

**UNIVERSITY OF CALIFORNIA
OFFICE OF THE PRESIDENT**

**FACILITIES MANUAL
VOLUME 6**

**CHAPTER 1
OPERATION AND MAINTENANCE**

INTRODUCTION

After setting forth the goals of operation and maintenance of plant (OMP), this chapter addresses the components of operation, the University's policy on maintenance, and the different types of maintenance.

1.1 OMP PROGRAM GOALS

The inclusion of the following goals should help a Facility formulate a successful operation and maintenance of plant (OMP) program:

1. Perform maintenance on a periodic basis.
2. Provide functional facilities that (a) meet the University's requirements; (b) have an environmentally acceptable atmosphere for students, faculty, and staff; and (c) ensure the health and safety of all personnel.
3. Identify potential problems early within the context of the planned maintenance system so that corrective action may be planned, included in the budget cycle, and completed in a timely manner.
4. Establish a deferred maintenance list by using the policy and procedures of the Facility Audit and Inspection Program (see **2.1**).
5. Follow an orderly program so that administrative costs are minimized and the workload for personnel is maintained at a relatively constant level.
6. Conserve energy and resources by ensuring maximum operating efficiency of energy-consuming equipment and systems.
7. Maintain credible relations with users by providing well-maintained facilities and information on planned maintenance activities.
8. Identify and implement possible improvements that will reduce costs, improve service, and result in more efficient operation.
9. Establish data collection systems that create supervisory and management control reports with uniform reporting formats and achieve continual feedback of information among departments through communications and manuals.
10. Institute systems for reporting historical data and operating statistics and maintain trend lines and indices of operating effectiveness.

1.1.1 Environmental Health and Safety References:

Current University policy as of 2005 can be found at the following link:

[Presidents Letter to the Chancellors dated October 28,2005 - University Policy on Management of Health, Safety and the Environment](#)

1.1.2 Health Care Accreditation Requirements:

The five University teaching hospitals must comply with the standards of the Joint Commission on Accreditation of Healthcare Organizations ([JCAHO](#)) the standards of this commission address aspects of operation and maintenance.

1.2 OPERATION

Facilities operation is the provision of day-to-day services required to operate the University's buildings and grounds. The University's expectation is that each campus will operate its Facilities in the most efficient manner to provide timely, effective, and economical plant operation in support of the University's mission of teaching, research, and public service.

Examples of facilities operation are: the locking and unlocking of doors, custodial services, and the ongoing provision of utilities services to a building.

See: [About UC: University of California's Mission, "Mission Statement"](#)

1.3 MAINTENANCE

1.3.1 General

Facilities maintenance is the normally funded ongoing program for the upkeep and preservation of buildings, equipment, roads, grounds, and utilities required to maintain a Facility in a condition adequate to support the University's mission.

Maintenance in this normal program includes the planned, preventive, emergency, as well as the unplanned or reactive maintenance required to provide a safe, healthful, and secure environment. Each type of maintenance (see 1.4 below) is utilized by the different OMP functions (see 1.5 below) to complete their tasks. The University defers certain maintenance work due to budget constraints. This maintenance work constitutes a deferred maintenance backlog.

1.3.2 Definitions

Maintenance: Maintenance is the upkeep of property, machinery, systems, and facilities, including buildings, utility infrastructure, roads, and grounds. Maintenance consists of those activities necessary to keep facilities and systems operational and in good working order. It consists of the preservation, but not the improvement, of buildings and grounds, other real property improvements and their components. Maintenance may include replacement of components of equipment or building systems (roof, flooring, HVAC, etc.) if replacement is performed:

1. on a routine or recurring basis,
2. to bring the equipment or building system back to its fully functional state,
3. to ensure the equipment or building system retains its functionality for its anticipated useful life.

Subject to the above limitations, replacement of a component of a building system (for preservation, not improvement) is a form of maintenance when the replacement component is a duplicate, i.e., replacement-in-kind, or, if not, the replacement item is an upgrade because a duplicate component is obsolete or is no longer reasonably available. When the replacement is undertaken for the purpose of upgrading a system, it is not maintenance.

System:

“a regularly interacting or interdependent group of items forming a unified whole”. Systems related to University facilities are specifically defined in the **FIRM (Facilities Infrastructure Renewal Model)** *Examples of facilities systems would be an HVAC system comprised of circulating pumps, fan coil units, etc. or an electrical system comprised of fixtures, service panels, etc .*

Component:

A component is “a constituent part” of a system
Examples of facility components would be a thermostat which is a component of an HVAC control system, or flashing which is a component of a roofing system.

If the work associated with replacement of a system’s component(s) is greater than 50% of the replacement value of its system, such work should be considered a system replacement and for the purposes of this article, shall be considered repair and beyond the scope of maintenance. In addition, if the value of the work associated with replacement of component(s) exceeds current University Minor Capital Project limits, the Facility shall obtain Office of the President concurrence prior to proceeding with the work on the basis of maintenance work as defined in this Chapter.

See: **RD 1.1 Facilities Infrastructure Renewal Model (FIRM) Subsystems**

See: [Facility Manual RD 3 Glossary: "Minor Capital Improvement Project"](#)

See: [Facilities Infrastructure Renewal Model \(FIRM\) Login Page](#) (Login and password are available through Office of the President)

Repair:

Repair means to restore property, machinery, systems, and facilities, including buildings, roads, and grounds and their components to working order and may require the submission of plans; the submission of calculations; construction inspection requirements; and other data to ensure compliance with the California Building Code; and/or requires a change to the stamped plans, specifications, reports or documents used for its construction. Repair does not include any matter that could reasonably be characterized as maintenance.

Specialized Research Equipment:

Equipment and/or system that as a practical matter is so unique or specialized that it requires technical expertise that is not commonly commercially available. The erection, construction, alteration, repair, or improvement related to such equipment/system would need to be performed by in-house labor with the requisite technical experience and knowledge to provide reliable functional equipment/systems.

Construction:

Construction consists of moving, demolishing, altering, upgrading, renovating, installing, or building a structure, facility, or system according to a plan or by a definite process. Construction consists of the application of any of these techniques to physical plant facilities such as structures, utilities, excavations, landscaping, site improvements, drainage systems, and roads; and additions, deletions, or modifications of such facilities. Exterior and interior painting or repainting of new or existing structures are forms of construction. Upgrading or replacing a building system in its entirety when it has exceeded its useful life is generally construction, not maintenance.

Project: As defined in the Public Contract Code, a project includes the erection, construction, alteration, repair, or improvement of any University of California structure, building, road, or other improvement that will exceed in cost, including labor and materials, a total of fifty thousand dollars (\$50,000). If a project falls within the statutory definition, the project must be competitively bid.

See: [Section 10500 et seq. California Public Contract Code](#)

Infrastructure and utility system. Any system controlled and maintained by the University that services or is available to service multiple University structures, buildings, or improvements. An example of a system included in this definition would be the domestic water system; an example of a system not included could be a phone system maintained by an outside provider.

Maintenance Management. Maintenance management is the systematic and effective management of a maintenance activity in which sound applications are made of the three basic elements of management: organization, measurement, and control.

1.3.3 Exceptions to competitive bidding

Unless a project meets the requirements of the exceptions below, all projects must be competitively bid.

Chapter 2.1 of the California Public Contract Code specifically outlines contracting policy for the University. University contracting policies and procedures are found in all sections of that chapter and must be clearly understood and followed, including remedies and penalties for noncompliance. “Any officer or employee of the University of California who corruptly performs any official act under this chapter to the injury of the University is guilty of a felony.” (See [CA Public Contract Code Sections 10520-10526](#))

See: [Volume 4 of the Facilities Manual](#) for University contracting policies and procedure

1. Specialized Equipment:

If a project is for “the erection, construction, alteration, repair, or improvement of experimental, diagnostic, or specialized research equipment” ([Section 10505\(a\)\(2\) of Public Contract Code](#)), the University may elect to perform the project with University employees. Such work must require specialized knowledge and skills not readily available by contract. The use of this exception requires that the equipment installed must become a permanent part of the structure, that any ancillary construction work to be performed by University

employees must be performed at the same time as the equipment installation and must be required in order to make the equipment functional or maintain its functionality.

For example, if installation of specialized research equipment requires alterations to room walls and flooring, it would be permissible to repaint the entire room and replace all flooring in the room as part of the installation; it would not be permissible to repaint or replace flooring in an adjacent hallway or rooms not altered by the installation of the equipment.

Note that the exception is limited for any painting work by the provisions of paragraph 3c below.

Under circumstances where the ancillary construction work does not meet these requirements, such work **must not** be accomplished using University employees unless it falls under the exceptions stated in paragraphs 2 or 3 below.

See: [Section 10505 \(2\) of Public Contract Code](#)

2. Emergency Repair:

If a project is required immediately and is necessary to protect the public health, safety, and welfare as the result of an emergency due to an act of God, earthquake, flood, storm, fire, landslide, public disturbance, vandalism, or failure that causes damage, then such work may be done on a time and materials basis, by contract based upon informal bids, by University employees, by day labor, or by a combination thereof. For this exception to apply, it is necessary for the facts to support the immediate need for repairs to protect public health, safety and welfare.

