

Life Cycle Costing Analysis (LCCA) Requirements:

LCCA requirements: As outlined in Title 29, Chapter 69, section 6909A, the use of life cycle cost analysis is required in the purchasing of equipment and in public works projects. This includes small public works (section 6961), large public works (section 6962), and sole source procurement (section 6965). This analysis must include the cost of acquisition, cost of energy consumption required for operation, the cost of maintenance, and the cost of consumables that affect the overall cost of ownership. The contracting agency shall require the project architect or engineer (or both) to perform the life cycle cost analysis. Based on this analysis, the project specifications shall include the equipment, systems, materials or design elements with the lowest cost of ownership.

LCCA contents: The extent of the analysis is based upon the scope and size of the project. Include major building systems such as building envelope materials and systems (to include walls, insulation, roofing, windows and glazing, doors), floor finishes, mechanical including heating, ventilation, air conditioning equipment and related systems, water and wastewater plumbing fixtures, electrical equipment (lighting, generators, transformers, power distribution), and energy saving systems (such as “green” or renewable energy sources).

LCCA timeframe: The time period used in the analysis should correspond with the predicted lifespan of the equipment or facility (“useful life of the project” is mentioned in the Code). As a default value, **20 years** (the timeframe for most State capital improvement bonds) should be used.

LCCA waiver: As stated in the Code, the use of LCCA may be waived by the “agency head” in writing. Agency head is the “top official in an agency whether elected, appointed or otherwise.” For school district projects, this would be the Superintendent or School board president. For projects managed by DFM, the Director of OMB provides the waiver. A waiver is required to not use LCCA and is also required where the lowest cost option is not incorporated into the project.

LCCA format: The format for the analysis shall include assumptions, options studied (a minimum of 2 alternatives and a “base case”), and a discussion/justification of the final selection made. The “base case” is the first option studied and includes all costs to maintain, repair, expand or enhance the current system or facility to meet current project requirements. Costs included in the analysis shall consist of initial cost (construction), operating or maintenance costs, and energy costs (if applicable). Analysis must include the time value of money- by discounting future costs and savings to constant dollars. Resell, disposal and residual value need not be included in the analysis.

LCCA tools: Various computer software programs can assist with LCCA. Commercial software includes mechanical engineering software such as Trane Trace, McQuay System analyzer, and Carrier HAP. Free software and other tools are available from the Federal Energy Management Program (FEMP) such as the Building Life-Cycle Cost (BLCC) program and Handbook 135, Life-Cycle Costing Manual.

LCCA submission and approval: The LCCA must be completed by a registered design professional (architect or engineer). The LCCA is submitted before or at the schematic (30%) design phase. The LCCA is approved by the Chief of Engineering or their designee.