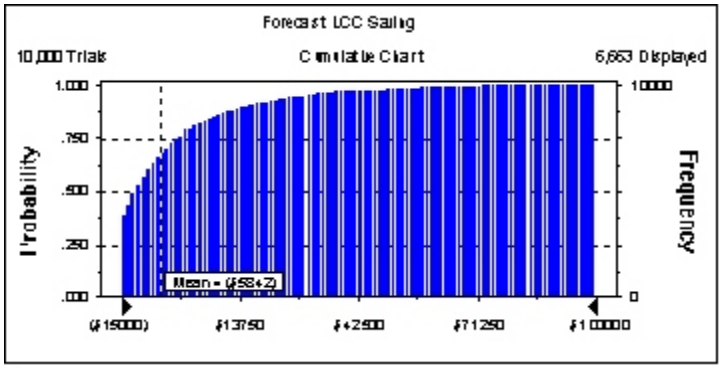

Figure 8D.3.170 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 5; High Equipment Price Scenario

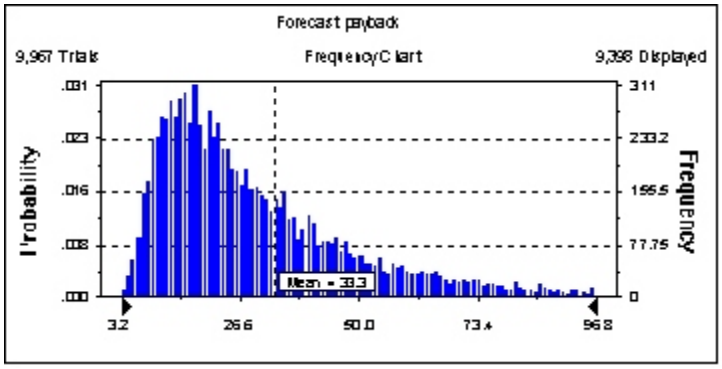

Figure 8D.3.171 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 5; High Equipment Price Scenario

8D.3.6 Design Line 12; Candidate Standard Level 6

Table 8D.3.7 Candidate Standard Level: 6; Summary Table

	Candidate Standard Level		
	Transformers having LCC Savings > $0 (%)	Mean LCC Savings ($)	Mean Payback (Years)
Baseline	29.9	-655	7.0
Non Evaluating A & B Distribution	66.4	15,436	5.4
High Evaluating A & B Distribution	20.5	-4,699	21.4
Low Loading	19.8	-5,091	7.4
High Loading	34.0	1,790	6.9
Low Electricity Price	23.8	-3,500	8.1
High Electricity Price	35.8	2,044	6.1
Medium Load Growth	35.9	2,386	7.1
High Load Growth	38.5	4,184	7.0
Low Equipment Price Scenario	34.1	1,596	6.3
High Equipment Price Scenario	23.7	-5,797	8.9

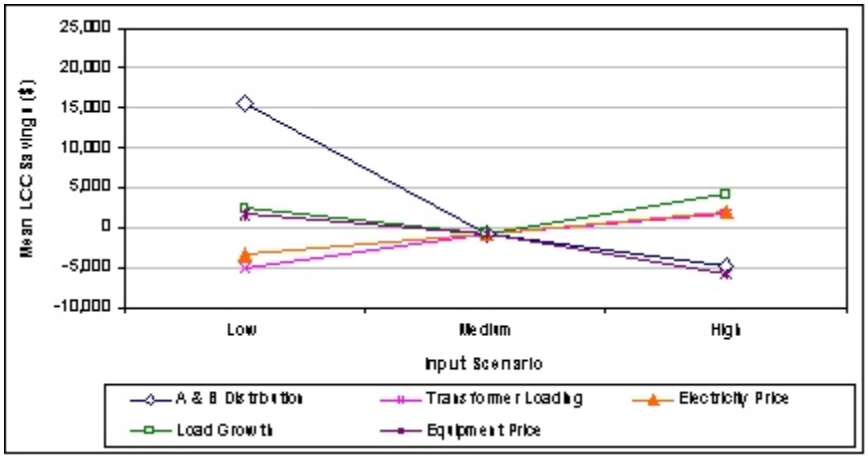

Figure 8D.3.172 Sensitivity of LCC to Input Changes for Design Line 12, Candidate Standard Level 6