*An example of an emergency **not** covered by this exception would be vandalism causing extensive damage to landscaping where the damage does not present an immediate safety hazard and the cost of the work is in excess of \$50,000. The work would be necessary as the result of “vandalism” but would not meet the test of “necessary to protect public health, safety, and welfare”. The work would, in this example, be subject to the bidding requirements in the Public Contract Code.*

3. Projects under \$50,000

- a) University employees may perform a construction project when the value of all labor and materials does not exceed \$50,000. [This limitation does not apply to maintenance work.] A construction project may not be split in order to utilize this exception, e.g., performing \$40,000 of work with University employees and issuing a contract or purchase order to a contractor for the remaining \$40,000 of an \$80,000 construction project. However, individual projects need not be combined into a single project. *As an example, the planned repaving of a street is a single construction project even though it may consist of repaving several separate sections of that street. In contrast, the repaving of separate sections of that same street accomplished at different times in response to program planning, funding requirements, or unexpected events, would each be a separate construction project.*
- b) University employees, subject to the \$50,000 limitation, may perform work on Infrastructure and Utility Systems necessary to support other construction projects or

construction work; for example work required prior to and during the performance of a competitively bid project, e.g., rerouting and shutdowns of utilities and final connection of the project to the existing Infrastructure and Utility Systems. The coordinated work of multiple construction projects is not considered a single project; similarly, multiple discrete Infrastructure and Utility Systems requirements performed to support the same competitively bid project are each subject to the \$50,000 limitation. *An example of multiple discrete Infrastructure and Utility Systems requirements would be a \$40,000 requirement to realign the domestic water supply for the new structure and a \$40,000 requirement to perform shutdowns and final connection of electrical supply. Each of these discrete requirements could be performed by University employees.*

- c) Projects for the painting or repainting of a structure, building, road, or improvement of any kind may not be performed with University employees if the value of the painting or repainting project exceeds twenty-five thousand dollars (\$25,000). (See [CA Public Contract Code Section 10505b](#))Such projects must be performed by outside contractors. Projects may not be split to avoid these constraints, *for example, performing \$20,000 of painting work with University employees and issuing a contract or purchase order to a contractor for the remaining \$20,000 of a \$40,000 project.*

4. Maintenance Work:

Work that is solely maintenance, as defined above, may be performed by either University employees (unless such work involves the painting or repainting of a structure, building, road, or improvement of any kind) or under contract. (subject to non-construction competitive bidding requirements for contracts costing \$50,000 or more, regardless of the form of contract).

It is important to understand the distinction between maintenance and repair as it relates to the California Public Contract Code.

Example of the difference between maintenance and repair:

- a) *A driver of a car loses control and hits an exterior air conditioning unit located on a slab adjacent to a University building. The unit is totally destroyed and the replacement cost inclusive of materials is \$75,000. Under the definitions above, the replacement of the unit would be maintenance, not repair.*
- b) *The driver of a car loses control and hits an exterior support column of a University building. Inspection reveals that there is damage to the structure of the building. The work, which would need plans and specifications, required to ensure the structural integrity of the building would be repair.*

University facilities shall establish written policies and procedures to ensure the implementation of the correct distinction between maintenance and repair. As a minimum, these procedures must include approvals necessary when determining that a specific requirement in excess of \$50,000 for work on property, machinery, systems, and facilities, including buildings, utility

infrastructure, roads, and grounds is maintenance if there is any indication that the work could be categorized as repair.

1.4 TYPES OF MAINTENANCE

In order to provide a safe, healthful, and secure environment, the University requires the use of four types of maintenance: planned, preventive, unplanned/reactive, and emergency. Each type of maintenance is utilized by the various OMP functions (see 1.5 below) to complete their tasks.

1.4.1 Planned Maintenance

Planned maintenance, also referred to as "programmed" or "scheduled" maintenance, is the upkeep of property, machinery, and facilities, including buildings, utility systems, roads, and grounds. Planned maintenance is often characterized by its routine or recurring nature. The University's expectation is that each campus will maintain its physical facilities so that they are functional and in a condition adequate to meet the University's mission. Substantial efficiencies result from using planned and scheduled maintenance rather than unplanned/reactive maintenance.

1.4.2 Preventive Maintenance

Preventive maintenance is that portion of the overall maintenance program that provides the periodic inspection, adjustment, minor repair, lubrication, reporting, and data recording necessary to minimize building equipment and utility system breakdown and maximize system and equipment efficiency. Preventive maintenance:

- Utilizes planned services, inspections, adjustments, and replacements designed to ensure maximum utilization of equipment at minimum cost.
- Is a program in which wear, tear, and change are anticipated, and continuous corrective action is taken to ensure peak efficiency and minimum deterioration.
- Includes cleaning, adjustment, lubrication, minor repair, and parts replacement.

All are performed on scheduled frequencies in accordance with written maintenance instructions.

Preventive Maintenance Program procedures are designed to fulfill the needs of the Facility. The purpose of the program is to produce cost savings by:

- Reducing the downtime of critical systems and equipment.
- Extending the life of facilities and equipment.
- Improving equipment reliability.
- Ensuring proper equipment operation.
- Improving the overall appearance of facilities.

1.4.3 Unplanned or Reactive Maintenance

Unplanned/reactive maintenance is the unplanned response to maintenance requests which do not have emergency status. In general a facilities organization should plan and schedule as much of its maintenance activities as possible. Work that is scheduled and planned is done much more efficiently than that done by reactive maintenance.

1.4.4 Emergency Maintenance

The University has defined emergency maintenance as the repair or replacement of Facility components and equipment requiring immediate attention because the functioning of a critical system is impaired or because health, safety, or security of life is endangered. Emergency maintenance supersedes all other categories of maintenance. For the purpose of determining whether emergency maintenance falls within the exception to competitive bidding requirements, refer to 1.3.3 above.

1.5 OMP Elements

References:

OMP Elements are aggregations of tasks required to perform each type of maintenance and operation. Basic operation and maintenance tasks are common to all Facilities although they vary in their topography, climate, structure, organization, management, historical background, and effectiveness of past maintenance. The following paragraphs (under 1.5) describe the various elements required to keep Facilities functioning properly. The nine elements and their relationship to the various types of maintenance and operation in the normal maintenance and operation program are described below and in **RD 1.2**

1.5.1 Plant Administration

Plant Administration includes the administration, supervision, and the analytical and technical support needed for the operation and maintenance of plant (see **Chapter 4**). The facility audit and inspection program is an important component of Plant Administration.

1.5.2 Building Maintenance (and Operation)

Building Maintenance includes the operation of building equipment and control systems. Building Maintenance also includes: (1) ordinary recurring maintenance and repair of buildings and equipment, and (2) maintenance, repair, and replacement of building components and equipment. "Equipment" includes building operating equipment and built-in equipment.

1.5.3 Grounds Maintenance

Grounds Maintenance includes maintenance of grounds and outdoor facilities such as lawns, trees, shrubs, roads, bridges, sidewalks, fences, signs, street lighting, storm drains, irrigation systems, outdoor parking, and outdoor athletic facilities.

1.5.4 Custodial Services

Custodial Services (sometimes called "Building Services" or "Janitorial Services") includes general cleaning, restroom sanitizing, indoor rodent and insect control, sweeping, mopping, trash removal, and window cleaning for buildings.

1.5.5 Utilities Operation and Maintenance

Utilities Operation includes (1) the continuous operation of Central Plant and central control systems; (2) distribution of electricity, water, gas, and oil; (3) production and distribution of steam, chilled water, compressed air, and treated water; and (4) utility

planning, budgeting, analysis, and conservation. Utilities Maintenance is the upkeep, repair, and replacement of Central Plant equipment and utility distribution and collection systems to the perimeter of buildings.

1.5.6 Refuse Disposal

Refuse Disposal includes the disposal of dry and wet trash, waste, plant trimmings, and turf clippings, whether hauled by Facility employees or by contractors.

Refuse Disposal tasks are usually performed on a scheduled basis (or on request) by Grounds Maintenance or Custodial Services or are contracted for, but this OMP function remains a separate program element for budget purposes.

Refuse Disposal and Policy on Sustainable Practices

As part of its Policy on Sustainable Practices the University has adopted the following waste diversion goals:

- 50% by June 30, 2008
- 75% by June 30, 2012
- Ultimate goal of zero waste by 2020

See: [UC Policy on Sustainable Practices: Section VI: Recycling and Waste Management](#)

Hazardous Waste Disposal. *Refuse Disposal does not include the task of hazardous waste disposal. Hazardous waste disposal is the responsibility of the Facility office of Environmental Health and Safety although that office may contract the OMP department to handle hazardous waste. Hazardous waste includes infectious and toxic waste, chemicals, and radioactive elements that cannot be handled by regular refuse disposal procedures.*

1.5.7 Plant Service

Plant Service is an optional OMP function that sets up an account to recharge users for funds expended by OMP on services performed by the other functions for work included or not included in the Operating Budget. The purpose of Plant Service is to provide a uniform and consistent method to collect and account for costs of all OMP functions through recharges (See: **Section 4.2.2 “Recharging of Facilities Services to Non-OMP supported functions”**)

1.5.8 Fire Departments

The Fire Departments function includes the operation and maintenance of campus fire departments and their equipment. Only two campuses at this time, Davis and Santa Cruz, operate fire departments and also have mutual aid agreements with the adjacent or surrounding community. The Campuses that do not have fire departments are provided fire protection services by the adjacent or surrounding community. The operation and maintenance of fire detection and suppression systems and equipment is part of the Building Maintenance, Grounds Maintenance, or Utilities Operation and Maintenance functions.

1.5.9 Executive Housing

The operation and maintenance of executive housing is performed by Building Maintenance, Utilities Operation and Maintenance, Grounds Maintenance, and Custodial Services. Because Executive Housing is a program element in the OMP budget (see 3.2.2), it is kept as a separate function.

CHAPTER 2

DEFERRED MAINTENANCE PROGRAM AND CAPITAL RENEWAL

INTRODUCTION

This chapter specifies the inspection program and systems required to identify and track deferred maintenance and capital renewal needs.

Deferred maintenance is maintenance that was not performed when it should have been or was scheduled to be and which, therefore is put off or delayed for a future period. The University inspects, tracks, and estimates the cost of deferred maintenance.

Capital renewal is based upon the fact that, over time buildings and infrastructure typically use up their intended design life and through that deterioration lose a portion of their functionality to the University's Mission. Normally these are larger projects and involve whole system replacement or renewal.

2.1 FACILITY AUDIT AND INSPECTION PROGRAM

The purpose of the Facility Audit and Inspection Program is to identify, quantify (provide budget estimates), and prioritize deferred maintenance projects and capital renewal and replacement projects according to the urgency of need and significance to the University's mission, (see **RD1.3**, Project Categorization Flow Chart).

