

UTILITY REDUCTION TASK FORCE

RECOMMENDATIONS TO THE GOVERNING BOARD

FEBRUARY 18, 2009



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INTRODUCTION:

This year more than most we as a district are faced with tough decisions of where to cut costs to meet tight budgets. Increasing energy costs, changes in the state funding formula and the severe down turn in our State and National economy have generated difficult problems for our district budget. Utility costs represent approximately 6% of our district's operating budget. While the task appears difficult, reducing our energy dependency can have a worthwhile effect on our district's operations. By implementing energy-efficient operations and maintenance strategies, our district can generate substantial energy cost savings and extend the life of equipment in our school facilities.

The Utility Reduction Task Force was formed for the purpose of analyzing our district's long-term utility needs, exploring opportunities to charge for non-school usage, and to develop processes for utility reduction to apply to our local campuses. As a group, we listened as experts provided information on current trends in energy conservation and we studied current research on school energy conservation practices. As individuals, we were asked to review practices on our own campuses and to bring to discussion directions we could take.

The Guidelines and Recommendations that follow represent the collective work of the Task Force and are intended to reduce inefficiencies in the use of electricity and other utilities. Our goal is to optimize the use of natural resources in the school on a daily basis yet maintain a comfortable learning environment. The Task Force recognizes that further refinement and amendments to these documents may be needed as they are implemented.

It is the hope of the Task Force to reduce energy consumption by a minimum of 10%. Implementation and success of the guidelines is dependant upon the cooperation and commitment of administrators, teachers, students, and the community.

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GLENDALE UNION HIGH SCHOOL DISTRICT

Utility Reduction Task Force Recommendations

Students and staff of the Glendale Union High School District should be made aware of their responsibility regarding Environmental Stewardship. We must make efficient use of our natural resources. Procedures follow that reduce inefficiencies in the use of electricity, fossil fuels, and water and reduce the production of solid waste. Our goal is to optimize the use of natural resources in the school on a daily basis yet maintain a comfortable learning environment.

This program is designed to reduce energy and natural resource consumption by a minimum of 10%. Implementation and success of this resource conservation plan is a joint responsibility of administrators, teachers, students, and the community. Cooperation of each of us is essential for success. This plan calls for a people-oriented approach to resource management based on the following considerations:

- **Every employee and student is expected to contribute to the district's efforts to conserve energy and natural resources. Every person will be expected to be an "energy saver."**
- **All unnecessary lighting in unoccupied areas must be turned off. Teachers and custodians are asked to turn on lights only in the areas in which they are working. All lights will be turned off when teachers and students leave school. Custodians will turn on lights only in the immediate area in which they are working. Safety lighting will be held to the minimum level necessary for safe passage.**
- **Computers, copy machines, and all other office equipment are expected to be used at their most efficient level.**
- **The facilities supervisor at each school or building will be responsible for complete and total shutdown of the facility when students are not present. A checklist of items to consider will be available.**
- **A school closure of two or more days will be viewed as an "energy conservation opportunity." The facilities supervisor will be responsible for the complete and total shutdown of the school building when closed for weekends and during extended vacation (fall break, winter break, spring break and summer). A checklist of items to consider will be available.**
- **Heating and cooling level guidelines are established as listed below.**

The task force recognizes that energy conservation will require cooperation and some sacrifice by all employees, students, and patrons of the district. It is our hope to see a meaningful energy conservation program that will lead to more efficient use of natural resources that leads to a reduced burden on the district budget.

GUIDELINES FOR OPERATING LIGHTING AND MISCELLANEOUS EQUIPMENT

A. Lighting:

- 1) Lights in classrooms should not be turned on unless definitely needed. In classrooms with lighting levels, the light can be adjusted to the task. Teachers are asked to make certain that lights are off when leaving the classroom, even for a short period of time.**
- 2) Lights in gymnasiums, multi-purpose rooms, and cafeterias should not be left on unless they are being utilized or going to be used within 15 minutes.**
- 3) All outside lights should be turned off during daylight hours (adjust time clocks and check dusk/dawn sensors).**
- 4) Hallway and "common" lighting should be turned off at the end of the instructional day.**
- 5) Night custodians should turn lights on only in their work area.**
- 6) Field lighting is to be only on when the fields are in use. It is the responsibility of the Assistant Principal for Operations, the athletic trainer, and coaches to see that field lights are turned off immediately after practice or an event.**

B. Miscellaneous Equipment:

- 1) Classroom and Media Center televisions and projectors should be turned off when not in use (no TV clocks).**
- 2) Employees are not allowed to bring personal appliances (refrigerators, heaters, microwaves and coffee makers) to their work stations. It is incumbent upon the local school to provide reasonable accommodations for employee needs.**
- 3) In the event an employee feels his/her work area is not operating within the district's standard, he/she must first notify maintenance and, if necessary, their immediate supervisor.**

