

State System of Higher Education Facilities Manual

Volume VI-D Condition Audits and Life Cycle Requirements

Condition Audits

Condition audits are conducted to determine the physical condition of each facility and the campus infrastructure. Condition audits can be extremely time consuming and costly, if prepared on a detailed basis for each facility. While detailed condition audits provide an exact picture of the condition of each facility, each audit presents a “snapshot” in time that quickly becomes out-of-date unless sufficient funds are available to correct all deficiencies in a short period of time. This is rarely the case. The condition audit has been simplified for the State System of Higher Education to avoid the cost and in recognition of the State System’s limited availability of funding for facility maintenance, repairs, and renovation. During the initial inventory, a visual inspection of each room was made to determine the condition of each space. Using a least cost, 35-year life cycle renewal mode, the condition of each facility is recorded based upon the age of the facility since the last major whole-facility renovation. Table VI-D-1 shows the condition codes assignable to each facility based upon the least cost life cycle model.

Using Table VI-D-1, each university should assign a condition code based upon the age of the facility since the last major renovation to that facility. State System institutions should perform least cost life cycle profiles for each facility, as discussed below, and perform a continuous facility inspection program to determine specific maintenance and repair projects for annual funding requirements.

Life Cycle Requirements

The materials used in constructing every facility begin to wear or weather as soon as they are put into place. The component parts used in the construction will wear out at different ages, i.e., they have “life expectancies.” Normal routine preventative maintenance must be performed to help prevent premature failure of the materials before the end of their life expectancy. Preventative and routine maintenance may even extend the life expectancy of some components, but failure will occur close to the historic life expectancy. Recording life expectancies of each component of each facility and replacing components at the end of their life expectancy provides an orderly and predictable method for budgeting for maintenance, repair, and renovation of facilities. The life cycle profile modeling and related definitions are explained below. The article contained in Appendix VI-D-1 by Clare D. Heidler, “Life Cycle Costing: Getting Approval for the Budget You Need,” provides an example and detailed explanation of life cycle profile modeling.

Life Cycle Maintenance Profile

Life cycle maintenance profile modeling provides a method for determining the optimum and least cost facility management program for routine maintenance, component repair or replacement, and renovation and renewal for each facility. Life cycle maintenance is based upon the principles of constructing a quality facility initially, conducting an aggressive preventive maintenance program, replacing components at the end of their useful life expectancy, and renovating the facility at the end of its useful life.

The cost to maintain the facility, exclusive of cleaning, utility, administrative and major repair costs, is estimated for each year from the first year the building is put into operation until it is completely renovated. The cost and year in which major facility components must be repaired or replaced are estimated during the useful life of the facility. Finally, the cost to renovate the facility completely and the year in which renovation should be accomplished are estimated. This data is best collected in a matrix format as show in the forms in Appendix VI-D-2.

A life cycle maintenance cost profile shall be completed for every building, utility system, and infrastructure owned and/or operated (other than leased) by the university. Forms VI-D-1, VI-D-2, and VI-D-3 should be completed for each building, utility system, and infrastructure, respectively, as outlined below. Form VI-D-1 shall be used for buildings, Form VI-D-2 for utility distribution and communications systems, Form VI-D-3 for production equipment, and Form VI-D-4 for infrastructure (except communication systems).

The instructions for completing Forms VI-D-1 through VI-D-4 are shown in the sample forms in Appendix VI-D-2. Table VI-D-1 shall be used to select the useful life of the building components, unless more specific information is available as a result of the physical inspection or other information held on the structure. Appendix VI-D-3, Glossary of Terms, provides definitions for the terms used in life cycle maintenance profiles.

H:\F_A\DRS\Facilities Manual\Vol 6d.doc