2.1.1 Facility Inspection and Project Identification

Physically inspect facilities to identify deferred maintenance and capital renewal needs and/or projects. The following facility infrastructure components as described in the **Facilities Infrastructure Renewal Model (FIRM)** should be inspected.

See: **RD 1.1** for FIRM Systems

See: [Facilities Infrastructure Renewal Model \(FIRM\) Login Page](#) (Login and password are available through Office of the President)

See: [Facility Manual](#) Vol. 6 Sec. 2.1.6 for additional information on FIRM.

A. ROOFING

- Membrane, single ply, built-up, or shingle roofing
- Sheet metal flashing
- Rigid insulation at roof
- Roof hatches
- Skylights
- Applied membranes at roofs and decks

B. BUILDING EXTERIORS, DOORS, WINDOWS (HARD)

- Prestressed concrete, brick or cinderblock exteriors
- Exterior doors and door hardware
- Exterior windows, frames, glass and glazing
- Caulking and sealant
- Brick pointing
- Railings
- Windows
- Doors
- Walls

C. ELEVATORS AND CONVEYING SYSTEMS

- Elevators, escalators, and dumbwaiters
- Cables
- Control Systems
- Pneumatic tubes
- Any vertical, motorized transportation (both hydraulic and traction)

D. HVAC - EQUIPMENT / CONTROLS

- Exchangers and circulating pumps
- Fan coil units
- Condensing units
- Exhaust and ventilation units
- Direct Digital Controls, Energy Management Systems
- Pneumatic, temperature controls
- Ventilating and air conditioning
- Heat exchangers and vacuum pumps.

E. HVAC - DISTRIBUTION SYSTEMS

- Ductwork
- Grilles, diffusers
- Piping
- Insulation
- Storage tanks, etc.

F. ELECTRICAL EQUIPMENT

- Building transformers, service panels and fuses
- Emergency power within the building
- Light fixtures and controls
- Power receptacles
- Emergency lighting and generators
- Motors

G. PLUMBING FIXTURES

- Water closets, lavatories, service sinks, drinking fountains and showers
- Laboratory sinks, eye washes, showers, and fixtures
- Water heaters
- Floor and roof drains
- Condensate drain piping

H. FIRE PROTECTION SYSTEMS

- Fire sprinkler systems
- Gas or Halon systems
- Fire alarm detection devices, horns, strobes, heat detectors, pull stations
- fire actuated doors.

I. BUILT-IN EQUIPMENT & SPECIALTIES

- Casework and shelving, bench tops
- Chalk boards, marker boards and tackable wall surfaces
- Operable partitions
- Fume hoods
- Laboratory, medical equipment, etc.
- Autoclaves, glassware washers
- Cold rooms, dark room equipment

J. INTERIOR FINISHES: WALLS, FLOORS, DOORS

- Vinyl wall covering
- Interior doors and hardware
- Carpet and resilient flooring

K. PAINTING - PUBLIC AREAS

- Public Areas includes hallways, public restrooms, lobbies, classrooms, stairwells, entryways, etc.

L. FOUNDATIONS

- Basement excavation and disposal of excavated material
- Temporary or permanent shoring for support of excavation at below-grade structure
- Concrete piles, piers, footings, grade beams, caissons

M. VERTICAL ELEMENTS

- All columns and pilasters
- All exterior wall framing including plaster, gypsum board and insulation
- Applied fire proofing
- Stairs with at least one-story height
- Foundations (including below grade waterproofing)

N. HORIZONTAL ELEMENTS

- Grade and non-grade floors
- Beams, girders, trusses, joists and decking
- Concrete topping slabs
- All roof and ceiling framing
- Applied fire proofing
- Ceiling insulation

O. INTERIOR PARTITIONS

- Interior wall framing including gypsum wall board
- Insulation
- Non-wear finishes such as gypsum board, acoustical tiles, plaster soffits and ceramic tile
- Interior windows, glass and glazing

P. PLUMBING ROUGH-IN

- Sanitary sewer waste and vent piping
- Domestic and industrial water supply
- Air, gas and vacuum piping
- All building service piping within 5 feet of building
- Backflow preventers.
- Medical and research gas distribution and storage systems

Q. ELECTRICAL - ROUGH-IN

- Conduit and wire

R. SITE PREPARATION

- (Category not used)

S. SITE DEVELOPMENT - SOFTSCAPE

- Landscaping
- Irrigation
- Landscaping
- Irrigation lines sprinkler heads, valves

T. SITE DEVELOPMENT - HARDSCAPE

- Concrete sidewalks, curbs, gutters and paving
- Asphalt paving and parking
- Fencing and gates
- Site furniture, art, signage
- Roads, walkways, paths
- Outdoor furniture
- Exterior lighting

U. SITE UTILITIES - EQUIPMENT

- Site main switchboards and switchgear

- Site transformers
- Electric substations
- Storm sewer piping and fittings
- Storm or sewer lift stations
- Site pumps and generators
- Local chillers and boilers
- Rooftop AC and heating units
- Window units
- Furnaces
- High-voltage distribution systems
- Underground conduit
- Substation switchgear
- Tanks and pumps
- Natural gas distribution system
- Central heating and cooling plant equipment (including boilers, chillers, cooling towers, compressors, and surface condensers)

V. SITE UTILITIES - DISTRIBUTION

- Electrical conduit, wire, manholes, pull boxes to within 5' of the building
- Storm, sewer, gas and water lines to within 5' of the building
- Chilled water and steam supply and return piping to within 5' of the building
- Communication systems conduit and pull boxes to within 5' of the building
- Storage areas for potentially hazardous work materials

Note that inspection costs of the Facility Audit and Inspection Program are not allowable as a deferred maintenance item. Include these inspection costs under Plant Administration. (See: **Chapter 4**). The costs of work, including construction inspection, designing, scheduling, and advertising are allowable deferred maintenance or capital renewal items.

2.1.2 Prioritization

Prioritize each identified project according to the following criteria:

Priority 1: Currently Critical. These are needs and/or projects which significantly impact the mission of the University and require immediate action to return a facility to normal operation, stop accelerated deterioration, or correct a cited safety hazard, especially those conditions which potentially impact an entire Campus or pose a significant risk to health and safety .

Examples of such conditions would be:

Campus impact: A Campus-wide chilled water system is in imminent danger of failing. Failure would make all buildings non-functional, essentially bringing an entire campus down.

Health and Safety Impact: Previously undiscovered dry rot has compromised structural beams. The building can not be safely used without immediate repair.

Priority 2: Potentially Critical. These needs and/or projects will become critical within a year if not corrected expeditiously. Situations in this category include intermittent interruptions, rapid deterioration, and potential safety hazards. The significance of these conditions to the mission of the University should be a factor.

Priority 3: Necessary, Not Yet Critical. These needs and/or projects include conditions requiring reasonably prompt attention to preclude predictable deterioration or potential downtime and the associated damage or higher costs if deferred further. Conditions which do not significantly impact the mission of the University should be placed in this category.

Although determining a need and/or project priority can be a subjective process, the impact upon the University's mission and the potential for failure should be determinative in prioritizing deferred maintenance and capital renewal needs.

2.1.3 Further Project Categorization

Upon completing the two-step Facility Audit and Inspection Program procedure, categorize projects as deferred maintenance or capital renewal and replacement .

(See **RD 1.3**, Project Categorization Flow Chart.)

2.1.4 Deferred Maintenance Projects

As a general rule, the scope of deferred maintenance projects should be limited to a specific work item or set of integrally related work items in (1) a single building, or group of buildings (2) a clearly identifiable component of a grounds area, or (3) a utilities system. The project should be accomplished under a single contract or work order.

For administrative simplification, no deferred maintenance project should be smaller than \$5,000. Fund projects under \$5,000 from regular maintenance funds. For planning, budgeting, and implementing purposes, similar work items of small value may be aggregated to make a reasonably sized project if the items are of equal priority and are intended to be accomplished within the fiscal year. However, major work items in individual buildings, separately identifiable grounds areas, or utilities systems are considered separate projects and are not to be aggregated.

2.1.5 Capital Renewal

Capital renewal is the upgrading or replacement of facilities, major building systems, and supportive infrastructures. Capital renewal recognizes the debilitating effect of the aging process on facilities, major building systems, and supportive infrastructures. Projects in this category address the physical deterioration aspect of long-term use, the need for overall facility renewal due to technological obsolescence, the replacement of building systems which have become functionally inadequate, and the upgrading of supportive infrastructures which are no longer capable of adequately performing their function.

Capital renewal projects should be processed for inclusion in the Capital Improvement Program.

2.1.6 The FIRM model

The FIRM model, referenced in Section 2.1.1, “deconstructs” state funded campus buildings into subsystems. Each subsystem is assigned a life cycle and a unit renewal

cost based on the expected life cycle for that subsystem. Capital renewal needs are addressed in the FIRM database as well as deferred capital renewal items, also referred to as “deferred maintenance” in the FIRM. The FIRM database differentiates among different types of buildings as well as the differences among campuses. All space data in FIRM is extracted directly from the University's official space inventory maintained in the EFA database.

Using accepted facilities life cycle analysis, the FIRM system models life cycle deterioration of building systems and the Capital Assets of which they are comprised.

When building systems are renewed and replaced (such as the complete replacement or renewal of a building HVAC system), the FIRM model needs to be updated to reflect these capital expenses.

See: [Facilities Infrastructure Renewal Model \(FIRM\) Login Page](#) (Login and password are available through Office of the President).

2.2 DEFERRED MAINTENANCE FUNDING SOURCES

2.2.1 State Funds

At the current time there are no state funds specifically dedicated to deferred maintenance, special repairs, or capital renewal.

Renewal projects may be submitted for approval and funding under the “State Capital Improvements” program

2.2.2 Non-State Funds

2.2.2.1 External Financing:

External Financing for deferred maintenance and capital renewal may be available for eligible Campuses. Repayment of this financing is through the Campus’s share of Federal Indirect Cost Recovery.