8D.3.6.1 Baseline

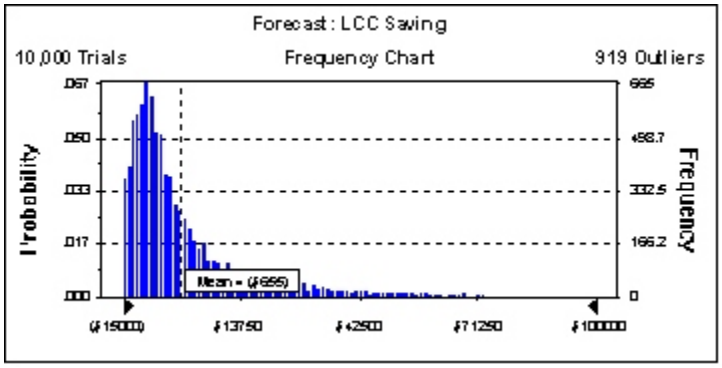

Figure 8D.3.173 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 6; Baseline Scenario

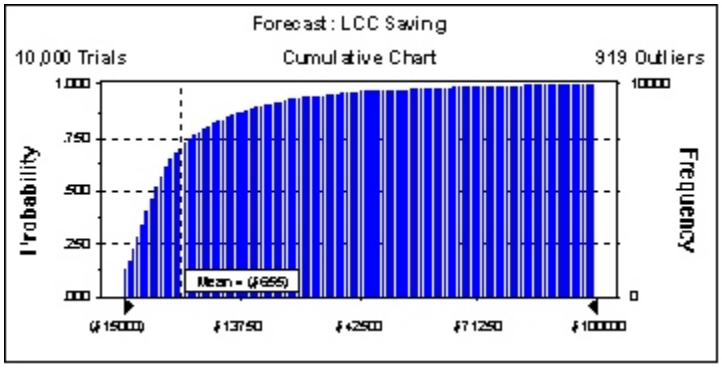

Figure 8D.3.174 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 6; Baseline Scenario

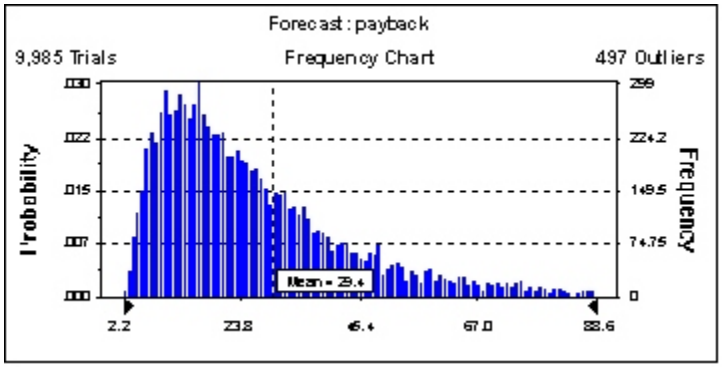

Figure 8D.3.175 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 6; Baseline Scenario

8D.3.6.2 Low A & B Distribution

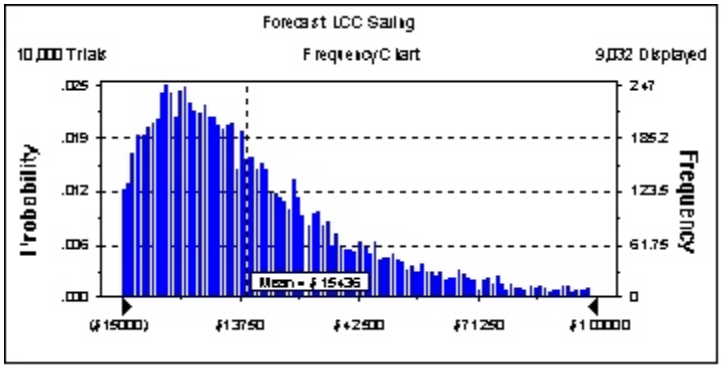

Figure 8D.3.176 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 6; Low A & B Distribution Scenario

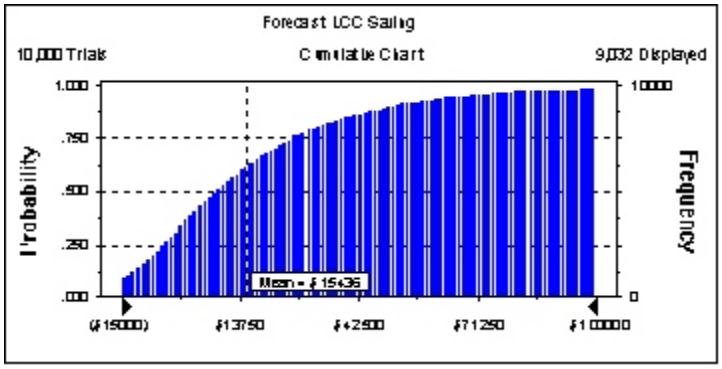

Figure 8D.3.177 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 6; Low A & B Distribution Scenario

