

ENERGY AND WATER CONSERVATION

The Governing Board is committed to reducing the district's demand for electricity and water in order to help conserve natural resources and to save money to support other district needs. To that end, the Board shall establish goals to help reduce the district's energy and water consumption.

The Superintendent or designee shall establish an energy efficiency program which shall include specific strategies designed to help the district use energy more efficiently and to help ensure that funds intended for student learning are not diverted to cover energy costs.

As part of the energy efficiency program, the Superintendent or designee shall develop an emergency action plan to address actions to be taken in the event of power outages in schools, both during and after school operations. The action plan shall also address the role of staff, students and parents/guardians in helping to conserve resources and other activities to help the district meet energy reduction goals.

(cf. 3516 - Emergencies and Disaster Preparedness Plan)
(cf. 3516.5 - Emergency Schedules)

The Superintendent or designee shall analyze the effect of a utility rate increase on the district's budget. He/she shall develop and implement any necessary contingency plans.

(cf. 3100 - Budget)

The Superintendent or designee shall regularly inspect district facilities and operations and make recommendations for maintenance and capital expenditures which may help the district reach its energy and water conservation goals.

(cf. 7111 - Evaluating Existing Buildings)

The Superintendent or designee shall make every effort to identify funding opportunities and cost-reducing incentive programs to help the district achieve its conservation goals.

The Superintendent or designee shall periodically report to the Board on the district's progress in meeting energy and water use reduction goals.

Legal Reference: (see next page)

ENERGY AND WATER CONSERVATION (continued)

Legal Reference:

EDUCATION CODE

41422 School term or session length, failure to comply due to disaster

46392 Emergency conditions; ADA estimate

PUBLIC RESOURCES CODE

25410-25421 Energy Conservation Assistance

Management Resources:

CDE MANAGEMENT ADVISORIES

0118.01 California's Energy Challenge

0706.90 Water Conservation Advisory, 90-09

0222.90 Average Daily Attendance Credit During Periods of Emergency 90-01

WEB SITES

CSBA: <http://www.csba.org>

California Department of Education, Facilities Division, Energy Challenge:

<http://www.cde.ca.gov/facilities/energyefficiency>

California Energy Commission: <http://www.energy.ca.gov/>

Alliance to Save Energy: <http://www.ase.org/>

Policy

adopted: April 14, 1997

Revised: August 7, 2001

VISALIA UNIFIED SCHOOL DISTRICT

Visalia, California

ENERGY AND WATER CONSERVATION

It is the purpose and intent of this regulation to minimize the district's demand for electricity and water and to control unnecessary consumption at all Visalia Unified School District facilities.

The Board embraces energy conservation and believes it to be our responsibility to ensure that every reasonable effort is made to conserve energy and natural resources while exercising sound financial management.

We recognize the importance of adopting an energy conservation policy to govern this program. We also affirm the implementation of this policy will be the joint responsibility of the Board, administration, faculty, staff, students, support personnel, and Cenergistic. Success is based on cooperation amid all groups.

To ensure the overall success of our behavior-based energy conservation program, the following areas will be emphasized:

1. A designated campus Administrator will be accountable for energy conservation on his/her campus with Energy Specialist teams conducting energy audits and providing timely feedback.
2. All personnel at each campus are expected to make a positive contribution to maximize energy conservation and produce real energy savings.
3. Cenergistic will implement its energy conservation program primarily through an energy management team led by the Energy Specialist(s) in accordance with "Energy Guidelines" that will be adopted by administration and will define the "rules of engagement" for our energy program.
4. Accurate records of energy consumption and cost will be maintained by the Energy Specialist for each campus to provide verifiable performance results on the goals and progress of the energy conservation program.

Further, to promote a safe, healthy learning environment and to complement the energy conservation program, each campus shall review and adhere to the preventive maintenance and monitoring plan administered by the campus physical plant for its facilities and systems, including HVAC, building envelope, and moisture management.

The Superintendent or his designee is authorized and directed to implement the applicable provisions of this regulation upon determination that such implementation is necessary to protect the students, staff and members of the community.