2.2.2.1 Auxiliary Enterprises:

Auxiliary enterprises and equivalent non-state-supported units are responsible for funding the operation and maintenance of facilities or portions of facilities they use. These units are also responsible for funding the maintenance (including deferred maintenance) of roads, grounds, and utility service systems outside their facilities but used exclusively or almost exclusively to serve their facilities. Funds from the unit's operating income or reserves, or other appropriate non-state sources, should be used to pay for deferred maintenance.

Capital renewal funding guidelines for Auxiliary Enterprises are found in:
[Business and Finance Bulletin A-59, \(Costing and Working Capital for Auxiliary and Service Enterprises \)](#)

2.3 DEFERRED MAINTENANCE FUNDING GUIDELINES

Deferred maintenance projects should be of a size and complexity to allow a lien on the project within 12 months from the date funds are appropriated. A valid lien is when funds are encumbered by awarding a contract or writing a requisition to have specific work performed by the OMP department.

As a general rule, include all phases of a project's scope (design, administration, and construction) for funding in a given year. Under exceptional circumstances, projects with lengthy design work or unusual construction scheduling may have design work budgeted one year and construction, the next.

Funding of one project segment does not commit funding of any other project segment in either the same or subsequent years. Deferred maintenance projects can be initiated and funded with planned or preventive maintenance funds, particularly if emergency action is required.

2.4 REQUIRED DEFERRED MAINTENANCE LISTS

As funding becomes available the Office of the President will issue instructions for submitting Deferred Maintenance or Capital Renewal projects

CHAPTER 3

BUDGET SOURCES

INTRODUCTION

This section outlines OMP funding sources, requests for changes in workload, and the uses of OMP funds. The University's General Fund is the source of OMP funding for all State eligible space. Approximately 50% of University space is non- state eligible. OMP funds can not be used to fund maintenance in these areas.

3.1 OMP FUNDING SOURCES

3.1.1 State Funding

The State of California provides most of the OMP funds for state eligible space. These funds are allocated to the campuses on a square foot basis as part of the General fund, and are then incorporated into the overall Campus Operating Budget.

3.1.2 Federal Grant Funding

A portion of all Federal grants goes to pay indirect costs, including facilities services such as purchased utilities, maintenance, janitorial services, etc. The indirect cost, or overhead, rate is negotiated annually by the Campus based upon each Campus' past expense history.

Approximately 20% of this of overhead is taken "off the top" to reimburse the University and the Campus for the costs of administering the grant.

Of the remaining amount, 45% goes directly to the Campus in the form of the "University Opportunity Fund". Chancellors have discretion in the allocation of these funds for high priority campus needs.

The remaining 55% of the indirect cost recovery amount from federal awards is used to help fund the University's "General Fund Budget." The "General Fund" is made up of funds of State General Fund appropriations and income from federal indirect cost recovery and is incorporated into the overall Campus Operating Budget.

The component of Operation and Maintenance is calculated on average as approximately 10%-15% of total grant expenses. .

See: [FAQ about Indirect Cost Rates](#)

See: [UCOP Contract and Grant Manual -- Chapter 8 -- Indirect Cost](#)

See: [Campus Primer on Indirect Costs](#)

3.1.3 Indirect Cost Recovery from, State, Private, and Local Government Awards

For entirely State funded grants, indirect cost recovery goes directly to the General Fund. When the primary source is non-state, other policies apply.

See: [Contract and Grant Manual Ch. 8 Section 8-820](#)

All funds recovered as indirect cost receipts from private and local government contracts and grants, except for recovered indirect costs from private clinical trial agreements, are placed in the President's Education Fund. The Education Fund is used primarily for the support of high priority educational programs.

3.1.4 Garamendi Funding

The construction of some research buildings is entirely or partially funded by State issued bonds called Garamendi Bonds. Maintenance and utilities in these buildings are not funded from the General Fund. Debt Service and maintenance for these buildings is paid directly from indirect grant cost recovery funds.

See: [Contract and Grant Manual Sec. 8-811 "Garamendi Projects Funding"](#)

3.1.5 Recharges

Auxiliary programs, such as hospitals, housing and dining facilities, University Extension, student fee funded space, student centers, recreational facilities, are self supporting and ineligible for state support.

Specific Information about which programs are eligible for state OMP support, and which are ineligible is found in the "Corporate Equipment, Facilities, and Asset (EFA)" database. The cost of facilities services to these programs is recharged to the program.

Recharge rates for facilities services are set by the Campus in accordance with University Policy. Recharge rates must reflect the actual cost of the services provided.

See: [Corporate Equipment, Facilities, and Assets System \(EFA\)](#)

See: [UCOP Recharge Guidelines](#)

See: [Business and Finance Bulletin Direct Costing Procedures - A-47](#)

3.2 OPERATION AND MAINTENANCE OF PLANT WORKLOAD

3.2.1 Workload adjustments are based upon annual changes to the accumulated State Maintained building area.

State funding for OMP is based upon eligible occupied square footage. Each year the University asks for an update from the Campus Budget offices reporting on any changes to either the eligibility or occupied area of State Maintained space.

See: [University of California Budget Office: Guidelines for Preparing New Workload Request](#)

See: [University of California Budget Office: Current Year and Past Years University Budgets](#)

3.2.2 OMP Workload Categories:

OMP funding within state eligible space funds the following workload areas or program elements:

- Plant Administration
- Building Maintenance (and Operation)
- Grounds Maintenance
- Custodial Services
- Utilities Operation and Maintenance
- Refuse Disposal
- Plant Service
- Fire Departments
- Executive Housing
- Purchased Utilities

See: **RD 1.5** “Gordon Study History” for derivation of program elements.

CHAPTER 4

PLANT ADMINISTRATION

INTRODUCTION

In addition to providing personnel to administer the operation and maintenance of plant, the Plant Administration function provides various other services. Areas addressed in this chapter are: contracting for services, maintenance, and repair; providing work control; OMP and recharge accounting; providing data management; keeping a facilities inventory; maintaining OMP's relationship with other units; supplying required reports; and providing emergency planning and response.

4.1 CONTRACT ADMINISTRATION

Contracts are required for all work other than that done by University staff. It is the responsibility of Plant Administration to provide guidance and insure compliance with University Policy in the administration of contracts. The following are the types of work likely to be needed for Operation of Maintenance and Plant.

4.1.1 Services

Services should be considered procuring labor performed by another party that may or may not produce a tangible commodity. Service work includes custodial work, window washing, rubbish and waste removal, security guards, transportation, software development, clothing rental, laundry, tests and analysis, film processing, and equipment repair. Such services may be contracted by using a standard purchase order form.

See: [Materials Management Policy: Business and Finance Bulletin 43](#)

Contracting for services which displaces University staff needs to be evaluated thoroughly before proceeding. Any contract over \$100,000 must have Presidential Approval. The following is from the University's **Guidelines on Contracting for Services**.

“In any consideration to contract out services where University staff would be displaced, the University will support and approve the contracting out of University work only when the decision is consistent with protecting the core teaching, research, service, and patient care functions of the individual campus or medical center; is in response to a demonstrated, sound business need; and minimizes to the extent possible the impact on

University staff. Such decisions are intended to be consistent with the objectives of maintaining the University's good relationships with the local business community and the quality of the work environment. Because consideration must be given both to the requirements and circumstances of the services involved and the overall benefit to the campus, these decisions are made by the Chancellor or designated Vice Chancellor, with review by the Office of the President as appropriate “

See: [UCOP -- UC Presidential Policies: "University Guidelines on Contracting for Services"](#)

If services are contracted, the form of contract depends on the type of work but is usually a standard purchase order form that includes Supplement 2

See: [UC Facilities Manual Volume 4 "Construction Contracting & Construction Documents"](#)

4.1.2 Design Services

Design services are services that require design professionals such as architects and engineers who evaluate conditions, and, in the case of repair, provide design.

The selection of design professionals is subject to University policy and guidelines. State law requires design professionals and other consultants to be selected based on the procedures in the Public Contract Code as implemented by University policy. Guidance in contracting for Design Services is found in Volume 3 of the Facilities Manual.

See: [UC Facilities Manual, Volume 3 "Design and Design Documents"](#)

See: [Public Contract Code Sections 10510.4-10510.9](#)

4.1.3 Maintenance

Some maintenance activities may be contracted for by using a standard purchase order form or may be contracted for using the appropriate contract document.

Contracting for maintenance is not subject to the same competitive bidding requirements as required for repair. It is important to keep in mind the meaning of maintenance and the distinction between maintenance and repair as defined in **Section 1.3.2**.

4.1.4 Repair

Repair is considered a project as defined in the Public Contract Code -- “As used in this article, ‘project’ includes the erection, construction, alteration, repair, or improvement of any University of California structure, building, road, or other improvement that will exceed in cost, including labor and materials, a total of fifty thousand dollars (\$50,000).”

See: [Section 10500 et seq. California Public Contract Code](#)

As such it is subject to all of the requirements for Public Bidding in Chapter 2.1 (“University of California Competitive Bidding”) of the California Public Contract Code.

Assuming a project involves repair, alteration, or a work of improvement and is over \$50,000 and thus must be contracted, the form of contract is typically a standard construction contract form (e.g. Mini Form, Brief Form, or Long Form) Contracting guidelines are provided in Volume 4 of the Facilities Manual.

See: [Section 10505 California Public Contract Code](#)

See: [Facilities Manual, Volume 4](#)

4.2 WORK CONTROL

General Work Control as described in this section is the processing and managing of OMP related work and resources (See Chapter 3 for explanation of OMP funding). When work is done for activities which are not OMP supportable such work must be recharged to the program requesting and authorizing such work. Work Control is a task category of the OMP function, Plant Administration (See RD 1.2)

Eligible and ineligible programs and the space which they occupy are listed in the EFA database:

See: [EFA Program Code Definition/Name and OMP Eligibility Status](#)

See: [IR&C - Corporate Equipment, Facilities, and Assets System \(EFA\)](#)

It is not the purpose of this Manual to specify the appropriate system for the purpose of work control. In general work control is aided and tracked by a Computerized Maintenance Management System (CMMS). Such work order systems should be able to:

- Track work order costs including labor, material, and contracts
- Interface with Campus financial systems
- Provide on-line work order entry and work order cost information for Campus clients
- Schedule preventive maintenance
- Provide tools for job scheduling and tracking

4.2.1 Restrictions on Use of General Funds:

In addition to the restrictions above, OMP funds are also restricted by the Legislature as to the size of an OMP funded work. Currently, no more than \$100,000 of OMP funds

may be encumbered for preliminary plans, working drawings, or construction or alteration of a state facility unless the Director of Finance determines that the proposed alteration is critical and that it is necessary to proceed. In addition no OMP funded alteration may exceed \$400,000.