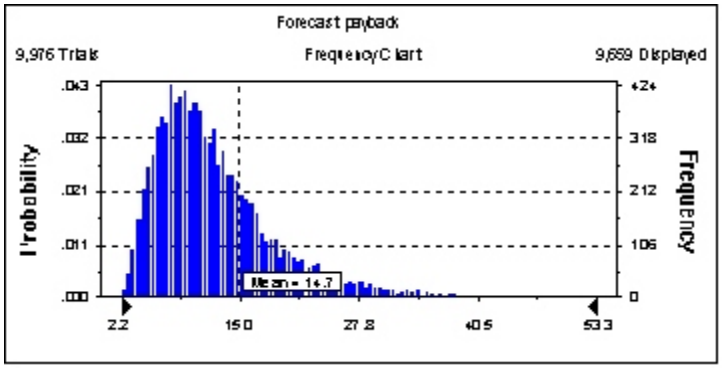

Figure 8D.3.178 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 6; Low A & B Distribution Scenario

8D.3.6.3 High A & B Distribution

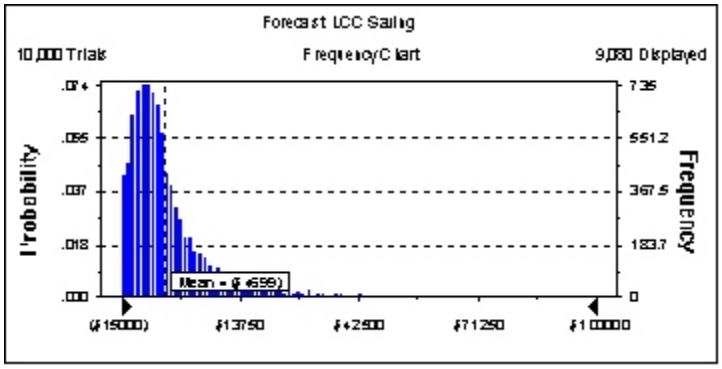

Figure 8D.3.179 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 6; High A & B Distribution Scenario

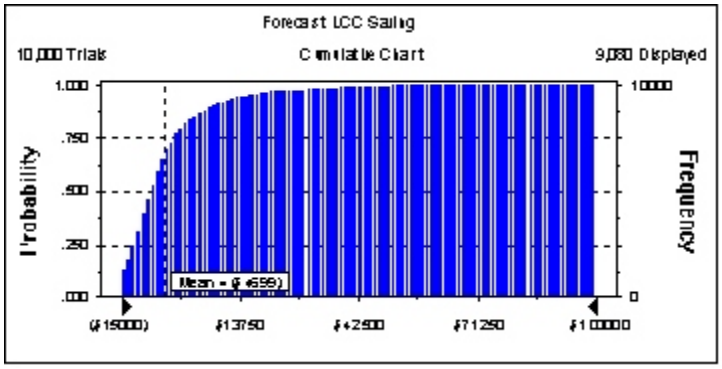

Figure 8D.3.180 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 6; High A & B Distribution Scenario

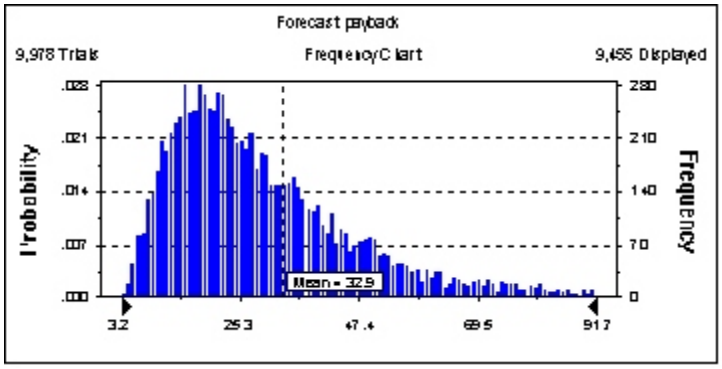

Figure 8D.3.181 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 6; High A & B Distribution Scenario

8D.3.6.4 Low Loading

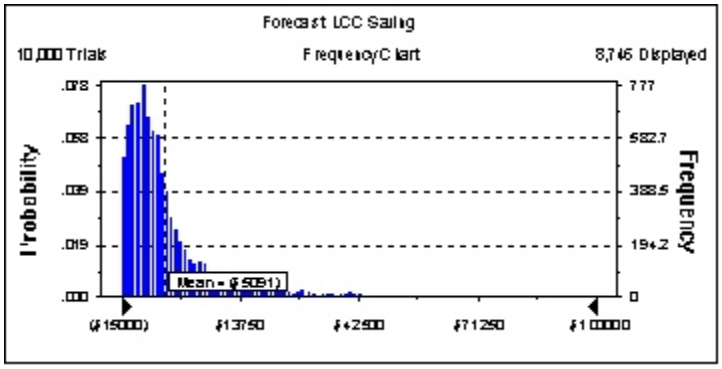

Figure 8D.3.182 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 6; Low Transformer Loading Scenario