The district's energy emergency action plan shall, at a minimum, address the following:

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1. Procedures for student and staff safety during power outages
2. Methods to ensure administrative control of operations during power outages
3. Procedures to protect equipment that may be damaged by power outages, such as computers and pumps
4. Procedures to establish a clear, effective communications system with staff, students and parents/guardians
5. Guidelines for coordination with local fire, police and utility providers

(cf. 3516 - Emergencies and Disaster Preparedness Plan)

Designation of Energy Conservation Coordinator

The Superintendent or designee designates the following position as coordinator of the district's energy tracking, reporting, and conservation efforts:

Assistant Superintendent – Administrative Services
5000 West Cypress Avenue
Visalia, CA 93277
(559) 730-7529

Energy Conservation Plan

District and school-site plans to conserve resources shall address energy and water use at each site, including plans for:

1. Reducing energy use during high-peak hours
2. Shutting down lights and equipment when facilities are not in use
3. Updating each site's preventative maintenance schedule for emergency lighting, generators, exit lighting, and other safety related equipment

Review of Operations

The following operations shall also be reviewed in order to ensure that they further the district's energy and water conservation goals:

1. Educational programs

ENERGY AND WATER CONSERVATION (continued)

2. Classroom and building management and maintenance
3. Food services and equipment maintenance
4. Landscaping selection and irrigation
5. Transportation services and maintenance
6. New construction
7. Administrative operations
8. Use of facilities by outside groups

Guidelines and Responsibilities of All Staff

Every person is expected to become an "energy saver" as well as an "energy consumer."

The staff member is responsible for implementing the guidelines during the time that he/she is present in the instruction room or office.

The custodian is responsible for control of common areas, i.e. halls, cafeteria, etc.

Since the custodian is typically the last person to leave a facility in the evening, he/she is responsible for verification of the nighttime shutdown.

The facility administrator is responsible for the total energy usage of his/her facility.

The Energy Specialist provides regular (at least semi-annual) program update reports to the Board.

The Energy Specialist performs routine audits of all facilities and communicates the audit results to the appropriate personnel.

The Energy Specialist is responsible for either directly or indirectly making adjustments to the Organization's Energy Management System (EMS), including temperature settings and run times for Heating, Ventilation and Air Conditioning (HVAC) and other controlled equipment.

Administration will regularly communicate the importance and impact of the energy conservation program to its internal and external constituents.

The Energy Specialist provides monthly energy savings reports to facility administrators detailing performance results.

ENERGY AND WATER CONSERVATION (continued)

The organization is committed to and responsible for a safe and healthy learning environment.

To complement the organization's behavioral-based energy conservation program, the organization shall develop and implement a preventive maintenance and monitoring plan for its facilities and systems, including HVAC, building envelope, and moisture management.

General

Instruction room 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 or pool area).

Proper and thorough utilization of data loggers will be initiated and maintained to monitor relative humidity, temperature, and light levels throughout the organization's facilities to ensure compliance with organization guidelines.

All exhaust fans should be turned off daily.

All office machines (copy machines, laminating equipment, etc.) shall be switched off each night and during unoccupied times. Fax machines should remain on.

All computers should be turned off each night. This includes the monitor, local printer, and speakers. Network equipment is excluded.

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.

Air Conditioning Equipment

¹Set points are in accordance with ASHRAE 55 "Thermal conditions for Human Occupancy"

Cooling Season Occupied Set Points: 74⁰F – 78⁰F

Unoccupied Set Point: 85⁰F

Heating Season Occupied Set Points¹: 68⁰F – 72⁰F

Unoccupied Set Point: 55⁰F

Occupied temperature settings shall NOT be set below 74°F.

During unoccupied times, the air conditioning equipment shall be off. The unoccupied period begins when the students leave the area at the end of day. It is anticipated that the temperature of the instruction room will be maintained long enough to afford comfort for the period the staff remains in the instruction room after the students have left.

ENERGY AND WATER CONSERVATION (continued)

Air conditioning start times may be adjusted (depending on weather) to ensure instruction room comfort when instruction begins. Ensure outside air dampers are closed during unoccupied times.

Ceiling fans should be operated in all areas that have them.

Relative humidity levels shall not exceed 60% for any 24 hour period.

Air conditioning should not be utilized in facilities during the summer months unless the facilities are being used for summer school or year-round school. Air conditioning may be used by exception only or in those facilities that are involved in team-cleaning.

In all areas which have evaporative coolers such as shops, kitchens and gymnasiums, the doors leading to halls which have air conditioned instruction rooms or dining areas should be kept closed as much as possible.

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.

Ensure dry food storage areas are maintained within code requirements. Typically, this is 55°F-75°F temperature and 35%-60% Relative Humidity. Utilize loggers to verify.

Heating Equipment

Occupied temperature settings shall NOT be above 72°F.