These limits are included in the Supplementary Budget Bill and may change from year to year. Contact Office of the President for current limits.

4.2.2 Recharging of Facilities Services to Non-OMP supported functions

An essential component of work control is making sure that costs are allocated to the appropriate accounts. Work that is not supportable by OMP needs to be charged to the department or other campus entity authorizing the work. Such recharges may be done through a work order or through a fund transfer.

- An example of a recharge work order would be when a non OMP funded program requests a locksmith to change keying.
- An example of a fund transfer would be when a non OMP funded program enters into an agreement with the OMP facilities to perform custodial services for a period of time. Such a fund transfer would need to be documented by a signed agreement or Memorandum of Understanding.

Typically a Computerized Maintenance Management System will have the ability to interface with the Campus accounting system to properly record and charge costs. Labor and material rates need to include indirect costs. Physical Plant or Facilities Departments submit these costs annually to the appropriate Campus Committee to arrive at an approved recharge rate.

See: [UCOP Recharge Guidelines](#)

See: [Business and Finance Bulletin A-47](#)

4.2.3 OMP Accounting

As a component of the General Fund, OMP funds can be appropriately allocated to the OMP categories corresponding to the OMP elements described in Chapter 1, Section 1.5

- Plant Administration
- Building Maintenance (and Operation)
- Grounds Maintenance
- Custodial Services
- Utilities Operation and Maintenance
- Refuse Disposal
- Purchased Utilities
- Fire Departments (where applicable)
- Executive Housing (where applicable)

4.3 DATA MANAGEMENT

References:

Effective data management is important to the success of a Facility's OMP program. Three suggested OMP data management goals are:

1. Establish data collection systems to develop:
 - Uniform reporting formats.
 - Supervisory and management control reports.
 - Continual feedback of information between departments through communications and manuals.
 - Easy, preferably web-based, campus user interface
2. Institute systems for reporting historical data and operating statistics.
3. Maintain trend lines and indices of operating effectiveness.

4.3.1 Corporate Equipment, Facilities, and Assets System (EFA)

EFA is an information system that provides planning and management data on the existing physical plant. Specifically, EFA provides information on buildings, and rooms within buildings. EFA also serves as the Facility's official record of existing space. EFA is the source for information on OMP eligibility.

Each campus maintains and updates its own inventory. Once each year, campuses provide their inventory to the Office of the President where the data are merged into the Corporate Equipment Facilities and Assets System. This system enables the Office of the President to perform tasks such as developing capital budget proposals, analyzing space needs, and reporting to the state on facilities for the entire University.

See: [Corporate Equipment, Facilities, and Assets System \(EFA\)](#) for information about and instructions for reporting data.

Ultimate oversight of the EFA database is provided by the Information, Resources and Communications Joint Oversight Group ([IR&C - Joint Operations Group](#))

Laboratories also maintain their own separate inventory systems, but these systems are not a part of the Corporate Equipment Facilities and Assets System.

The applications of EFA data have expanded in recent years. In the past, data was used mainly to support capital outlay programming and space utilization analysis. The following list indicates the expanding scope of inventory data applications:

- Space assignment and control.
- Program OMP eligibility
- Construction project planning and management.
- Projections of future space needs.
- Space utilization analysis.
- Development and maintenance of space allocations and utilization standards.
- Equipment budgeting standards
- Operating budget workload measures
- Scheduling of maintenance, alterations, and custodial services.
- Insurance and risk management.
- Determination of the building use component of the indirect cost rate. External reporting, audits, and contractual accountability requirements (federal, state, and regional).
- Provides building information to be used by the FIRM database

4.4 OMP'S RELATIONSHIP WITH OTHER UNITS

Operation and maintenance of plant (OMP) is a program that has a special relationship with other University departments, organizations, and services. An example of a special relationship is the role of physical plant and facilities units have in project design and subsequent construction. To be effective, OMP needs to work cooperatively and efficiently with the Campus Design and Construction Unit.

OMP's Plant Administration function handles most contact with the following units, for the items specified after each unit (not all units and associated items are listed):

Campus Accounting Office: Cost accounting, recharges

Campus Budget Office: Inventories, space accountability.

Campus Committees: Development of recharge rates, Campus environment issues, accessibility issues, and other issues as needed

Campus Auxiliaries: Non state-eligible programs, such as Housing, Dining, and other auxiliaries that make use of facilities services on a recharge basis

Campus Planning: Space requirements, environmental impact statements and reports.

Capital Planning: Special Repairs, Capital Improvement Projects.

Environmental Health and Safety: Workplace safety, hazardous waste handling and disposal, emergency planning and response, EPA compliance

Capital Projects: Design, value engineering, construction, post-construction warranties and guarantees, project support such as shutdowns, etc.

General Counsel. Construction defects and deficiencies report (see [Volume 4 Section 9 of Facilities Manual](#)).

Materiel Management: Selection of goods and materials, contracting for services.

Office of the President: Policies and procedures, various reports (see [Volume 4 Section 8 of Facilities Manual](#)).

Personnel: Employee relations, job descriptions, labor relations.

University Relations: Campus community functions, athletic events.

4.5 REPORTS OF DEFECTS AND DEFICIENCIES

References:

- "Recovery for Construction and Design Deficiencies in University Buildings," University of California, Office of General Counsel, letter to chancellors and laboratory directors, Berkeley, CA, April 17, 1975.

The information in this article applies to defects and deficiencies associated with all facilities owned by or under the control of the University which the University has constructed or modified.

The purpose of this section is to encourage timely reporting of defects or deficiencies and to provide guidance in determining responsibility for design and construction defects or deficiencies.

In order to maximize the University's chances of recovery when contractors or architects refuse to accept responsibility for defects, *General Counsel should be contacted early, before action is taken to correct the defect. If the defects are not reported, or reports are delayed, then the chances for recovery are lessened.*

Two factors account for the majority of delays or failures to report defects or deficiencies to Counsel:

1. Problems are observed but are not recognized as being serious and therefore are not reported. In some cases, remedial work is undertaken which alters conditions and compromises legal recovery efforts.
2. Defects are observed and are recognized as being serious but are not reported because of the erroneous assumption that the University has no further rights since the guarantee period or statute of limitations period has expired.

4.5.1 Guidelines for Reporting Defects and Deficiencies

Initial Evaluation. Discuss defects and deficiencies among staff, and as soon as possible, contact General Counsel for advice. The following steps should then be taken:

- Using technically competent Facility personnel or outside experts, evaluate the seriousness of the defect.
- Have University of California General Counsel ([OGC](#)) prepare suitable demand letters.

Note that some defects present an emergency situation where remedial measures must be accomplished immediately. The Facility administrator must decide how to proceed to protect life and property; however, if recovery is to be effected, the procedures listed in this section should be followed as closely as possible.

Responsibility Refusal by Design Professional or Contractor. If a building deficiency is determined to be serious, and neither the design professional nor the contractor accepts responsibility for its correction, General Counsel should be contacted and provided with an adequate background statement of the problem.

The objective of the background information is to get an overview of the problem early enough to maximize the effective alternatives available. An adequate background statement includes the following information:

1. A brief description of the nature and scope of the deficiency.
2. A concise summary of the design history of the problem: i.e., the specific program given to the design professional, whether any design recommendations for the deficient areas were vetoed for budget or other reasons, what the construction documents required, what the contractor installed, the extent of the design professional's approval of shop drawing submittals, substitution requests, and field changes, and the installation made.
3. A copy of all specification provisions and pertinent drawings applicable to the deficiency (including any applicable general or special guarantee provision) and a brief explanation in layman's terms of technical portions of the construction documents transmitted.
4. A concise statement of the construction history of the defect including the approximate time of installation, when the deficiency first developed, a brief outline summary of any pertinent correspondence, job meetings, minutes, and inspector's reports bearing on the problem (with full copies of such documents attached), the date of project acceptance, and the duration of any guarantee applicable to the deficiency.
5. A description of the extent of any corrective action attempted indicating what it was, who recommended it, who performed it, and when.
6. A description of the present condition of the deficiency.
7. A description and statement of estimated cost for corrections which will probably be required.
8. An expression of Facility opinion as to the responsibility for and cause of the defect coupled with a brief statement of the facts supporting that conclusion.

Expressing Opinion on Responsible Cause. The initial expression of opinion as to who is responsible for a defect or deficiency should be made by Facility personnel if they have the technical competence. In cases when employment of an outside expert is necessary to augment Facility capabilities, General Counsel should have an advance opportunity to evaluate the potential forensic ability of such an expert. If such an expert is not retained by or at the request of Counsel, the expert's report on the problem probably cannot be kept confidential in the event of litigation, and the expert may be subject to being deposed as a witness.

Preservation and Documentation of Evidence. If litigation is a possibility, evidence of building defects or deficiencies must be preserved or documented and safeguarded. If not, there should be no expectation of recovery of damages by a lawsuit. Preserve and document evidence by:

- Retaining defective material.
- Taking photographs.
- Having a competent person examine the defect and express a technical opinion as to its cause.
- Retaining relevant correspondence and documents.

