

Glossary

ADA - Americans with Disabilities Act: ADA is a Federal Regulation that precludes discrimination in the work place against disabled persons. Within the law are requirements and guidance for access to public federal and state facilities that includes handicapped parking, building access, restroom accommodations and provisions for access to areas that may require the use of lifts, ramps or elevators to reach.

AHJ - Authority Having Jurisdiction: AHJ pertains to the person or institution that has the authority to require action in cases of fire and life safety issues. An AHJ is usually the fire marshal.

APPA - The Association of Higher Education Facilities Officers (formerly the Association of Physical Plant Administrators): APPA is an institutional member association of mainly colleges and universities dedicated to the betterment of the facility management profession. Founded in 1914, APPA concentrates on education, research and recognition of member institution's accomplishments. APPA has developed benchmarks and historical data useful for the management of facilities in institutional settings.

ASME - American Society of Mechanical Engineers: ASME distributes 600 codes and standards used around the world for the design, manufacture and installation of mechanical devices. These standards have been adopted as building codes in many locations.

Capital maintenance (paid from the capital funds budget): Work performed using a systematic management process to plan and budget for known cyclical repair and replacement requirements that extend the life and retain the usable condition of facilities and systems. This includes what is commonly known as "deferred maintenance": work that has been deferred on a planned or unplanned basis to a future budget cycle or postponed until funds are available. When the work is performed the deferred maintenance backlog is reduced.

Capital project: A new facility, rehabilitation/renovation, or major maintenance that either increases the value of the campus (e.g., a new building) or extends the useful life of a facility (e.g., a replacement chiller).

CEFPI: The Council of Educational Facility Planners International is a professional association whose sole mission is improving the places where children learn. CEFPI members include individuals, institutions and corporations that are actively involved in planning, designing, building, equipping and maintaining schools and colleges. The association serves its members through three key strategic areas:

- Advocacy and education of the general public, including policymakers, on the efficacy of school design and student outcomes; resource for planning effective educational facilities.
- Training and professional development of our members and others through current program, workshops, seminars and conferences promoting best practices in creative school planning.
- Research and dissemination of information regarding the linkage between the educational facility, its design and student success.

CEFPI Appraisal Guide: The appraisal guide is broken down into six areas: the school site; structural and mechanical features; plant maintainability; school building safety and security; educational adequacy and environment for education. The appraisal process achieves appropriate reliability through the development of a team consensus for each of the items.

CRV (Current Replacement Value): The total expenditure in current dollars required to replace any facility at the institution (excluding auxiliary facilities). This includes the full replacement costs for all buildings, grounds, utility systems, and generating plants. Insurance replacement values or book values should not be used to define current replacement value.

DM - Deferred Maintenance: Work that has been identified for accomplishment but then deferred on a planned or unplanned basis to a future budget cycle, or postponed until funds are available.

Emergency maintenance: Unscheduled work that requires immediate action to restore services, to remove problems that could interrupt activities, or to protect life and property.

Expected Useful Life (EUL): The expected useful life is the estimated number of years a piece of equipment or major system component is projected to perform its intended function based on industry standards, past performance history and the manufacturer's estimates.

Facility Condition Index (FCI): A comparative industry indicator/benchmark used to indicate the relative physical condition of a facility, group of buildings, or entire portfolio "independent" of building type, construction type, location or cost. The facility condition index (FCI) is expressed as a ratio of the cost of remedying existing deficiencies/requirements, and capital renewal requirements to the current replacement value (i.e., $FCI = (DM+CR)/CV$). The FCI provides a corresponding rule of thumb for the annual reinvestment rate (funding percentage) to prevent further accumulation of deferred maintenance deficiencies. The FCI value is a snapshot in time, calculated on an annual basis. Forecasted FCI values for a building in the future, for example, would include the current deferred maintenance items, plus projected values of capital renewal requirements. The FCI is represented on a scale of zero to one, or 0% to 100%, with higher FCI values, representing poorer facility's condition. While property owners/managers establish independent standards, a "good to excellent facility" is generally expressed as having an FCI of less than 10-15%.

$(FCI) = \frac{\text{Deferred Maintenance}}{\text{Current Replacement Value}}$ (see definition for Deferred Maintenance)
(see definition of Current Replacement Value)

Facility Operating Current Replacement Value (CRV) Index: This indicator represents the level of funding provided for the stewardship responsibility of an organization's capital assets. The indicator is expressed as a ratio of annual facility maintenance operating expenditure to current replacement value (CRV). Annual facility maintenance operating expenditures includes all expenditures to provide service and routine maintenance related to facilities and grounds. It also includes expenditures for major maintenance funded by the annual facilities maintenance operating budget. This category does not include expenditures for major maintenance and/or capital renewal funded by other accounts, nor does it include expenditures for utilities and support services such as mail, telecommunications, public safety, security, motor pool, parking, environmental health and safety, central receiving, etc.

