

STATE COUNCIL OF HIGHER EDUCATION



Higher Education Facilities Condition Reporting Guidelines

March 23, 2001

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Background

In 1982, following the Council's recommendation, the Commonwealth of Virginia established a state maintenance reserve program to provide supplemental funding for major repairs or replacement of roofs, masonry, ceilings, and utility systems, for the correction of building deficiencies to conform with building and safety code regulations, and for the correction of major erosion and drainage problems. The program was established to support educational and general (E&G) facilities.

In 1992, the Council began requiring institutions to document the specific deficiencies of each E&G building. Institutions were asked to report the replacement values and estimated costs of operating and maintenance reserve deficiencies in those facilities in a Facilities Condition Report (FCR).

Using the FCR, staff computed the facilities condition index (FCI), which serves as a relative measure of the condition of a facility or group of facilities. Historically, SCHEV has defined the FCI as the ratio of an asset's deferred maintenance costs to the asset's current replacement value. Staff summarized the condition of all E&G buildings to arrive at an overall facilities condition rating for each institution. The campus condition rating was based on the following scale.

FCI	Campus Condition Rating
Under 5%	Good
5-10%	Fair
Over 10%	Poor

In addition to providing information on the overall condition of an institution's facilities, SCHEV staff also used the FCR data to estimate maintenance reserve needs. Section 23.9-9 of the *Code of Virginia* states that "The State Council of Higher Education shall develop policies, formulae and guidelines for the fair and equitable distribution and use of public funds among the public institutions of higher education." In preparation for the 2000-02 biennial budget recommendations, SCHEV staff noted significant increases in the reported cost of deficiencies at several institutions. Because of potentially significant funding implications attributable to these changes and a growing concern that the assessment criteria used by institutions might not be uniform, the State Council recommended in November 1999 that the Governor and the General Assembly fund a study of the facility condition assessment methods used by the institutions of higher education. The Governor and the General Assembly responded by authorizing SCHEV and the Department of General Services (DGS) to hire a consultant to evaluate the uniformity of facility condition assessment procedures used to determine maintenance reserve needs of the Commonwealth's agencies and institutions of higher education.

The consultant's final report was released in November 2000. The consultant found that institutions used various methodologies to estimate building values and to determine estimated costs of repairing building deficiencies. Specifically, institutions used a variety of methodologies to determine building values, relying primarily on replacement value data submitted to the Division of Risk Management for insurance purposes. In addition,

most institutions reported deficiencies based on existing needs; however, some considered deficiencies to include projected needs based on life-cycle component renewal costs, or other cost components.

As a result, SCHEV staff, with the help of a workgroup of institutional representatives and DGS staff, has developed the following guidelines and procedures for reporting the facility condition ratings of higher education facilities. The goal of these guidelines is to provide public colleges and universities with common definitions, to increase institutional consistency in reporting facility data, and ultimately to recommend the fair and equitable allocation of available maintenance reserve resources to the institutions. Appendix A contains a list of terms and definitions that SCHEV staff and the workgroup have agreed are important in discussing maintenance reserve needs in general and in reporting facilities condition data.

The consultant also found that most institutions did not fully consider the value or deficiencies of their infrastructure. The infrastructure of an institution includes those items, which are required but are not related directly to a building, such as utilities connecting buildings to the power plant, sidewalks, and roads. SCHEV staff and the institutional workgroup continue working to develop a list of infrastructure assets and guidelines for valuing and reporting those assets. The guidelines for infrastructure will be released in late April. Institutions will be asked to report their infrastructure data to SCHEV by late June.

Instructions for Completing the Facilities Condition Report (FCR)

These instructions have been established to clarify what institutions should reported in the FCR. Rather than rely on insured values or replacement values (see Appendix A for definitions), institutions should report a **building value** based on construction costs per gross square foot, adjusted for building-specific factors such as design complexity or historical designation. The Building Value Worksheet should be used to report asset specific information, which should then be summarized in the Facilities Condition Report. A sample of both the building value worksheet and the FCR are provided as Microsoft EXCEL files (accompanied by these instructions in a Microsoft WORD document) on the SCHEV website under Policies and Guidelines / Finance and Facilities. Institutions are asked to download the EXCEL files, replace the sample data with institutional data, and return the completed worksheet and report to SCHEV via diskette or e-mail.