Confidentiality of Evidence. Parties to a lawsuit have broad rights to examine the files of their opponents. Most communications including memoranda to file which are not sent from a University employee to University Counsel may be inspected and used as evidence to oppose the University's case. To prevent this evidence from being revealed to the University's detriment, follow these guidelines:

- Take care not to make any damaging admissions or reveal any weaknesses in the potential case.
- Evaluation of the University's prospects for recovery in potential litigation **shall** be made only by General Counsel.
- With the exception of item 8, above, avoid writing memoranda which contain admissions that may be against the University's interest, which include allocation of responsibility or explanations of or reasons for defects or deficiencies, or which comment on consultants' reports. When such memoranda are necessary, draft copies **shall** be sent to General Counsel for comment and for transmittal at Counsel's option.

4.5.2 Preventing Building Deficiencies

If design professionals and contractors whose past performance is unsatisfactory are excluded from participating on University projects, then an effort will have been made "up front" to prevent defects and deficiencies.

The deficient past performance of a design professional should be considered when selecting a design professional (see FM, [Volume 3](#)). Unsatisfactory past performance of contractors should be considered when bid documents are issued (see FM, [Volume 5](#)).

4.6 EMERGENCY PREPAREDNESS

References:

- Office of the President “Policy on Safeguards, Security, and Emergency Management,” 2006 (see: <http://www.ucop.edu/facil/pd/emergprep/ssempolicy.pdf>)
- California Office of Emergency Services (OES) SEMS/NIMS Integration (see <http://www.oes.ca.gov/Operational/OESHome.nsf/ALL/3D8DC8F9C9DCF2D688256FCB0065B847?OpenDocument>)
- Federal Emergency Management Agency (FEMA) National Incident Management System guidelines <http://www.fema.gov/emergency/nims/>
- National Fire Protection Association (NFPA), 1600 Standard on Disaster/Emergency Management and Business Continuity Programs, 2004 (see: <http://www.nfpa.org/assets/files/pdf/nfpa1600.pdf>)

This section discusses earthquake hazards, but emergency management principles apply to all types of natural, human-caused, or technological disasters and emergencies.

After a major earthquake, a Facility must plan for the disruptions of utilities, communications and essential services such as power, water, sewer, telecommunications and transportation networks, fire and medical services, and food supplies and services. Facilities should also anticipate building structural and non-structural damage, hazardous materials spills, fires, and the need to provide emergency medical care as well as mass care and shelter. Facilities must assume that no outside assistance will be available for at least 72 hours. Local emergency response agencies that would normally respond may not be available because of overwhelming demands. Conversely, a Facility may be a focal point where emergency responders from outside agencies, volunteers, and the general public spontaneously converge.

Effective Facility emergency preparedness programs will reduce risk and losses, including protecting lives, property, and the environment; minimizing class and research disruption; facilitating efficient coordination with local, state, and federal emergency response agencies; and maximize disaster recovery financial aid.

4.6.1 Emergency Preparedness Program

The University has voluntarily adopted the National Standard on Disaster/Emergency Management and Business Continuity Programs (NFPA 1600/ANSI, 2004) as our systemwide programmatic guidance and benchmarking standard for Facility emergency preparedness programs. This collaboratively developed and widely adopted National Standard encompasses mitigation, preparedness, response, and recovery. In California, the SEMS/ICS emergency management structure is mandated to direct, control, and coordinate response and recovery operations as described in Section 4.6.2. The National Standard establishes the following seventeen (17) general program elements:

1. Program Policy & Administration

- Executive policy including enabling authority
- Program goals and objectives
- Program budget and project schedule/milestones

2. Program Coordinator/Manager

- Designated/appointed by campus and authorized to administer and maintain program

3. Program Management

- Advisory committee or other program review and support mechanism
- Establish performance objectives for all program elements

4. Compliance with UC/State laws/requirements/policies

- Program shall comply with UC procedures/policies/requirements
- Program shall comply with State laws/regulations (SEMS – see 4.6.2))

5. Hazard Identification & Risk Assessment

- Identify hazards and likelihood occurrence on campus
- Identify vulnerability of campus to various hazards
- Hazards shall include both natural and human-caused events
- Conduct impact analysis to determine adverse campus impacts on health and safety; continuity of operations; facilities and infrastructure; financial liabilities; etc.

6. Hazard Mitigation

- Develop and implement campuswide strategy to eliminate/mitigate hazards
- Base strategy on Hazard Vulnerability Assessment (HVA); program assessment; operational experience; and cost-benefit analysis
- Mitigation shall consider building standards; mitigating structures at risk; hazard avoidance/removal/elimination/reduction/modification/segregation/controls; protective systems/equipment; warning and communication procedures; redundancy or duplication of essential personnel/systems/equipment/operations.

Each Facility shall implement a non-structural seismic hazard reduction program to identify and abate hazards .

7. Resource Management

- Establish objectives consistent with overall program goals and campus hazards
- Consider personnel, equipment, training, expertise, facilities, funding, materials and the time frames within which they will be needed
- Consider response time, capability/quantity, limitations, costs, and liabilities associated with using the required resources
- Identify resource capability shortfalls and steps necessary to remedy shortfalls
- Maintain current inventory of internal/external resources
- Address management of voluntary donations

8. Mutual Aid Agreements

- Need for mutual aid shall be determined and agreements established as needed
- Agreements shall be referenced in the appropriate program plan

9. Program Plans

- Strategic Plan – program mission, goals, objectives as it relates to policy
- Emergency Operations Plan – assign responsibility for specified actions
- Mitigation Plan – establish interim and long-term actions
- Recovery Plan – based on short and long-term priorities, processes, vital resources, and acceptable time frames for restoring facilities, infrastructure, and teaching/research programs
- Continuity Plan – identify critical and time-sensitive functions/processes that must be maintained, and personnel/procedures required to maintain them

10. Direction, Control & Coordination

- Capability to direct, control, and coordinate response/recovery operations
- Use SEMS/ICS emergency management system for emergency operations and response, and resource management (see 4.6.2)
- Establish applicable procedures/policies for coordinating response, continuity, and recovery activities with appropriate authorities and resources

11. Communications & Warning Systems

- Establish and regularly test communications systems/procedures
- Develop and maintain notification/alerting capability
- Develop and periodically test campuswide emergency alerting system
- Address communications needs/capabilities to support response/recovery plans
- Address inter-operability of multiple emergency response agencies

12. Standard Operating Procedures (SOPs)

- Develop, coordinate, and implement operational procedures to support program
- Address health & safety and protection of property and environment
- Emergency response and recovery procedures for identified hazards
- Situation status and damage/resource needs assessment procedures
- Procedures for initiating recovery and mitigation activities during response
- Procedures for succession of executive management
- Procedures for emergency animal care
- Procedures for utility shutdowns and emergency backup power supplies
- Procedures for hazardous materials and radiological hazard control

13. Emergency Operations Center (EOC) & Logistics

- Primary and alternate EOCs shall be equipped, tested, and maintained
- Establish logistical capability and procedures to handle personnel, resources, materials, and facilities procured or donated

14. Responder Training

- Implement training/education curriculum to create awareness and enhance skills required to implement and maintain program
- Identify frequency and scope of training and maintain training records
- Emergency response personnel shall be trained in SEMS/ICS

15. Exercises, Evaluations & Corrective Actions

- Periodically evaluate program objectives, plans, procedures, and capabilities
- Design annual exercises to test essential or inter-related elements or entire plan(s)
- Ensure that corrective action is taken on any identified deficiency

16. Crisis Communications & Public Information

- Procedures to disseminate and respond to requests for info (both internal and external including the media)
- Establish and maintain disaster/emergency public information capability including media contact; info handling system and method to coordinate and clear info for release; pre-scripted info bulletins; special needs populations; and evacuation or shelter-in-place guidelines
- Implement public awareness program for identified hazards

17. Emergency Financial Support

- Develop financial and administrative procedures to support emergency response/recovery
- Establish procedures to expedite fiscal decisions in accordance with proper authorizations and accounting
- Define finance responsibilities/authorities; procurement procedures; payroll; and accounting system to track and document costs

4.6.2 Standardized Emergency Management System (SEMS)

State law requires all state and local agencies (including the University) to use the Standardized Emergency Management System (SEMS). SEMS is an emergency management organizational structure used by all emergency response agencies statewide to coordinate response to multi-jurisdictional or multi-agency incidents. The intent of SEMS is to improve the coordination of state and local emergency response throughout the state, and to facilitate the flow of information and the rapid mobilization, deployment, and tracking of state and local resources. SEMS also integrates all of the requirements of the National Incident Management System (NIMS).

All Facilities shall incorporate the major elements of SEMS into their emergency plans and operations. By incorporating SEMS, each Facility will use the same basic emergency

response organizational structure and terminology as all other city, county, and state agencies. This will facilitate smooth communication and coordination with outside agencies for response, resource allocation, and recovery at each Facility during and after a major emergency incident. State disaster assistance programs also require the use of SEMS in order for each Facility to be eligible for full reimbursement of costs related to response.

In order to incorporate SEMS at each Facility, the following are required:

- Adapt the Incident Command System (ICS) to the existing Facility organizational structure. ICS is a standardized yet flexible emergency response organizational structure that forms the basis for the entire SEMS concept.
- Establish local interagency agreements as necessary. These are public safety mutual aid agreements for law enforcement, fire, and emergency medical services. The agreement could include memorandums of understanding (MOUs) with the American Red Cross for mass care and shelter assistance, or with amateur radio organizations for emergency communications support.
- Provide appropriate training to senior executives and those employees involved in emergency response and recovery as identified in the Facility emergency plan. Staff that **shall** be trained for response and recovery include lead staff responsible for the physical plant, construction, environmental health & safety, police and fire, telecommunications and information systems, health services, housing and dining, and material management.

4.6.3 Facility Mutual Assistance

The University's facilities and operations are highly specialized, and therefore require highly skilled and trained personnel to deal with emergency response and recovery operations. For this reason, it may be preferable to call upon internal University resources for assistance, rather than outside agencies or contractors.

Each Facility **shall** be authorized to enter into formal or informal agreements with other University Facilities to share personnel, services, equipment, and supplies during a declared state of emergency, or under other extraordinary conditions or circumstances as required immediately to avert, alleviate, or repair damage to University Facilities, or to maintain the orderly operation of the Facility. A Facility requesting assistance **shall** exhaust its own resources, or face imminent depletion of its own resources, before calling upon another Facility for assistance. Each Facility **shall** provide assistance to other University Facilities to the extent operationally possible, based upon the availability and status of its own resources. A Facility requesting assistance **shall** be responsible for all direct costs incurred by other University Facilities that are related to providing that assistance.

