Subject: ENERGY AND SUSTAINABILITY GUIDELINES

Ref: (a) SDG&E Partnership Agreement

Encl: (1) Energy & Sustainability Guidelines

**l. Purpose**

To establish policy, objectives, goals, and assign responsibilities for the management of energy at University of San Diego, tenant activities, and resident Housing per references (a) and enclosure (1). The University believes in a holistic approach to sustainability that will enhance the work environment while reducing our impact on the planet in a financially responsible manor.

**2. Annual Revision**

Every November this policy should be reviewed for updating, etc.

**3. Background**

Most of the Universities current and projected energy systems use petroleum fuels, which are costly and may be in short supply during the life cycle of the systems they support. Improving energy efficiency can have significant payoffs through energy cost avoidance; also, reducing the schools dependence on petroleum resources, where cost effective and practical, will enhance our environment.

**4. Policy**

All practical efforts will be made to reduce energy consumption consistent with mission accomplishment. These efforts should be focused toward achieving actual rather than estimated efficiencies. The goals prescribed below are considered achievable minimum levels.

**5. Goal for Existing Buildings**

Per reference (a), reduce adjusted energy consumption per thousand gross square feet (KSF) by 20 percent by the end of 2013 and 30% by the end of 2015. Conservation goals are measured from the 2008/2009 baseline unless otherwise indicated. USD Campus will self generate 5% or more of the energy it uses through sustainable/green generation by the end of 2013.

**6. Action**

a. Vice President for Business Services: Appoint a Sustainability Officer and Energy Manager. Establish and provide guidance to the Sustainability Committee.

b. Director of Sustainability: Submit monthly utility consumption reports to Vice President for Business. Act as Energy Conservation Advisor to collect and report energy consumption data by the 25th of the following month. Provide recommendations for energy conservation.

c. Energy Manager: Act as Energy Conservation Advisor to collect and report energy consumption data by the 25th of the following month. Cost of those utilities will be provided 2 months after. Provide recommendations for energy conservation.

d. Sustainability Committee: Responsible for the overall charge of the energy reform and be responsible for effecting the 20 percent reduction in energy conservation by the end of 2013 and 30 percent by end of 2015.

e. Building managers will ensure the provisions of enclosure 1 and subsequent energy conservation measures are implemented within spaces assigned to them, and will appoint monitors to ensure these spaces are properly secured at the end of the business day. They will become familiar with their responsibilities regarding energy conservation measures listed in enclosure (1).

g. Public Safety: Remain alert to excessive utility waste in all USD and tenant facilities, and report potential violations to the Energy Manager.

*Enclosure 1: ENERGY CONSERVATION GUIDELINES*

1. General

The physical condition of buildings and equipment should be inspected semi-annually by personnel in charge for the purpose of checking energy conservation. Discrepancies that result in the waste of utilities, such as broken windows, dripping faucets, doors which will not close, electrical equipment which runs constantly, etc., will be immediately reported to Facilities Maintenance and be high priority issues.

2. Electrical

a. Lights in unoccupied spaces will be turned off.

During daylight hours, lights will be turned off in those spaces where the natural light is sufficient. Required Use of Occupancy Sensors. The following spaces are required to use occupant sensors:

-Offices 250 ft² or smaller

-Multipurpose rooms < 1000 ft²

-Classrooms of any size

-Conference rooms of any size

b. Outside night lights will be turned on at dusk and turned off at sunrise every day.

Decorative exterior lighting will be minimized. Most outdoor lights on campus are dual controlled by both photocells and timers. All timers should be checked at least twice a year and be changed daylight savings time reset. Please note that all timers and occupancy sensors must remain active and not be disabled.

c. Custodians will illuminate only those spaces actually being serviced.

d. The following areas will only be illuminated as follows:

(1) Residence Halls as required;

(2) Dining areas - for meal service and cleanup periods only;

(3) General storage areas - when occupied and as required;

(4) Recreation areas - only when in use.

(5) Classrooms - as required when in use.

(6) Walk in freezers and refrigerators - as required when in use

e. When replacing light bulbs, low-wattage bulbs will be used in corridors and other areas of general illumination. Caution: Do not use standard CFL’s or LED’s to replace incandescent bulbs on dimming controls as this can be a fire hazard. Make sure new lamps are rated for dimming.

f. Lighted fire exit signs are required to be on/visible at all times, use LED or more efficient type verse incandescent.

g. Use of unauthorized electric space heaters are not permitted. If found in a thermostatically controlled building air conditioning (both heat and AC) will be operationally tested to see if they comply with standards listed in paragraph 3 of this enclosure. If climate controls are found to be within the acceptable limits the electrical space heaters may be confiscated by Facilities Management if found during routine room inspections.

h. Electrical appliances and office machines including printers, coffee makers and task lighting will be turned off when not in use.

i. During working hours, overhead lighting will be maintained at not more than 50 foot candles at work station, 30 foot candles in work areas, and 10 foot candles in non-working areas. Lighting level standards will be applied with due consideration to related factors of glare and contrast. In some instances, redesign; alterations, or supplementary lighting may be necessary to avoid eyestrain and maintain personnel efficiency. During non-working hours, lighting will be secured or reduced to the minimum level consistent with safety and security considerations. Lighting will not be reduced in hazardous areas. Recommended standards are:

Offices (Note 1) 30 foot candles

Computer rooms (Note l) 30 foot candles

Lounges 15 foot candles

Drafting/accounting (Note 2) 50 - 75 foot candles

Classrooms (Note 3) 30 - 50 foot candles

Dining areas 25 foot candles

Conference rooms 30 foot candles

Hallways (Note 4) 10 foot candles

Storage, bulk 15 foot candles

Storage, rack 20 foot candles

NOTES:

1. Individually controlled task lighting permitted to 50 foot candles.

2. Accomplished by task lighting only, not by general area lighting. Area lighting restricted to 30 foot candles.

3. Classrooms should be equipped with timer controls or occupancy sensors so lights are not on unnecessarily.

4. Hallway lighting will be reduced to one foot candle, measured at the floor, during non-working hours, which is the minimum required by fire safety code.

a. Peak electrical demand is from 6:00 AM to approximately 10:00PM, whenever feasible use of equipment requiring large amounts of electricity should be scheduled at non-peak hours.

b. Use of portable electrical appliances must be approved by the Facilities Management

c. All appliances will be inspected annually by the Building Manager. All appliances are subject to unannounced random inspections by Facilities Management and the Fire Department. Unauthorized appliances (i.e. coffee pots, microwaves, refrigerators, space heaters, etc.) may be removed. All authorized appliances will be evaluated for safety and fire prevention; if an appliance is deemed unsafe, it will be removed immediately.

d. All electric motors, including those which are part of larger equipment, shall be three phase, energy efficient motors whenever possible.

e. Procurement will coordinate with Facilities Management in the purchase of energy consuming equipment and machinery for all departments and tenants to insure best energy saving value purchase.

3. Heating, Steam and Air Conditioning

a. Windows and doors will be kept closed, except as necessary to provide for proper ventilation.

b. Furniture and other obstacles (which might impede air circulation) will be kept clear of radiators, connectors and heat registers.

c. Occupants will close all windows and draw blinds when departing for the day.

d. Steam and Hydronic radiators will be turned on only when necessary to meet set-point.

e. Windows will not be opened to reduce room temperature if HVAC is in use.

f. During the operation of approved **space heating systems**, temperature control devices will be set to maintain temperatures of not more than 72 degrees during working hours and not more than 55 degrees during non-working hours. When cooling control device will be set to maintain temperatures no lower than 73 degrees during working hours and not less than 79 degrees during non-working hours. Preferred setting for summer air conditioning is 74 degrees and during critical peak days when the electrical grid is nearing capacity we may increase thermostat settings for AC by 2 to 4 degrees. In spaces where thermostats are not available, room temperatures will be monitored to ensure the maximum temperature does not exceed 70 degrees Fahrenheit while heating and not less than 72 degrees Fahrenheit while cooling. Warehouses and similar storage areas will be maintained at no higher than 55 degrees Fahrenheit during the heating/winter season. The temperature for indicated types of occupancy will be as follows:

Heating Season only (Does not apply to air conditioned/cooled spaces)

Types of Structure Degrees Fahrenheit\*

Living: 68 degrees - 72 degrees

Recreation:

Auditoriums 60 degrees - 65 degrees

Lounges 60 degrees - 65 degrees

Gymnasiums 55 degrees - 60 degrees

General Storage Areas 50 degrees - 55 degrees

Subsistence:

Food Preparation 60 degrees - 65 degrees

Dining Areas 60 degrees - 65 degrees

Working:

Paint Shops 60 degrees - 65 degrees

Industrial Shops 55 degrees - 60 degrees

Offices 60 degrees - 65 degrees

Classrooms 60 degrees - 65 degrees

Garages, valve, and pump houses\*\* 45 degrees - 50 degrees

Gate or Guard Houses 60 degrees - 65 degrees

\*Maximum night temperature in unoccupied work areas = 55 degrees.

\*\*Heat is considered unnecessary where the outside temperature is 40 degrees or higher.

g. Thermostats and other heat controls will be set by Facilities maintenance personnel and will not be tampered with by occupants.

h. Leaks in the heating system will be reported immediately.

i. For other than resident housing and special purposes (laundries, galleys, etc.), operating temperatures of domestic hot water circulating pumps and heating elements will be turned off during unoccupied hours.

j. Domestic hot water temperature will not exceed 130 degrees Fahrenheit.

k. For special purposes (laundries, galleys, etc.), hot water temperatures will be maintained to minimize energy consumption.

4. Water

a. Leaking faucets, hose bibs, shower heads, toilets, and urinals will be reported immediately. Flushometers will be adjusted by Facilities Management personnel to the proper rate of flow.

b. Irrigation of lawns on the school grounds and athletic fields will be done only as needed; use nonportable water to maximum extent possible.

c. When washing cars, open end hoses will not be used. Quick acting shut-off nozzles are mandatory.

5. Gasoline/Fuel Conservation

a. The use of car pools, van pools, public transportation, and other energy saving modes of transportation to reduce gasoline consumption is strongly encouraged.

b. All University-owned vehicles are restricted to operating at speeds not in excess of posted speed limit.

 c. Gasoline use in all vehicles, material handling equipment, and other ground support vehicles will be monitored to detect waste and to identify the need for service.

d. Trips will be combined whenever possible.

6. Computers

a. Without degrading mission accomplishment, every effort will be made to limit each student, professor, and staff member to one personal computer and attached accessories.

b. All computers will be turned off when not in use. Default for printers shall be set for duplex black and white printing and energy saver mode is to be activated during non working hours to put the printer to sleep.