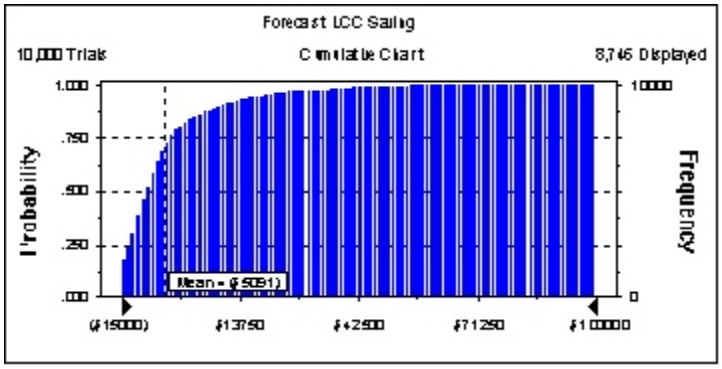

Figure 8D.3.183 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 6; Low Transformer Loading Scenario

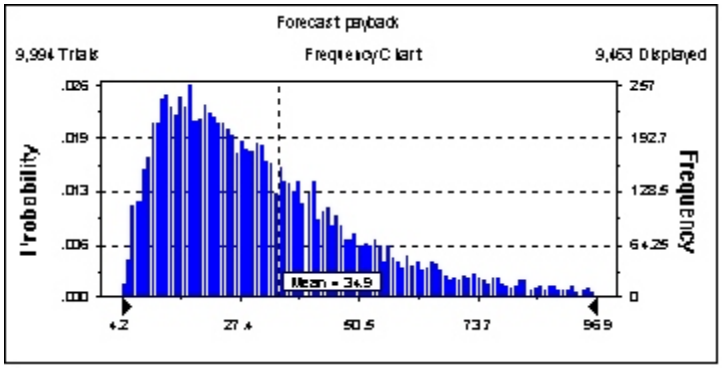

Figure 8D.3.184 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 6; Low Transformer Loading Scenario

8D.3.6.5 High Loading

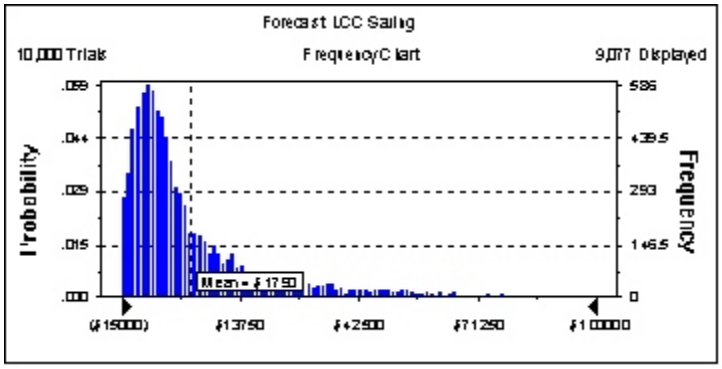

Figure 8D.3.185 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 6; High Transformer Loading Scenario

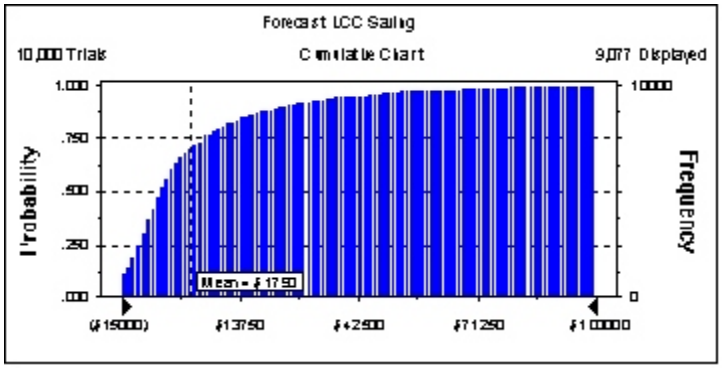

Figure 8D.3.186 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 6; High Transformer Loading Scenario