Chapter 5

SUSTAINABLE OPERATIONS AND MANAGEMENT POLICY

References:

[-Policy on Sustainable Practices \(March 22, 2007\)](#)

5.1 CONSERVATION STANDARDS AND GUIDELINES

The following standards and guidelines support the University's policy on energy and water conservation and management in facilities operation. Some specific standards are not applicable to smaller Facilities (See “Policy on Sustainable Practices” above).

Application of the standards and guidelines shall not involve any measure that will violate applicable laws, be hazardous to health or safety, cause significant impairment of the instructional or research effort, or result in an unreasonable minimum standard of comfort.

5.1.1 Facilities Management Guidelines for Sustainability

References:

[- Title 24, Part 6, of the California Code of Regulations](#)

Maintain an inventory of major buildings and systems to:

1. Assess current performance of earlier-instituted operation and maintenance conservation practices, or begin such efforts where opportunities exist.
2. Assess possibilities for modifications to existing systems to reduce energy and water use.
3. Develop a priority list for capital improvements to achieve energy and water efficiency improvements and to integrate the possible projects into the Capital Improvement Program for the Facility.
4. Use life cycle cost analysis, per sustainability requirements referenced above, within guidelines required by the state, to assess the feasibility of capital investments to achieve energy and water conservation.
5. Design new buildings to outperform California Code of Regulations (CCR), Title 20, "Energy Building Regulations," and Title 24, "Energy Conservation

- Standards" by the amount specified in Sustainability Policy. (See: [California Energy Commission Requirements](#))
6. Require design professionals to have independent certification that their designs meet requirements of item 5 above. Participation in the [Savings By Design Program](#) (utility incentive program for new construction) will be deemed independent certification.
 7. Assess any proposed new or replacement equipment/installation pursuant to item 4 above. New replacement equipment should be more efficient than existing. Utilize available utility or other incentive programs in implementing this.
 8. Plan new buildings and systems to utilize water-conserving fixtures and features; for example, prohibit "once-through" water cooling systems and continuous-flow operations for intermittent demand. Consider installation of parallel piping systems for use of reclaimed water for nonpotable applications.
 9. Coordinate water conservation efforts at each location with local agencies supplying water to the University.
 10. Avoid landscape design or plant replacement that requires excessive water use.

5.1.2 Operational Guidelines

1. Implement system operation and maintenance on the basis of "least total cost," considering both labor and energy costs, and as required by Policy on Sustainable Practices.
2. Reduce running time of energy-consuming equipment through:
 - Equipment shutdown when not required (no continuous operation or idling when there is no demand).
 - Building use scheduling both on a daily and longer-period basis (e.g., vacations and between quarters).
 - Programs for selective load shedding of power in event of excessive peak usage.
 - Programs for reduced speed, for long periods, of various types of electric loads which can tolerate reduced-speed operation with only minor effect on the user (demand control).
3. Adjust lighting levels to no more than illumination requirements of CCR, Title 24, power use recommendations. Use group relamping programs where feasible.
4. Buildings designed under the Policy on Sustainable Practices should be operated according to their original design intent. Optimize heating, ventilating, and air conditioning (HVAC) systems (through modification by way of Capital Improvement Projects where necessary).
 - Within the interiors of buildings, temperatures between 68 degrees and 78 degrees Fahrenheit are considered to provide a reasonable

standard of comfort. Thermostats should be set at 78 degrees in the Summer and 68 degrees in the Winter. These limits will not apply in areas where other temperature limitations are required by law or where special use of an area demands other limits. For additional reference see: [ASHRAE Thermal Comfort Standards \(Publication Ordering Information\)](#) and [State Administrative Manual 05-14 Procedures for Energy Management in State Buildings](#)

- Modify or adjust HVAC systems to avoid simultaneous use of heating and cooling energy use in the same zone or space wherever possible, or minimize such simultaneous energy use within system limitations by resetting the system operating limits.
 - Optimize boiler and chiller plant (or equivalent) operation for best utilization of facility components and for achievement of maximum practical operating efficiency. Achieve optimum use of outside air or maximum practical energy recovery from exhaust air where 100 percent outside air is required for building ventilation.
 - Minimize the rate of air circulation within constraints of applicable laws, regulations, codes, or other necessary limitations.
5. Suggest that personnel minimize individual automobile use through car pooling and use of public transportation.
 6. Use water from on-site sources such as springs or wells where possible within environmental constraints.
 7. Install flow control devices such as low-flow shower heads and flush valves.
 8. Balance systems using once-through water to minimize flow rates, and operate these systems only when required. This guideline applies to landscape irrigation and mechanical equipment systems.
 9. Recycle waste water when ease of conversion and code requirements allow; for example, modify once-through cooling systems to recirculate rather than discharge cooling water.
 10. Purchase equipment such as lasers, compressors, and vacuum pumps that do not require once-through water cooling systems.
 11. Develop and use reclaimed waste water for irrigation. Consider off-campus reclaimed water supplies, where available, for this purpose.
 12. Have operating contingency plans at each Facility to curtail operation in the event of limitation of boiler fuel, electricity, or water supply. Base these operating contingency plans on the concept of progressive interruption to accommodate different levels of energy or water supply curtailment. Review and update contingency plans annually.
 13. Follow procedures adopted by the University from the governor's *Executive Orders* and California Department of General Services *Management Memos*.

5.2 ENERGY AND WATER USE REPORTS

In order to comply with the Policy on Sustainable Practices reporting requirements, each campus is required to submit an annual energy and water use and conservation report to the Office of the President, Facilities Administration

Prepare the report on a fiscal-year basis according to the template supplied by Office of the President. Submit the report by October 1 to the Office of the President.

Report Template: The template is limited to basic elements necessary for auditing the conservation program and use of purchased utilities. In addition to these instructions, reports may include any additional pertinent information such as heating or cooling degree days, student programs, and explanatory material.

Template may be accessed at: The [Policy on Sustainable Practices Web Page](#)

Reporting Guidelines:

1. Each campus should include all facilities under its administrative responsibility, not limited to state supported space.
2. Usage Subdivision:
 - o Report gross and net (state-supported) utility usage per Energy Template. Gross figures must be compatible with usage reported in the California Climate Registry.
 - o Optionally, usage may be subdivided further into more specific classifications.
 - o Separate satellite facility usage may be separately identified and reported. When separately reported, indicate whether such usage is also included in the campus usage being reported.
3. Excluded Usage:
 - o Do not report automotive, airplane, or other vehicle fuel usage.
 - o Do not report agricultural water usage.
4. Use usage units provided on Report Template.

5.3 ALTERNATE FUEL PROVISION

5.3.1 Campus Contingency Planning

Recognizing the criticality of University Programs, Campuses are encouraged to isolate themselves from interruption of service through the combined use of on-site fuel storage and fuel contracts. Campuses are encouraged to use a 14 day horizon for planning purposes. Specific planning provisions will be determined by the criticality of a Program, and its dependence upon fuel or electricity.

5.3.2 Hospital facilities requirements

For general acute care hospitals “the on-premise fuel supply shall be sufficient for not less than 24 hours full demand operation.” “For acute care hospital facilities required

to meet NPC-5, the on premise fuel supply shall be sufficient for not less than 72 hours full demand operations” (2004 California Electrical Code Article 700 – Emergency Systems)

5.4 UTILITY REGULATORY AGENCIES

This article contains procedures for the active participation by University staff or other administrative units acting on behalf of the University in official, on-the-record presentations during proceedings of the California Public Utilities Commission (CPUC) and equivalent regulatory activities of other governmental utilities agencies.

Adherence to these procedures will ensure that (1) necessary legal and other services are provided to University participants before and during presentations to the CPUC and equivalent agencies, and (2) appearances and presentations by Facility or other administrative unit representatives will be consistent with University policies and interests regarding the particular regulatory matter.

Also addressed here are procedures to follow when a Facility is charged capital fees for receiving utility services.

5.4.1 California Public Utilities Commission (CPUC)

References:

**"Public Utilities Commission, Rules of Practice and Procedure,"
California Code of Regulations, Title 20, Chapter 1.**

The California Public Utilities Commission (CPUC) is a constitutionally created, quasi-judicial body having jurisdiction over matters concerning the operations of and rates charged by investor owned utilities companies that serve the public throughout the state.

The University's provision of natural gas, electricity, and telecommunications services is subject to CPUC decisions affecting these services. Customarily, the CPUC holds hearings under rules governing admission of testimony and rights of parties to take testimony from interested parties as part of its decision-making process. Such testimony may be a major influence in shaping the commission's final decisions. Other governmental agencies such as municipal utilities conduct regulatory proceedings in a similar manner.

Because of the continuing importance of utility services and costs, the University must be involved in such proceedings to protect its interests. Cases may involve a single Facility or administrative unit or may involve the entire University system. Independent or uncoordinated participation by University representatives may compromise the University's interests and subsequent University options for appeals or other actions in these regulatory matters.

CPUC Hearing Participation.

Request assistance from the General Counsel of the Regents for participation in CPUC or equivalent proceedings. In advance of the proceeding, have responsible staff communicate with General Counsel and with the department in the Office of the President responsible for Facilities operations or telecommunications. This will allow sufficient time for review, comment, and preparation of appropriate legal advice or a presentation for the proceeding.

Coordinate response with General Counsel and the Office of the President to any invitation from a serving utility agency, company, or the CPUC. Also notify those offices in advance of any self-initiated proposals by a Facility to participate in any regulatory proceeding. Avoid official University representation that might become a matter of record without such coordination.

Coordination with the above offices is not necessary for routine informational communications with the CPUC or equivalent agencies or for nonparticipating spectator attendance at proceedings. "Routine" communications might include determining hearing dates and requesting copies of decisions.