Facility Operating CRV Index = $\frac{\text{Annual Facility Maintenance Operating Expenditures (\$)}}{\text{Current Replacement Value (\$)}}$

FCI: Facility Condition Index – see above

FACP: Fire Alarm Control Panel.

HVAC: Heating Ventilating and Air Conditioning. The acronym is used to refer to mechanical equipment that provides treated indoor air for a facility.

gsf: Gross square feet.

IAC: Interagency Committee on School Construction

Identified Repair Needs: These are repairs that could be completed now and are recommended for accomplishment within the first two years after an assessment. Also considered deferred maintenance items. They differ from “Repairs over Term” which are projected repair needs based on lifecycle estimates of remaining useful life.

Maintenance: Ensuring ongoing operation of the campus. Work required to preserve or restore buildings and equipment to their original condition or to such condition that they can be effectively used for their intended purpose.

Major maintenance: Unplanned repairs and replacement, paid from the capital funds budget, that must be accomplished but that is not funded by normal maintenance resources received in the annual operating budget cycle.

- *Repairs* – work to restore damaged or worn-out facilities (e.g., large scale roof replacement after a wind storm) to normal operating condition.
- *Replacement* – an exchange of one fixed asset for another (e.g., replacing a transformer that blows up and shuts down numerous buildings) that has the same capacity to perform the same function.

MEP: An acronym for mechanical, electrical and plumbing components that is used when referring to these systems within facilities.

NACUBO: National Association of College and University Business Officers. NACUBO was established in 1962 for business officers from the consolidation of several previous organizations with similar purposes. NACUBO now represents more than two-thirds of the higher education institutions in the United States and provides its membership with resources, advocacy, and professional development programs in higher education business and financial administration.

NEC: National Electric Code. NEC provides building codes to be followed for electrical work.

NPV- Net Present Value: NPV is a method for the financial appraisal of long-term projects. Used for capital budgeting, it measures an asset or project in present value (PV) terms.

New capital construction: A project performed to create or add to a building; this work includes construction and purchase of fixed equipment.

NFPA: National Fire Protection Association. “The mission of the international nonprofit NFPA is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training, and education. NFPA membership totals more than 81,000 individuals from around the world and more than 80 national trade and professional organizations.”

Normal maintenance: Work, both planned and unplanned and performed on a maximum cycle of one year and funded through the annual budget cycle, that is done to realize the originally anticipated life of a fixed asset (i.e., buildings and fixed equipment).

Normal maintenance operations: Unplanned day-to-day activities related to normal performance of the functions for which a building is used, including both *reactive maintenance* (unplanned maintenance of a nuisance nature, generally requiring low levels of skill for correction) and *emergency maintenance* (unscheduled work that requires immediate action to restore services, to remove problems that could interrupt activities, or to protect life and property).

O&M: Operations and maintenance.

Operations: All activities associated with the routine, day to day use, support and maintenance of a building or physical asset; inclusive of administration, management fees, normal/routine maintenance, custodial services and cleaning, fire protection services, pest control, snow removal, grounds care, landscaping, environmental operations and record keeping, trash-recycle removal, security services, service contracts, utility charges (electric, gas/oil, water), insurance (fire, liability, operating equipment) and taxes. It does not include capital improvements. This category may include expenditures for service contracts and other third-party costs. Operational activities may involve some routine maintenance and minor repair work that are incidental to operations but they do not include any significant amount of maintenance or repair work that would be included as a separate budget item.

Planned maintenance: Maintenance including both preventive/predictive and corrective. Planned work performed on capital assets such as buildings and fixed equipment that helps them to reach their originally anticipated life.

Planned renewal maintenance and repair: This form of maintenance is characterized by replacement of nominal components of a system—for example, the compressor of an air conditioner unit or the motor of a feed water pump. This maintenance activity is capital by definition but managed out of the operating budget in most cases. It involves major system-component replacement—for example, the HVAC major subcomponent renewal factor accounts for the major motors and compressors that are replaced in a cycle shorter than the life of the HVAC system.