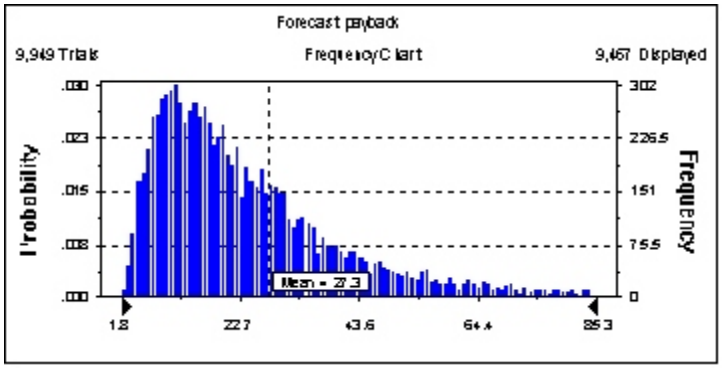

Figure 8D.3.187 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 6; High Transformer Loading Scenario

8D.3.6.6 Low Electricity Price

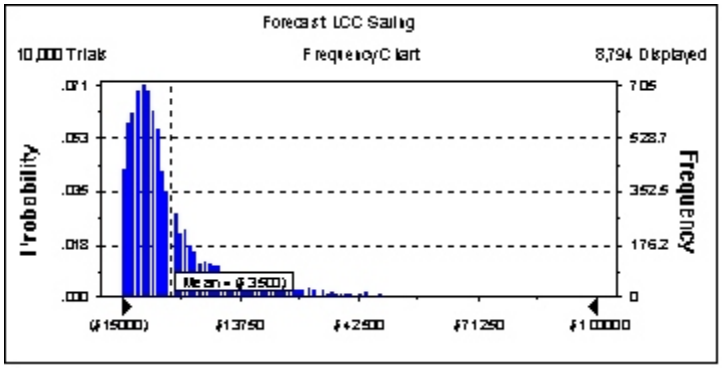

Figure 8D.3.188 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 6; Low Electricity Price Scenario

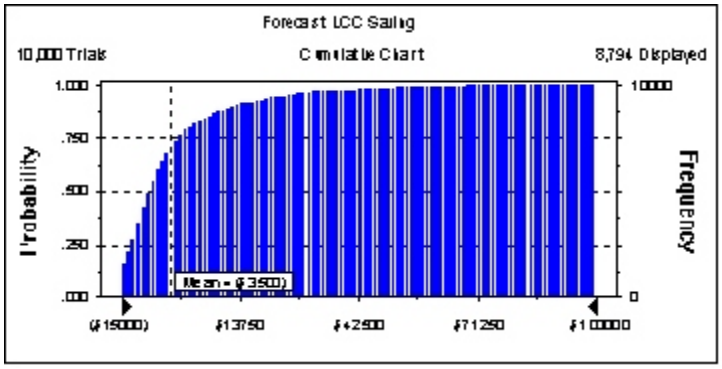

Figure 8D.3.189 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 6; Low Electricity Price Scenario

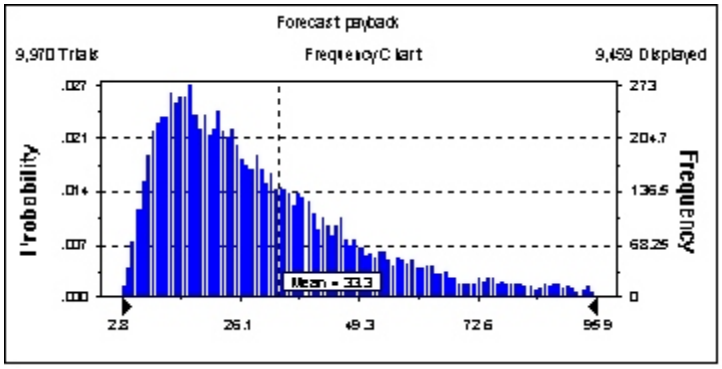

Figure 8D.3.190 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 6; Low Electricity Price Scenario

8D.3.6.7 High Electricity Price

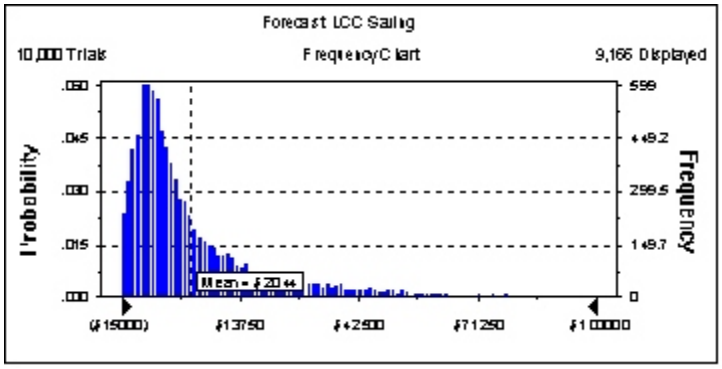

Figure 8D.3.191 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 6; High Electricity Price Scenario