Each Facility or administrative unit should have a coordinator for CPUC (or regulatory agency) matters.

5.4.2 Capital Fees for Utility Services

Prior to 1986 the University was effectively isolated from the imposition of capital fees assessed by public utility entities. Such fees are typically identified as "Capital Facilities Fee", "Capacity Charge", "Demand Charge", or "Standby Charge".

After 1986, and until 2006, utilities were able to charge such fees to the University, with some limitations.

Assembly Bill 2951, effective January 1, 2007, authorizes public entities providing utility services to charge the University just like any other of its customers. Such fees "should not exceed the reasonable cost of providing the public utility service"

If there are questions about the appropriateness of any public utility fee charged to a Campus, they should be directed to Office of the President, Facilities Management.

See: [Assembly Bill 2951 – chaptered 9/30/2006.](#)

CHAPTER 6

REAL PROPERTY MATTERS

INTRODUCTION

OMP personnel are frequently involved in real property matters that require coordination with Real Estate Services Group (RESG), the Office of General Counsel (OGC) and/or other units of the Office of the President. This chapter addresses procedures to follow for real property matters involving OMP.

6.1 DUE DILIGENCE FOR PROPERTY TRANSFERS

Prior to acquiring real property to be used for University purposes whether by purchase or ground lease (as lessee), substantial due diligence is required to determine the property's suitability for the University's intended use and the extent of any liability associated with taking title to or possession of the property. RESG assesses property title and value and, working with OGC, negotiates contractual terms to permit a thorough due diligence review of all other aspects of the property. All due diligence other than title and valuation is performed by or under the direction of the campus.

The nature and extent of due diligence performed is a function of the type of property and intended use. For example, vacant land for development requires analyses of such items as boundaries, terrain, soils, water table, access, and infrastructure availability; whereas an existing building to be acquired for use as-is requires analyses of such items as building structure and condition, fire life safety systems, ADA, mold, operating systems and existing leases and operating agreements. Checklists for due diligence that may be applicable to a real property acquisition and sale by the University are available at: [FA - RESG - Leasing & Licensing Resources](#)

Regardless of property type and intended use, however, an environmental due diligence site assessment is required to be conducted to determine the presence of hazardous materials or hazardous waste whenever the University plans to acquire or ground lease real property. Similar analysis may also be required prior to sale of real property. These assessments are necessary to determine and limit University liability.

6.1.1 Environmental Site Assessment Process and Requirements

Regardless of property type and intended use, an environmental site assessment must be conducted to determine the presence of hazardous materials or hazardous waste whenever the University acquires or ground leases real property. Such analysis may also be

required prior to sales of real property. These assessments are necessary to determine and limit University liability.

Environmental site assessment is a three-phased process:

- Phase 1: Preliminary Site Assessment
- Phase 2: Site Characterization
- Phase 3: Site Remediation (Cleanup)

(See 6.1.2 through 6.1.4 for an outline of this phased process. For more detailed information on the due diligence process for real property acquisitions, contact RESG.)

Environmental site assessment is conducted by Environmental Health and Safety personnel or qualified outside environmental consultants. The assessment determines the likelihood of on-site hazardous material contamination of existing buildings, soils, or ground water and identifies sources of the possible contamination. Actual sampling of building materials and residues, soils, or ground water may be required.

Hazardous materials may be found in a variety of forms on real properties. Building materials or components are sometimes considered hazardous: for example, asbestos, transformers and capacitors containing polychlorinated biphenyls (PCBs), lead paint, and ureaformaldehyde foam insulation. In addition, soils or ground water at the site may be contaminated by improper disposal of hazardous materials or by leaking underground storage tanks.

OMP personnel should assist environmental assessors in the due diligence site assessment process when the University purchases or ground leases facility-related real property, or sells University-owned real property.

Prior to sale of existing University facilities, OMP personnel can assist environmental site assessors by:

- Providing site history and past and present uses and operations.
- Indicating whether regulatory permits exist for the site.
- Explaining the site layout and facilities.
- Indicating locations of waste and waste water storage, disposal, or conveyance facilities.
- Providing general information about existing buildings and building components.
- Providing copies of inventory, inspection, and other records required by law during the
- University's use of the property.

6.1.2 Phase 1: Preliminary Site Assessment (PSA)

Standard components of Phase 1 are to:

- Identify past and present site use.
- Assess off-site hazards posed by past and present uses of surrounding properties.
- Determine site environmental characteristics and setting.
- Assess hazardous material and hazardous waste generation, storage, handling, and disposal practices.
- Inspect structures for asbestos, PCBs, or any other potential hazards.
- Develop conclusions about potential problems, and develop recommendations for any further action.

Available investigative tools for performing the assessment include the following:

Records Review. Review the records below for site history and use, hazardous materials and hazardous waste storage and disposal permits, reported releases or known contaminated sites, violations or other regulatory agency actions, and building permits:

- Local (city/county) building records, assessor's records, permits, and regulatory records.
- Local (city/county) historical property records.
- Local utility district records (waste water).
- State regulatory agency records (water, air, hazardous materials, and waste).
- Federal Environmental Protection Agency records.
- University records (if existing property).

OMP personnel must make available to environmental assessors all available records pertaining to hazardous materials and hazardous waste use, generation, storage, or disposal.

Site Inspection. Site inspection is performed by environmental assessors to identify land uses, activities, and characteristics that could impair the environmental condition or value of the real property. Site-specific characteristics that could indicate potential for such impairment include:

- Underground storage tanks.
- Drums or other chemical storage and handling areas.
- On-site waste water systems.
- Sumps and storm drains.
- Wells.
- Surface water or waste water impoundments.
- Soil or pavement stains or discoloration.
- Noxious or chemical odors.
- Maintenance or shop areas.
- Electrical transformers.
- Piles of waste or trash.
- Dead, dying, or unhealthy vegetation.
- Obvious signs of spillage or residues in buildings or on property.

OMP personnel must inform environmental assessors if any of the above characteristics are known to exist.

Interviews. For sales of University real property, environmental assessors will conduct interviews of OMP personnel to obtain information about the current and past uses of the site, regulatory agency permits or site violations, site layout information, waste and waste water information, building information, and other site-specific characteristics. OMP personnel must disclose any knowledge of these areas to the environmental assessor.

6.1.3 Phase 2: Site Characterization

During Phase 2 of the environmental due diligence site assessment process, consultants take actual samples of site soils, ground water, and building components, if necessary. Materials of concern include asbestos, PCBs, lead paint, and ureaformaldehyde foam insulation. Sampling is performed to ascertain the presence or absence of hazardous materials and to determine the need for further site assessment or remediation (cleanup).

6.1.4 Phase 3: Remediation (Cleanup)

During this phase, consultants perform detailed site sampling (characterization) and formulate remedial action alternatives or plans. Consultants may also need to perform a formal health risk assessment.

Another approach to describing the process to be followed in conducting an environmental site assessment for property to be acquired is found at:

<http://www.ucop.edu/facil/pd/envduedil/welcome.html>

6.2 UNDISTURBED USE OF SITE

References:

University Policy: "Construction of Buildings or Other Facilities" (see FM1:5).

On occasion, construction of University buildings or other facilities has been proposed without assurance that The Regents would enjoy undisturbed use of the site for the entire estimated life of the proposed improvement. The following University policy applies to such situations:

No building or other improvement shall be constructed, nor shall the preparation for such projects proceed beyond the completion of preliminary plans unless The Regents' interest in the proposed site, including any necessary access thereto, is such as to assure the University of the undisturbed use and enjoyment of the site for the entire estimated life of the improvement.

Generally, this requirement is satisfied if The Regents hold title to the proposed site in fee simple, but even then, consideration must be given to the existence of any conditions which, if not complied with, may cause The Regents to become divested of ownership. In addition, the impact of easements or licenses on the University's undisturbed enjoyment of the site must be evaluated [see 6.3]. [If no title insurance is held, a preliminary title report should be requested from RESG.]

Conversely, if the estimated life of a building or other improvement is comparatively short, the requirement of prospective undisturbed enjoyment may be satisfied even though The Regents do not hold title to the site in fee simple. For example, a permanent improvement to premises occupied by the University as lessee may be proper if the value to the University of the use of the improvement over the term of the lease will be equal to or in excess of its cost (in other words, the University is able to fully amortize its investment).

In any case, where there is any uncertainty as to whether The Regents' interest in a site is adequate to assure the University of undisturbed use and enjoyment for the estimated life of the building or other improvement, the matter should be referred to RESG, and as needed OGC, prior to proceeding beyond the completion of preliminary plans and pursuing the acquisition. As part of complying with this policy, an opportunities and constraints map of the proposed acquisition property reflecting all of the relevant due diligence findings that bear on developing the property should be prepared.

University Policy: "Construction of Buildings or Other Facilities."

6.3 LICENSES, EASEMENTS, AND RIGHTS-OF-WAY

The authority to negotiate all campus space leases, licenses, easements, and rights-of-way has been delegated to the Chancellors by the President (see FM1:4) and the authority to approve and execute some of these transaction documents depending on value, scale and duration has also been delegated. The campus real estate office is responsible for such negotiations. A chart of delegated authority for various transactions is found at: http://www.ucop.edu/facil/resg/documents/authority_real_estate.pdf

6.3.1 Leases

Additional information on leasing practice is located at:

[Facilities Administration - University of California Office of the President](#)

and the specific campus delegation for leasing is found at: [DA2140](#)

6.3.2 Licenses

Additional information on licensing practice, distinguishing a license from leases and easements, is located at:

<http://www.ucop.edu/facil/resg/leasing/documents/leaselicense.pdf>

and the specific campus delegation for licensing is found at: [DA 2118](#)

6.3.3 Easements and Rights of Way

Additional information on and models for easements and rights of way practice is located at:

http://www.ucop.edu/facil/resg/leasing/documents/easementguidelines08_28_06.pdf

and the specific campus delegation for easements and rights of way is found at:

<http://www.ucop.edu/ucophome/coordrev/da/da2117.html>

[To be included in a future *Facilities Manual* revision.]

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