The unoccupied temperature setting shall be 55°F (i.e. setback). This may be adjusted to a 60°F setting during extreme weather.

The unoccupied time shall begin when the students leave an area.

During the spring and fall when there is no threat of freezing, all steam and forced air heating systems should be switched off during unoccupied times. Hot water heating systems should be switched off using the appropriate loop pumps.

Ensure all domestic hot water systems are set no higher than 120°F or 140°F for cafeteria service (with dishwasher booster).

Ensure all domestic hot water re-circulating pumps are switched off during unoccupied times.

For heat pumps, ensure a 6°F dead-band between heating and cooling modes. Heating oil and propane (if applicable) levels should be physically measured and recorded by "sticking the tanks" at least on the following intervals: 1) recurring scheduled monthly date 2) immediately before new delivery, 3) immediately after delivery.

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Lighting

All unnecessary lighting in unoccupied areas will be turned off. Staff should make certain that lights are turned off when leaving the instruction room or office when empty. Utilize natural lighting where appropriate.

All outside lighting shall be off during daylight hours.

Gym lights should not be left on unless the gym is being utilized.

All lights will 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.

Refrain from turning lights on unless definitely 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 necessary to cool the room.

Water

Ensure all plumbing and/or intrusion (i.e. roof) leaks are reported and repaired immediately.

Grounds watering should only be done between 4 a.m. - 10 a.m. Do not water during the heat of the day, typically between 10 a.m. - 8 p.m.

When spray irrigating, ensure the water does not directly hit the facility.

Consider installing water sub-meters on irrigation and cooling tower supply lines to eliminate sewer charges.

Outdoor Water Use – Water Conservation Stages

No one within the school district shall knowingly make, cause, use or permit the use of water, or any purpose in a manner contrary to any provision of this policy, or in an amount in excess of that use permitted by the conservation stage in effect pursuant to action taken by the Superintendent, or his designee, in accordance with the provisions of this policy. The Superintendent, or his designee, shall promulgate guidelines which shall set forth the criteria for determining when a particular conservation stage is to be implemented and terminated. Such guidelines shall be updated when, in the opinion of the Superintendent, the conditions have changed so as to necessitate such update. These guidelines shall include in such guidelines a scheduling system designating allowed days for irrigation.

ENERGY AND WATER CONSERVATION (continued)**Stage 1. Prohibition on Water Waste**

The following uses of water are defined as "waste of water" and are prohibited except as otherwise authorized. The restrictions shall apply to all persons year round unless received upon adoption of a more stringent water conservation stage.

1. The use of water which allows substantial amounts of water to run off to a gutter, ditch, or drain. Every water user is deemed to have his water distribution lines and facilities under his control at all times and to know the manner and extent of his water use and excess run-off.
2. The excessive use, loss, or escape of water through breaks, leaks, or malfunctions in the water user's plumbing or distribution facilities for any period of time after such escape of water should reasonably have been discovered and corrected. It shall be presumed that a period of forty-eight (48) hours after discovery is a reasonable time within which to correct such leak or break.
3. The washing of vehicles, building exteriors, sidewalk driveways, parking areas, tennis courts, or other paved areas without the use of a positive shut-off nozzle on the hose, which results in excessive run-off, except where necessary to dispose of substances that would endanger the public's health and safety.
4. The watering of lawns, ground-cover, and shrubbery between the hours of 11 a.m. and 6 p.m. from May 1st to September 30th.

Exception. Watering of play fields is exempt from the restrictions in subsection (A)(4) of this section, but staff are requested to minimize water waste at all times.

Stage 2. Voluntary Compliance - Water Alert

Upon implementation by the Superintendent, and publication of notice, the following restrictions shall apply to all persons. All elements of Stage 1 shall remain in effect in Stage 2 except that:

1. Irrigation utilizing individual sprinklers or sprinkler systems of lawns, gardens, landscaped areas, trees, shrubs, or other plants is permitted only on designated days between the hours of 7 p.m. and 10 a.m. Irrigation of lawns, gardens, landscaped areas, trees, shrubs, or other plants is permitted at any time if:
 - a) A hand-held hose with a positive shut-off nozzle is used or;
 - b) A hand-held, faucet filled bucket; or
 - c) A drip irrigation system is used.

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Exception. Watering of playing fields is exempt from Stage 2 irrigation restrictions, but will be requested to minimize all nonessential water use.