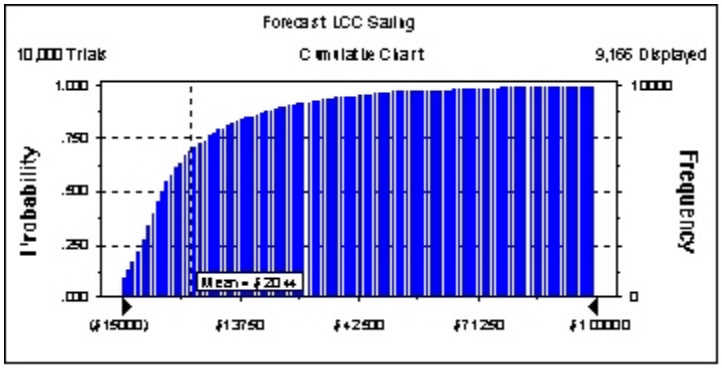

Figure 8D.3.192 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 6; High Electricity Price Scenario

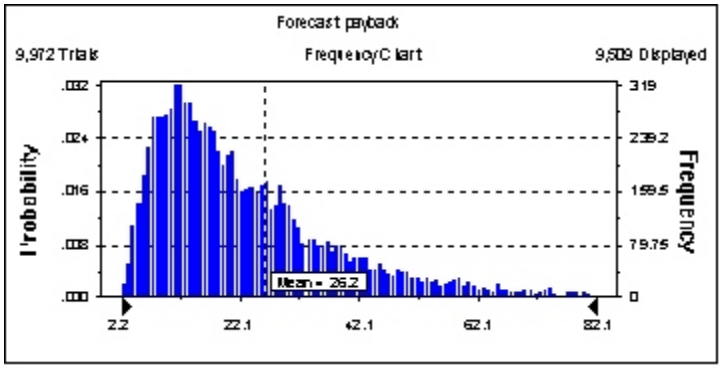

Figure 8D.3.193 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 6; High Electricity Price Scenario

8D.3.6.8 Medium Load Growth

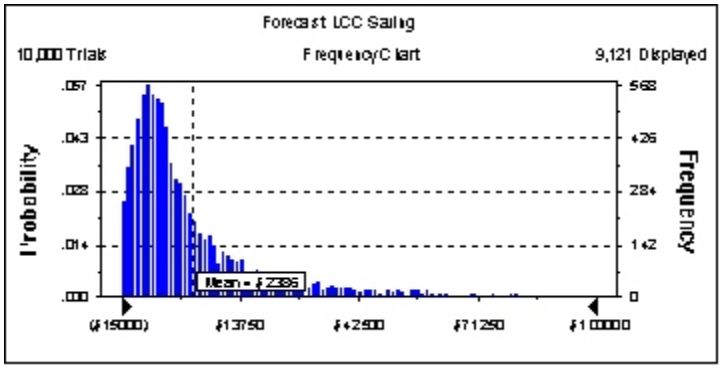

Figure 8D.3.194 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 6; Medium Load Growth Scenario

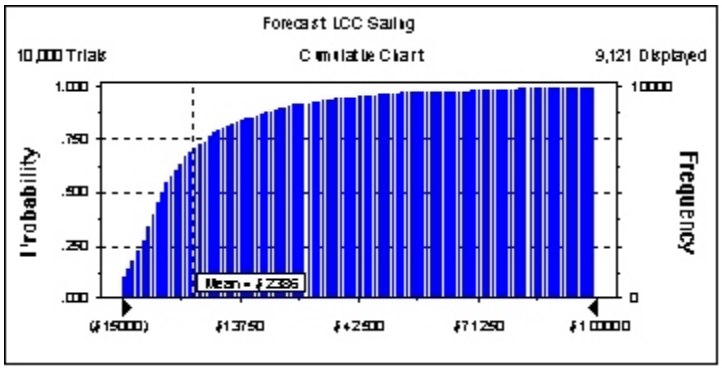

Figure 8D.3.195 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 6; Medium Load Growth Scenario

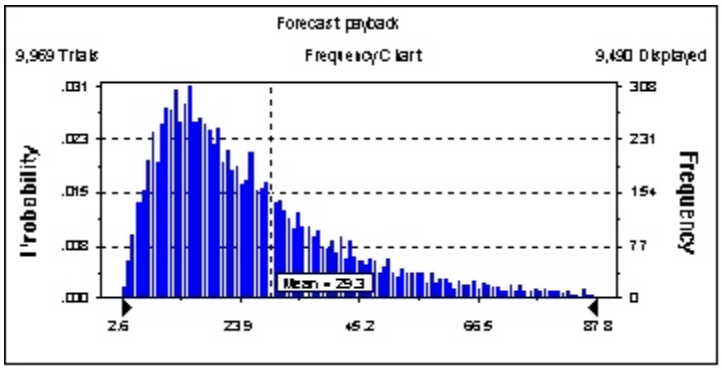

Figure 8D.3.196 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 6; Medium Load Growth Scenario