A. Building Value Worksheet: Institutions are asked to complete the worksheet to estimate the current building value of each facility having E&G space. Current building value is the estimated construction cost to replace a facility. This amount should include the total funds required to duplicate the internal and external building envelope to provide the same level of functionality based upon accurate local labor and material costs. Soft costs, such as A&E fees, project management costs, and construction contingencies should not be included. Furnishings and equipment that are particular to a definite tenant also should not be included. A few of the fields in the worksheet deserve further explanation.

1. **Building Identification.** Institutions should include in the FCR all facilities with E&G space for which the institution has maintenance responsibility. Institutions should identify each building by its building name and number. Institutions should also report the amount of gross square footage (GSF) of the building, the year the facility was built or acquired, and whether the building has been designated as an historic facility.

2. **Building Use.** Each facility should be assigned a building use **based on the predominant use of space within that facility.** Appendix B includes a list of all building categories for use in the FCR. The standard building use categories are incorporated to provide uniformity to the process of valuing state facilities. As a base cost, all buildings of a specific use should be valued at the same construction cost per gross square foot.

3. **Construction Cost Per Gross Square Foot.** As a base construction value, SCHEV recommends that institutions value all buildings of a specific type at the same construction cost per gross square foot. Based on national data from Marshall & Swift®, the unit costs provided in Appendix B are derived from the average construction cost per gross square foot for Classes A and B construction of "good" quality. These national figures have been adjusted to current dollars (January 1, 2001) and adjusted for geographical location.

4. **Estimated Construction Cost.** This calculated figure represents the base cost for the building. The GSF multiplied by the construction cost per square foot will yield the base cost of the facility. Institutions are required to use the unit costs per Appendix B to estimate the base construction cost of the building.

5. **Institution-Specific Adjustments.** It is anticipated that institutions may need to make adjustments to the estimated construction cost of some buildings to reach the actual building value. Appendix C contains a matrix of construction cost per gross square foot based on Marshall & Swift's building type, construction type, and quality levels, which institutions may use as a reference in making any necessary adjustments. For those buildings where adjustments are needed, please indicate the additional cost due to design complexity, historical considerations, recent bid experience, construction type/quality adjustment, or any other cost beyond the base cost. Please briefly explain all institution-specific adjustments.

6. **E&G Share.** The reported GSF should be the building's total gross square footage. The E&G share should be the percentage of the building that contains educational and general programs.

These guidelines aim only at estimating deferred maintenance needs at E&G facilities. Over the last several biennia, many institutions have also received nongeneral fund appropriations to address deferred maintenance needs at non-E&G facilities. To date, SCHEV has made little effort to collect facilities condition data for these buildings; however, in working with the institutional workgroup, there appears to be some value and interest in developing and maintaining system-wide data on non-E&G facilities, as well. Although not required for the 2000 FCR, SCHEV staff will continue working with institutions to determine the feasibility and desirability of collecting this data prior to the 2004-06 biennium.

7. **E&G Building Value.** This calculated figure is the E&G share of the building's construction cost. It is the sum of the estimated construction cost and institution-specific adjustments multiplied by the E&G percentage share of the facility.

B. Facilities Condition Report: The E&G building values calculated on the Building Value Worksheet should be reported in the Facilities Condition Report. In addition, the cost of the buildings' deferred maintenance deficiencies should be reported.

1. **Building Value:** Report each building and its value as calculated on the Building Value Worksheet.

2. **Deficiency costs:** The cost of deficiencies reported in the FCR is the cost of existing maintenance and repair deficiencies. The identified deficiencies should meet guidelines issued by the Department of Planning and Budget (DPB). Soft costs, such as A&E fees, project management costs, and construction contingencies should not be included in deficiency costs.

A deficiency project that meets one or more of the following criteria may be included in the FCR:

- Repair or replacement of functionally obsolete, damaged, or inoperable built-in equipment such as elevators, furnaces, plumbing fixtures, air conditioning, and ventilation;
- Repair or replacement of components of plant such as exterior wood, masonry, ceilings, floors, floor coverings, doors, windows, roofs, sidewalks, parking lots, fencing, and exterior lighting;
- Repair or replacement of existing utility systems, such as steam lines, natural gas, air, electrical, water, and sewer; and
- Correction of problems resulting from erosion and drainage.

The cost of deficiencies included in one or more of the following criteria should **not** be included in the FCR:

- Maintenance contracts to clean, maintain, repair, or protect existing plant, property, or equipment;
- Routine periodic maintenance such as servicing, adjusting, minor repairs, painting, scraping, cleaning, and spraying of plant or property;
- Repair or replacement of office, motorized, medical, laboratory, electronic, photographic, educational, cultural, computerized, and other specific-use, moveable equipment that is not permanently installed as a part of the plant or property; and
- Leak testing and monitoring of underground storage tanks and the removal of underground storage tanks not associated with tank replacement.