2. The washing of automobiles, trucks, and other types of mobile equipment is permitted only on designated irrigation days. Such washing, when allowed, shall be done with a hand held bucket, or a hand held hose equipped with a positive shutoff nozzle for quick rinses.

Exception. Washing may be done at any time on the immediate premises of Transportation Department. Further, such washing may be exempted from these regulations if the health, safety, and welfare of the students and staff, contingent upon frequent vehicle cleanings, such as vehicles to transport food and perishables.

3. The emptying and refilling of water to swimming pools, is permitted only on designated irrigation days.
4. The operation of any ornamental fountain or other structure making similar use of water is prohibited unless the fountain uses a recycling system, such as an electric pump.
5. The washing of sidewalks, driveways, parking areas, tennis courts, or other paved areas is absolutely prohibited, unless it is necessary for the health and safety of the Visalia Unified School District students and staff.

Stage 3. Mandatory Compliance - Water Warning

Upon implementation by the Superintendent's designee, the following restrictions shall apply to all persons. All elements of Stage 2 shall remain in effect in Stage 3 except that:

1. All outdoor irrigation of vegetation shall occur only between the hours of 8 p.m. and 10 a.m. on designated days.
2. The draining and refilling of swimming pools will be allowed only with written approval from the Assistant Superintendent.

Exception. Watering of play fields is exempt from Stage 3 irrigation restrictions; however, staff is required to curtail non-essential irrigation water use.

Stage 4. Mandatory Compliance - Water Emergency

Upon implementation by the Superintendent's designee, the following restrictions shall apply to all persons. All elements of Stage 3 shall remain in effect in Stage 4 except that:

ENERGY AND WATER CONSERVATION (continued)

1. All outdoor irrigation of vegetation shall be allowed only between the hours of eight p.m. and midnight on designated days
2. The washing of automobiles, trucks, and other types of mobile equipment not occurring upon the immediate premises of Transportation Department and not in the immediate interest of the public health, safety, and welfare shall be prohibited.
3. All outdoor vegetation shall be watered only on designated days between the hours of 10 a.m. and 6 p.m. and shall use only hand held hoses, drip irrigation systems, or hand held buckets.
4. The draining and refilling of swimming pools will be allowed only with written approval from the Assistant Superintendent.
5. The operation of any ornamental fountain or similar structure is prohibited.

Exception. Watering of play fields is exempt from Stage 4 irrigation restrictions; however, staff is required to curtail non-essential irrigations water use.

The Assistant Superintendent and Administration shall monitor the projected supply and demand for water within Visalia Unified School District and shall recommend to the Superintendent the extent of the conservation required through the implementation and/or termination of particular conservation stages in order to assure the water supply of Visalia Unified School District. Thereafter, the Superintendent's designee, as directed by school board policies, may order that the appropriate phase of water conservation be implemented or terminated in accordance with the applicable provisions of this policy.

WATER CONSERVATION LANDSCAPING

Landscape design and planting will be undertaken with water conservation as a primary goal. New schools and new facilities will incorporate landscape designs that minimize water use. Plants, trees and shrubs will be selected with the following priorities:

1. Low allergies
2. Low maintenance requirements
3. Low water requirement, with preference to regionally native plants that require minimal irrigation

Turf and play fields surface will be selected with the following priorities:

1. Student safety

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2. Low maintenance
3. Low water requirements

List of Approved Trees, Plants, Ground Cover

The Assistant Superintendent of Administrative Services shall establish a list of approved trees, plants, ground cover and turf that are determined to meet these requirements. All new plantings and replacement plantings on existing school sites shall be selected from this approved listing. The listing shall be reviewed annually and revised as appropriate. All District managers and school site principals will annually be provided with this listing.

Review of Landscape Irrigation Water Effectiveness

Landscape irrigation systems will be reviewed for their water effectiveness. The Assistant Superintendent of Administrative Services shall develop a plan to ensure all Visalia Unified School District sites and facilities have water efficient irrigation systems.

Study Use of “Gray Water”

The Assistant Superintendent of Administrative Services shall conduct a feasibility study of the use of “gray water” and/or tertiary treated water for playfield and landscape irrigation in cooperation with appropriate public and private agencies. As feasible and after review and approved by the Governing Board, such use will be incorporated into the design of District Facilities.

Regulation
approved: August 7, 2001
revised: May 1, 2006
revised: December 17, 2013

VISALIA UNIFIED SCHOOL DISTRICT
Visalia, California