8D.3.6.9 High Load Growth

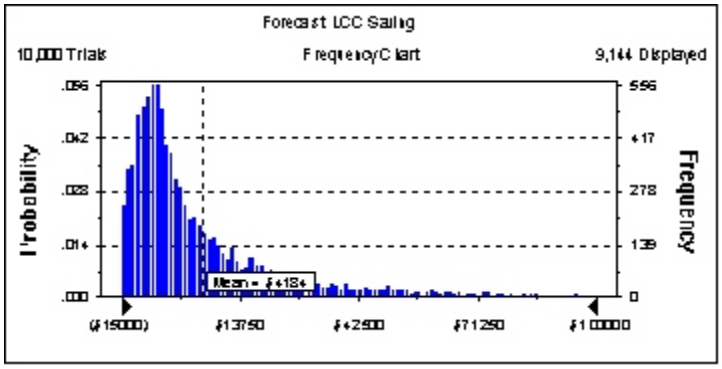

Figure 8D.3.197 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 6; High Load Growth Scenario

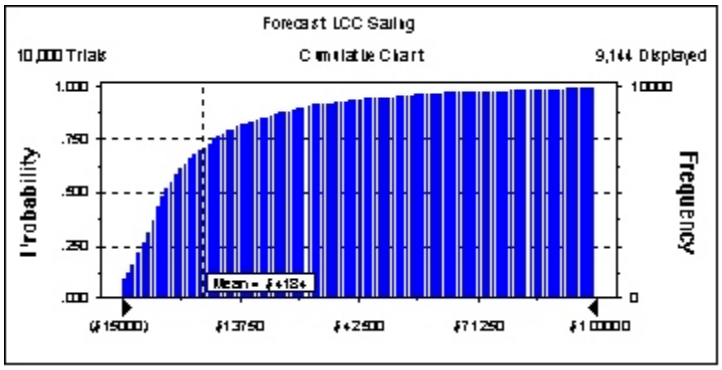

Figure 8D.3.198 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 6; High Load Growth Scenario

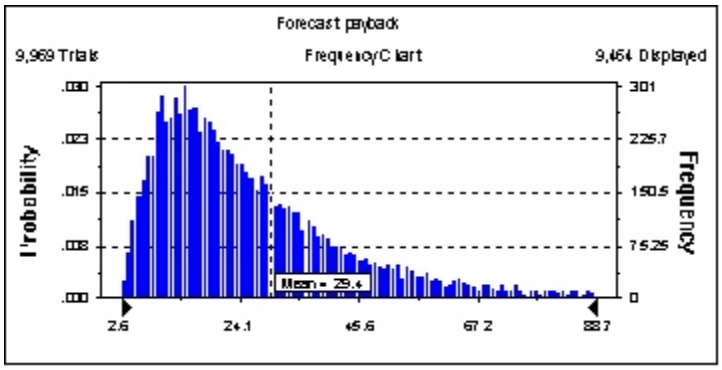

Figure 8D.3.199 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 6; High Load Growth Scenario

8D.3.6.10 Low Equipment Price

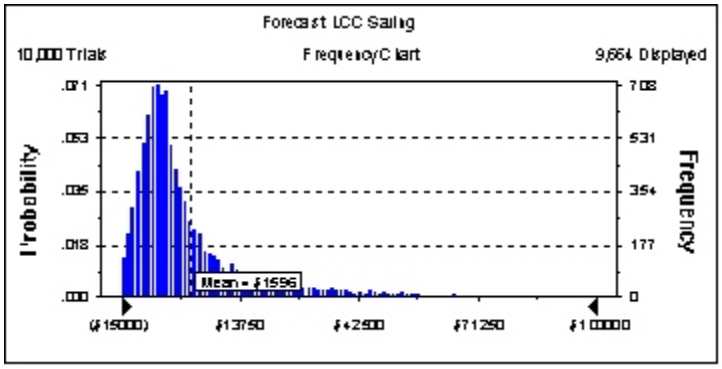

Figure 8D.3.200 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 6; Low Equipment Price Scenario

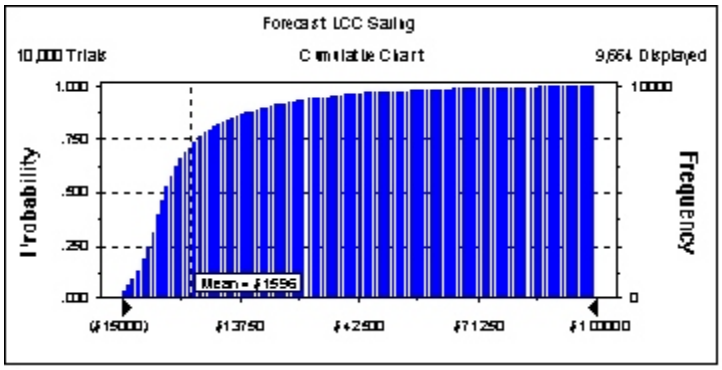

Figure 8D.3.201 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 6; Low Equipment Price Scenario

