APPENDIX E
PARAMETERS FOR CALCULATING LIFE CYCLE COSTS FOR ENERGY ANALYSES

SECTION E.1 GENERAL PARAMETERS

E.1.1 General Instructions for All Life Cycle Costs Analyses

All Life Cycle Costs Analyses (LCA) must conform to the following standards and requirements.

E.1.1.1 Costs are to be computed over a 30-year period, except as noted in Paragraph II below.

E.1.1.2 Costs for each alternative must be shown on the Life Cycle Cost Worksheet or an exact facsimile. Specific instructions for completing the worksheet are provided in Paragraph III below.

E.1.1.3 Include appropriate backup to support the summary figures shown on the worksheet (i.e., include how the various costs were calculated and note the basis or source of cost data.)

SECTION E.2 ADDITIONAL INSTRUCTIONS

E.2.1 Periods for Studies

Use the following periods for energy-related life cycle cost studies:

- Building Envelope Studies: 30 years
- Central Heating System Plants: 30 years
- Building HVAC Systems: 20 years
- Fuel Selection Studies 20 years

E.2.2 Average Service Lives

Average service lives of mechanical equipment shall be based upon the Average Service Life shown in the ASHRAE Applications Handbook.

E.2.3 Use of the Life Cycle Cost Worksheet

Indoor and outdoor design conditions shall be as stated on the Life Cycle Cost Worksheet.

E.2.4 System Types and Energy Sources

The type of system and the energy source shall be clearly noted on the Life Cycle Cost Worksheet

E.2.5 Supporting Backup

The supporting backup shall clearly show the various fuel/energy rates (i.e., $/gallon, $/kwh, etc.) and the data source for each.

SECTION E.3 WORKSHEET INSTRUCTIONS

E.3.1 Instructions for Use of the Summary Worksheet

1. Use a new Worksheet for each alternative.
2. Complete all general information at the top of the Worksheet.
3. Fill in Columns “a” thru “f” for each year. Use escalated costs. On the Worksheet, specify the annual escalation rate used for each cost category. In the supporting documentation, identify the source basis for the chosen escalation rates.
4. Sum Columns “a” thru “e” for each year; subtract Salvage Value (Column “f”) and place results in Column “g”.
5. Multiply the Column “g” figures by the corresponding discount factor in column “h” and replace results in column “i”.
6. Sum Column “i” and place results in the box at the bottom of the Worksheet.

SECTION E.4 LIFE CYCLE COST SUMMARY WORKSHEET

E.4.1 Building Life Cycle Cost Summary Worksheet

To view/download the latest version of the Building Life Cycle Cost Summary, visit the DGS Forms website (http://forms.dgs.virginia.gov) and enter “DGS-30-228” in the search box.