DPB guidelines also provide that maintenance reserve funds can be used to address work related to handicapped access, energy conservation, building and safety codes compliance, lead paint abatement, or asbestos correction when the work is determined to be necessary in conjunction with another deficiency project. As a result, institutions should include only deficiencies in these areas that will be addressed through another maintenance reserve project. Stand-alone projects for handicapped access, energy conservation, code compliance, lead paint abatement, and asbestos correction should not be included when completing the FCR. For example, institutions should not report

the cost of removing asbestos in a facility as a maintenance deficiency. However, the cost of removing asbestos required as part of a maintenance reserve project should be reported.

In addition, it is important to note that while an institution's maintenance program may include life-cycle projections or planned renewal of components, the Facilities Condition Report should reflect a facility's condition at a point in time. As such, the cost of projected maintenance and repair, and component renewals should not be included in the building deficiencies reported to SCHEV. And, as with building values, the value of deficiencies reported in the FCR should not include soft costs, furnishings, or equipment.

3. Facility condition index. The FCI is calculated as shown on the Facilities Condition Report Worksheet. For each building, it is the cost of the building's deficiencies as a percent of its building value. For the institution as a whole, it is the cost of all deficiencies as a percent of the value of all buildings.

$$\text{Facility condition index} = \frac{\text{Cost of Deficiencies}}{\text{Current Building Value}}$$

The campus condition ratings will continue to be evaluated on the three-tier scale as shown above.

C. Record Keeping: Institutions are not required to submit detailed deficiency data to SCHEV. However, SCHEV staff shall, as needed, request this information on an institution's buildings.

D. Web Access: These instructions can be accessed on the SCHEV website under Policies and Guidelines / Finance and Facilities. The sample worksheet and report can also be downloaded from the website.

Appendix A

Terminology and Definitions

Building Deficiency: Costs of replacing or repairing systems or components suffering from any of the following: a) loss of functionality; b) necessity for frequent repair; c) obsolescence; or d) failure. Building deficiencies can be grouped into two categories depending on the magnitude of the deficiency. Deficiencies ranging between \$25,000 and \$500,000 are normally funded through the maintenance reserve program while deficiencies valued at less than \$25,000 are normally funded through operating budgets.

- **Maintenance Reserve Deficiency:** Deficiencies funded through the maintenance reserve program, with costs ranging between \$25,000 and \$500,000.
- **Operating Deficiency:** Deficiencies funded through institutions' operating budgets, with costs less than \$25,000.

Capital Renewal: Major capital renovations to primary building systems and subsystems (e.g. roof, HVAC, electrical, plumbing, and interior renovations) required either to address specific facility needs for a given program or to manage deferred maintenance. Capital renewal does not include the construction of new buildings.

Component Renewal: Planned replacement of a component or system based on the end of its projected useful life cycle. For purposes of assessing current deficiencies, component renewal should not be reported in either operating or maintenance reserve deficiencies.

Current Building Value: Estimated construction cost to replace a facility. This amount should include the total funds required to duplicate the internal and external building envelope to provide the same level of functionality based upon accurate local labor and material costs. Soft costs such as A&E fees, project management costs, and construction contingencies should not be included.

Current Replacement Value: Current replacement value is the estimated construction cost required to duplicate the internal and external building envelope to provide the same level of functionality based upon labor and material costs (current building value) plus soft costs such as A&E fees, project management costs, and construction contingencies. It should not include the value of furnishings, equipment, or land.

Deferred Maintenance Backlog: The total dollar amount of existing major maintenance repairs and replacements, identified by a comprehensive facilities condition audit of buildings, and infrastructure needs. It does not include projected maintenance and replacement or other types of work, such as program improvements or new construction. These items are viewed as separate capital needs. Deferred maintenance backlog is the sum of operating deficiencies and maintenance deficiencies. (*Other common terminology – Accumulated Deferred Maintenance or Deferred Maintenance.*)

Gross Square Feet: Sum of all space on all floors within a building to the outside faces of exterior walls.

Net Assignable Square Feet: Sum of all space on all floors in a building available for assignment to an occupant for specific use.