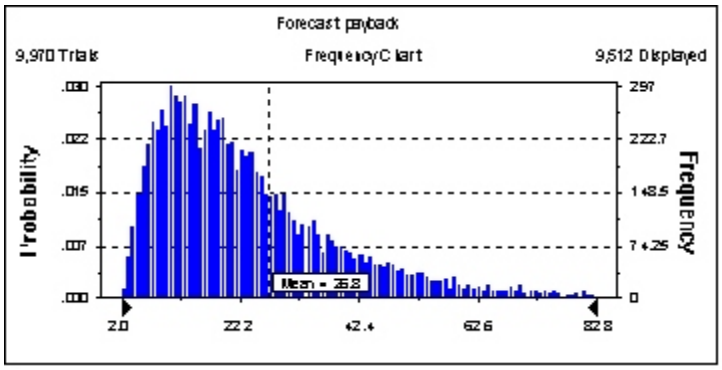

Figure 8D.3.202 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 6; Low Equipment Price Scenario

8D.3.6.11 High Equipment Price

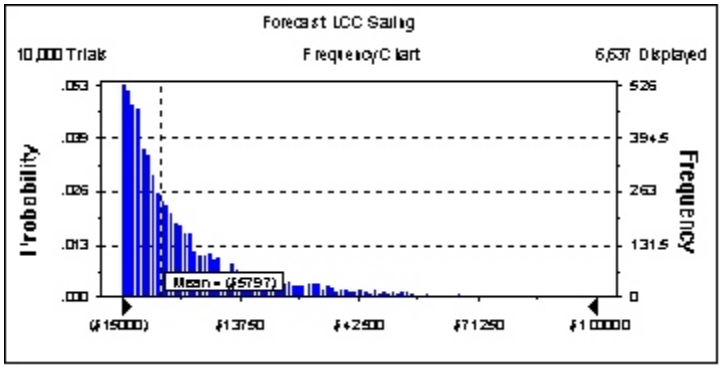

Figure 8D.3.203 LCC Savings Frequency Chart; Design Line: 12; Candidate Standard Level: 6; High Equipment Price Scenario

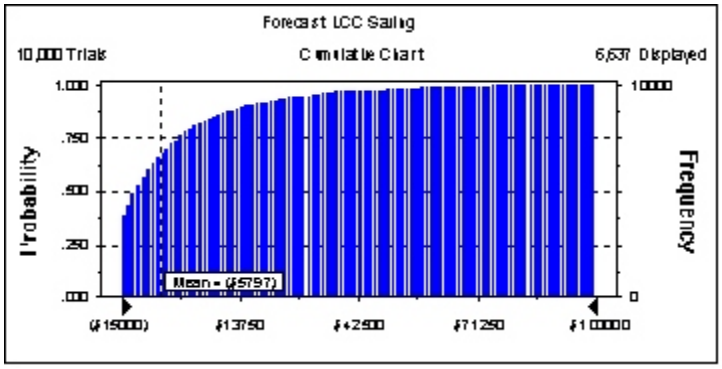

Figure 8D.3.204 LCC Savings Cumulative Chart; Design Line: 12; Candidate Standard Level: 6; High Equipment Price Scenario

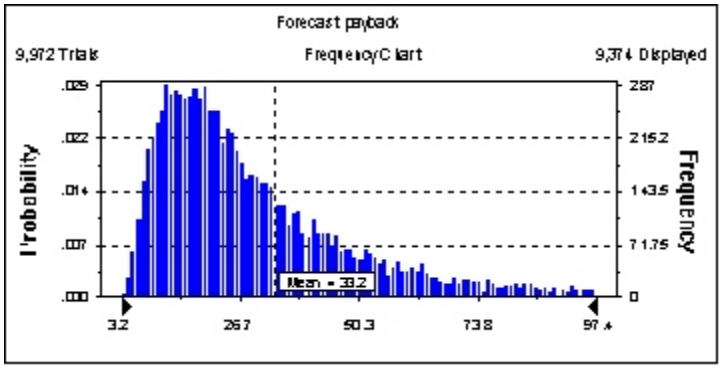

Figure 8D.3.205 Payback Period Frequency Chart; Design Line: 12; Candidate Standard Level: 6; High Equipment Price Scenario