GUIDELINES FOR OPERATION OF HEATING, VENTILATING AND AIR CONDITIONING (HVAC) SYSTEMS

A. General Guidelines:

- 1) HVAC systems should always be operated in the most economical and efficient way possible and only for the amount of time required to provide the required climate for a specific activity. In the fall, heating equipment will be ready to be turned on by October 1st. All air conditioning will be turned off by November 1st. In the spring, cooling equipment will be serviced and ready to be turned on April 1st. All heating equipment will be turned off by May 1st.**

- 2) **The facilities supervisors should monitor weather reports. It is their responsibility to make adjustments to the HVAC control system time clocks and the district energy management system (EMS) to compensate for changes in the weather, i.e., boilers and fans should start later when weather is warmer and earlier when weather is cold and windy.**
- 3) **When the temperature is expected to change significantly over a weekend, clocks and the EMS should be adjusted to provide proper temperatures on Monday morning.**
- 4) **Every opportunity to decrease HVAC system operating times should be considered by the maintenance. For example, the heating system requirements should be reduced on days of early dismissal, cancelled school, and cancelled games and activities.**
- 5) **The facilities supervisor is responsible to insure adequate heating and cooling is maintained to protect buildings and contents.**

B. School Days:

- 1) **On regular school days, the HVAC system time clocks should be adjusted to provide the following temperatures from the time of teaching staff occupancy to the time of end of contract day in the majority of classrooms in the buildings. Temperatures are measured four feet above floor level on either the wall opposite the heating unit or in the center of the room. Thermostats must be set at 78 summer and 70 winter.**
- 2) **Acceptable temperature deviation from set point is plus or minus 2 degrees F.**
- 3) **After class or activity hours, all areas should be adjusted to target night energy efficiencies. Where possible complete shutdown should be initiated.**
- 4) **Close doors and windows during the winter and summer months.**
- 5) **Window blinds/drapes are to be closed at the end of each day.**

C. School Vacation Days (Winter, Spring, Summer), Weekends and Holidays:

- 1) **On vacation days, weekends and holidays when school is not in session, the entire building shall be operated on a target night low limit setting of 60 degrees F and night high limit settings of 85 degrees F.**
- 2) **If offices are occupied by regularly assigned staff, zoning shall be used in lieu of operating the central heat plant. Maximum thermostat settings for zoned areas shall be the same as school day operation.**
- 3) **Normal heat and ventilation may be provided for scheduled activities and athletic contests. If possible, only the area of the activity should be heated and ventilated, and temperature maximums shall be the same as a regular school day.**

GUIDELINES FOR THE OPERATION OF DOMESTIC HOT WATER HEATERS

A. School Days:

- 1) Thermostats for hot water heaters will be set so water temperature at all sinks will not exceed 110 degrees F.**
- 2) Thermostats for hot water heaters that service kitchens will be set at 180 degrees F.**
- 3) When available, time clocks will be set to provide for maximum efficiency.**

B. Weekends and School Vacation Days:

- 1) Hot water heaters will be set on vacation setback.**

GUIDELINES FOR WATER

- 1) Water saving devices: Install to decrease consumption, such as toilet dams, flappers, flow reduction valves, faucet aerators and cooling system devices.**
- 2) Design landscapes that require less water. Avoid unnecessary landscaping additions and alterations. Favor drought-resistant plants.**
- 3) Use timers to ensure that, when possible, watering is done in the early morning or evening.**

Other Task Force Recommendations:

- 1) The district administration should review Board Policy 7815 “Energy Conservation” to ensure it aligns with energy conservation efforts, promotes future development of energy conservation, and promotes conserving natural resources.**
- 2) The district should develop an ongoing Energy Conservation Committee made up of representatives of every district school and the district office. It would be the responsibility of that committee to further district efforts at energy conservation and to monitor the district’s results.**
- 3) Each school should form a local school energy conservation committee that will monitor individual school efforts and encourage further efforts toward energy conservation, including expanding solar applications, converting to new energy efficient lighting, and promoting the efficient use of our natural resources.**
- 4) Each school should undergo an energy efficiency audit to identify areas for immediate attention and for future improvement. Inefficient equipment and conditions should be remedied as they become affordable.**
- 5) The district should assess an appropriate energy fee to all rentals and non-district uses of facilities.**

Typical Operating Costs of Various Appliances

Average Use	Estimated Avg. Op. Wattage	Typical Time use (Hrs/mo)	(\$/mo)
Air Conditioner (5,000 BTUH room unit)*	900	200	\$9.45
Air Conditioner (12,000 BTUH room unit)*	1,500	200	\$15.75
Ceiling Fan	90	180	\$1.14
Clothes Dryer (24-32 loads)	5,000	24	\$8.40
Clothes Washer (24-32 loads)	550	16	\$0.62
Computer (desktop)	750	120	\$6.30
Computer (laptop)	75	90	\$.48
Dehumidifier (continuous)	350	720	\$17.64
Dishwasher	1,200	20	\$1.68
Microwave	875	10	\$0.62
Room Heater	1,200	75	\$6.30
Refrigerator*	500	720	\$10.15
Television (conventional 32")	130	120	\$1.10
LCD (42")	216	120	\$1.82
Toaster	1,200	3	\$0.26
Water Heater (40-50 gal./1 person)*	4,500	300	\$28.35

Source: Watt watchers fact sheet