

ENERGY AND WATER MANAGEMENT

Resource Management Program

In the development of the district's resource management program, the Superintendent or designee shall analyze and review the lighting; heating, ventilation, and air conditioning systems; water heaters; electrical equipment and appliances; water use and irrigation; and solid waste and recycling systems. The following district operations shall be incorporated into the district's resource management program:

1. Educational programs
2. Classroom and building management and maintenance
 - a. Proper and thorough utilization of data loggers shall be initiated and maintained if necessary, to monitor relative humidity, temperature, and light levels throughout the organization's buildings to ensure compliance with organization guidelines.
 - b. All exhaust fans and ceiling fans will be turned off daily.
 - c. All office machines (copy machines, laminating equipment, etc.) shall be turned off each night and during unoccupied times. Fax machines should remain on.
 - d. All computers shall be turned off each night by automation or manual methods. This includes the monitor, local printer, and speakers. Network and server equipment is excluded.
 - e. All capable PC's should be programmed for the "energy saver" mode using the power management feature. If network constraints restrict this for the PC, ensure the monitor "sleeps" after 10-minutes of inactivity, 20-minutes for a lab.
 - f. HVAC equipment shall operate in accordance to the governing CO2 parts per million and other specifications.
 - g. Classroom doors shall remain closed when HVAC is operating. Ensure doors between conditioned space and non-conditioned space remain closed at all times (i.e, between hallways and gym).
 - h. Typical hours of operation for most HVAC systems are 6:30 AM to 3:00 PM for school sites. Early release days are the exception based on HVAC demand required per school site. Outside normal school hours of operation shall be communicated to Physical Plan Operations (PPO), school administrators,

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Building Services Supervisor (BSS) and staff that work after hours to consolidate work into a limited number of buildings. School site staff shall communicate to PPO activities which are outside normal school hours. School site staff who work after normal school hours shall attempt to consolidate workspace as much as practical.

Cooling Season Occupied Low Set Point: 75.5F +/- 1F.

Cooling Season Unoccupied Set Point: 90F

Heating Season Occupied Set Point: 70 +/- 1F

Heating Season Unoccupied Set Point: 55F

Set points are in accordance with American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)

Air Conditioning Equipment

- a. Occupied temperature settings shall NOT be set below 74.5F. System is designed to regulate within 2F of set point.
- b. During unoccupied times, the air conditioning equipment shall be off. The unoccupied period begins when the students leave the area at the end of the day. Typically the temperature of the classroom will be maintained long enough to afford comfort for the period the staff remains in the classroom after the students have left.
- c. Air conditioning start times may be adjusted depending on weather to ensure classroom comfort when instruction begins.
- d. Ensure outside air dampers are closed during unoccupied times.
- e. Ceiling fans should be operated only when room is occupied.
- f. Air conditioning should not be utilized in facilities during the summer months unless the facilities are being used for summer school.
- g. In all areas which have non-evaporative coolers such as shops and gymnasiums, the doors leading to halls which have air conditioned classrooms or dining areas should be kept closed. Site staff shall work with Energy Educator/Manager to evaluate how to work with two unlike HVAC systems.

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- h. Where cross-ventilation is available during periods of mild weather, shut down HVAC equipment and adjust temperature with windows and doors. Cross-ventilation is defined as having windows and/or doors to the outside on each side of a room.

Computer Network Equipment

Network servers, routers and data switches located in rooms with MDF/IDF boxes where HVAC is available; the unoccupied cooling room temperature set point is 78F and the heating room temperature set point does not apply.

Kitchens

- a. Ensure dry food storage areas are maintained within code requirements. Typically, this is 55F-75F temperature and 35% - 60% relative humidity. Utilize data loggers to verify.
- b. Freezer temperatures set within code requirement. Typically, between 0F and 5F temperature.
- c. Refrigeration temperatures set within code requirement. Typically, between 34F and 40F temperature.
- d. Daily shut down of the portion of equipment not requiring refrigeration and keeping within code requirements. Hood fans and ventilation fans shall be shut off.
- e. Summer shutdowns shall include consolidation of food, turn off natural gas pilot lights and turning off unused refrigerators and freezers. Hot water boilers shall be set to "vacation warm" or lower setting if not used for custodial cleaning during the summer shutdown.

Heating Equipment

- a. Occupied temperature setting shall NOT be above 70F.
- b. The unoccupied temperature setting shall be 55F (i.e., setback).
- c. The unoccupied time shall begin when the students leave an area.
- d. Insure all domestic hot water systems are set no higher than 120F or 140F for cafeteria service (with dishwasher booster).

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- e. Ensure all hot water re-circulating pumps are turned off during unoccupied times.
- f. For heat pumps, ensure a 6F dead-band between heating and cooling mode. Dead-band is defined as a range of temperatures which ensures the "off state" of the heating or cooling equipment.

Lighting

- a. All unnecessary lighting in unoccupied areas will be turned off even when lighting motion sensors are in place. Staff should make certain that lights are turned off when leaving the classroom or office when exiting the classroom or office. Use only natural lighting where sufficient.
- b. All outside lighting shall be off during daylight hours.
- c. Gym lights, stage and multipurpose rooms shall not be left on unless the space is being occupied.
- d. All lights shall be turned off when students and staff leave for the day. Custodians will turn on lights only in the areas in which they are working.
- e. Refrain from turning lights on unless needed. Remember that lights not only consume electricity, but also give off heat that places an additional load on the air conditioning equipment and, thereby, increases the use of electricity to cool the room.

Water

- a. Ensure all plumbing and leaks are reported and repaired immediately.
- b. Ground watering should only be done between City of San Diego Mandated Drought Condition times of day. Do not water during the heat of the day and within 48 hours of a rain event as defined by the City of San Diego Water Department.
- c. Irrigation systems: Ensure the water does not directly hit the building, parking lot, walkways and hard surfaces.
- d. Adhere to the City of San Diego Water Department governing conservation guidelines. The district shall conserve water during mandatory drought

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condition levels which include: No wash down of paved surfaces, irrigation timers set to specified number of days per week for the duration of specified minutes per day per zone. Plant drought resistant landscaping when possible.

3. Food services and equipment maintenance

(cf. 3551 - Food Service Operations/Cafeteria Fund)

4. Landscaping

5. Transportation services and maintenance

(cf. 3540 - Transportation)

6. New construction meets or exceeds California Assembly Bill 32, Senate Bill 32 and California Energy Commission zero net energy standards on new construction and 50 percent of all existing construction by 2030.

(cf. 7110 - Facilities Master Plan)

7. Administrative operations

8. Use of facilities by outside groups

(cf. 1330 - Use of School Facilities)

(cf. 3512 - Equipment)

(cf. 7111 - Evaluating Existing Buildings)

The Superintendent or designee may solicit input from staff, students, and parents/guardians about the district's program. The Superintendent or designee shall encourage staff and students to implement best practices to achieve the district's goals, and may recognize outstanding accomplishments.

Emergency Interruption of Services

The Superintendent or designee shall develop a plan to address actions to be taken in the event of power outages or other emergency interruption of utility services, both during and after school operations. The plan shall address procedures to help ensure student and staff safety, administrative control of operations, protection of equipment, effective communications, and coordination with local fire, police, and utility service providers.

(cf. 0450 - Comprehensive Safety Plan)

(cf. 3516 - Emergencies and Disaster Preparedness Plan)

(cf. 3516.5 - Emergency Schedules)

Regulation
approved: July 25, 2017
Effective October 1, 2017

SAN DIEGO UNIFIED SCHOOL DISTRICT
San Diego, California