Predictive maintenance/testing/inspection: Routine maintenance, testing, or inspection performed to anticipate failure using specific methods and equipment, such as a vibration analysis, thermographs, x-ray or acoustic systems to aid in determining future maintenance needs. For example, test to locate thinning piping, fractures or excessive vibration that are indicative of maintenance requirements.

Preventive/predictive maintenance: A planned and controlled program of periodic inspection, adjustment, lubrication, and replacement of components, as well as performance testing and analysis; sometimes referred to as a preventive maintenance program; repeatable maintenance activities that maximize the reliability, performance, and lifecycle of building systems. This maintenance occurs on no longer than an annual cycle and is typically done as weekly, monthly, semi-annually, and annually.

PML - Probable Maximum Loss: Probable Maximum Loss (PML) for natural catastrophes is a risk management approach for determining worst case scenario disaster impacts. Mainly focused on earthquake impacts, PML is statistical tool for disaster planning predictions and insurance rate determinations.

Programmed major maintenance: Includes those maintenance tasks whose cycle exceeds one year. Examples of programmed major maintenance are painting, roof maintenance, (flood coating), road and parking lot maintenance (overlays and seal coating), utility system maintenance (pigging of constricted lines) and similar functions.

Reactive maintenance: Unplanned maintenance of a nuisance nature requiring low levels of skill for correction. These problems are usually identified and reported by facilities users.

Recapitalization/reinvestment rate: A facility, system, or component with existing deficiencies will deteriorate at a faster rate than a component that is in good condition. The level of annual funding for facility renewal and deferred maintenance expressed as a percentage of facility replacement values. Altering the recapitalization/reinvestment rate has direct impact upon the facility condition index (FCI) and associated deferred maintenance levels over time.

Remaining Useful Life (RUL): The remaining useful life of a system component or piece of equipment is an estimate of how many years of future service can still be anticipated based on how much of the original existing useful life (EUL) has occurred and a review of existing conditions. A component of systems lifecycle costing, RUL can be adjusted to account for actual field conditions and it can be longer or shorter than projections based on useful life compared to the installation year.

Renewal: The periodic replacement of major components or infrastructure systems at or near the end of their useful life. Repair work that ensures that facilities will function at levels commensurate with the academic priorities and missions of an institution, such as tuck-pointing brickwork.

Repairs: Work to restore damaged or worn-out facilities (e.g., large-scale roof replacement after a wind storm) to normal operating condition.

Repairs over Term: Repairs over term are projected repair projects that will need repairs or replacement in the future based on estimated remaining useful life. These repairs are projected beyond two years out from assessments to the end of the study period. They differ from deferred maintenance and identified repair needs- which are existing items that should be repaired as soon as practical.

Replacement: An exchange of one fixed asset (i.e., a major building component or subsystem) for another that has the same capacity to perform the same function—for instance, replacement of a chiller with a like-sized unit.

Replacement cycle: A regular cycle on which maintenance occurs—repainting every seven years, for example.

SRC: State Rated Capacity as calculated by the Maryland IAC.

SRI - Systemic Renovation Index: An index that considers the cost of deferred maintenance directly related to interior building systems and finishes as a part of a potential interior renovation. Similar to a Facility Condition Index (FCI) but a subset of it, SRI considers major repairs and replacements to the interior environment including: mechanical/HVAC, electrical, plumbing, fire and life safety, and conveying systems and interior finishes. SRI excludes major repairs and replacements to site systems, exterior elements, and roofing systems that may be budgeted and completed independently of the interior renovation requirements.

Systems lifecycle costing: An estimating procedure used to determine the cost of a facility system/component renewal based on the average useful life of an individual component. This procedure is typically based upon visual observations, via a facilities conditions assessment/audit, to determine the remaining useful life of a system and the development of cost models for the facility. This process enables multi-year modeling of future replacement costs and timing.

Unplanned maintenance: Maintenance including both reactive and emergency maintenance activities. This can include any of four categories of maintenance, defined as follows:

- a. *Reactive*—unplanned maintenance of a nuisance nature requiring low levels of skill for correction. These problems are usually identified and reported by facilities users.
- b. *Emergency*—unscheduled work that requires immediate action to restore services, to remove problems that could interrupt activities, or to protect life and property.
- c. *Corrective*—unplanned maintenance of a non-emergency nature involving a moderate to major repair or correction requiring skilled labor.
- d. *Support*—the “service” that all departments must deliver. It includes supporting discussions and light customer service activities that every building demands. While not applicable to maintenance, it must be accounted for because it will always be a drain on maintenance staff resources. If it is not included in a staffing model, it will still occur, and it will drain other estimated or budgeting staff resources and leave a department short for true maintenance activities.