Routine Maintenance: Systematic, day-to-day maintenance or upkeep funded through the annual operating budget to control deterioration of the plant facilities (structures, systems, equipment, pavement, grounds), including repetitive work (site maintenance, housekeeping, grounds keeping) and scheduled periodic work (preventative maintenance planned to provide adjustments, cleaning, minor repair, and routine inspections.)

Soft Costs: Costs beyond construction cost that cover items such as A&E fees, daily project inspections, project management or administration, and construction contingencies. It should not include the value of furnishings and equipment, or land.

Unscheduled Major Maintenance: Work requiring immediate action to restore services or prevent risk to health and safety. Examples include loss of electrical power, water, refrigeration, or building failures creating hazards to personnel or equipment.

Appendix B

Construction Cost By Building Use

Predominant Building Use	Construction Cost Per Gross Square Foot
Classrooms	\$111
Library	\$126
Admin/Office	\$109
Laboratory	\$132
Student Union	\$128
Physical Education Building	\$114
Dormitories	\$99

Appendix C

Construction Cost Per Gross Square Foot

Building Type	Type of Construction		Level of Quality		
			1-Average	2-Good	3-Excellent
Classrooms	Rated	(1A, 1B, 2A, 2B)	91	111	136
	Protected	(3A, 4, 5A)	79	99	120
	Unprotected	(2C, 3B)	69	90	109
	Wood Frame	(5B)	64	82	106
Library	Rated	(1A, 1B, 2A, 2B)	93	126	163
	Protected	(3A, 4, 5A)	81	109	143
	Unprotected	(2C, 3B)	70	92	125
	Wood Frame	(5B)	67	89	122
Admin/Office	Rated	(1A, 1B, 2A, 2B)	82	109	137
	Protected	(3A, 4, 5A)	73	98	129
	Unprotected	(2C, 3B)	64	87	121
	Wood Frame	(5B)	61	83	117
Laboratory	Rated	(1A, 1B, 2A, 2B)	107	132	164
	Protected	(3A, 4, 5A)	97	120	149
	Unprotected	(2C, 3B)	88	109	134
	Wood Frame	(5B)	85	105	131
Student Union	Rated	(1A, 1B, 2A, 2B)	105	128	156
	Protected	(3A, 4, 5A)	93	118	146
	Unprotected	(2C, 3B)	81	109	137
	Wood Frame	(5B)	67	89	122
Physical Education Building	Rated	(1A, 1B, 2A, 2B)	83	114	135
	Protected	(3A, 4, 5A)	71	98	125
	Unprotected	(2C, 3B)	59	83	115
	Wood Frame	(5B)	57	80	111
Dormitory	Rated	(1A, 1B, 2A, 2B)	77	99	121
	Protected	(3A, 4, 5A)	67	88	110
	Unprotected	(2C, 3B)	59	78	102
	Wood Frame	(5B)	56	74	100

INSTITUTION NAME
BUILDING VALUE WORKSHEET
2000 FACILITIES CONDITION REPORT
EDUCATIONAL AND GENERAL PROGRAMS

Building Identification				A	B	C=A*B	D	E	F	G	H	I	J	K=(C+I)*J	
Building Identification				Baseline Costs			Institution Specific Adjustments ¹								
Building Name	Building Number	Year Built	Historical Designation	Building Type	GSF	Construction Cost Per Square Foot	Estimated Construction Cost	Design Complexity	Historical Considerations	Recent Bid Experience	Type/Quality Adjustment	Other	Subtotal of Adjustments	E&G Share	E&G BUILDING VALUE
Smith Hall	0045	1938	No	Classrooms	54,000	\$111	\$5,994,000	N/A	\$500,000	N/A	N/A	N/A	\$500,000	81%	\$5,260,140
Jones Hall	0129	1961	No	Laboratories	50,000	\$132	\$6,600,000	N/A	N/A	\$1,000,000	N/A	N/A	\$1,000,000	65%	\$4,940,000

¹ Please explain any entry in this section.

INSTITUTION NAME

**2000 FACILITIES CONDITION REPORT
EDUCATIONAL AND GENERAL PROGRAMS**

FACILITIES	A	B	C	D=(B+C)/A
	Building Value	Deficiency Backlog		Facility Condition Index
		Operating	Maintenance	
Smith Hall	\$5,260,140	\$22,000	\$320,000	6.5%
Jones Hall	\$4,940,000	\$17,000	\$185,000	4.1%
Total, All Buildings	\$10,200,140	\$39,000	\$505,000	5.3%