Department of Energy

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Mission Statement:

The Department of Energy is committed to systematically control and reduce the cost of utilities; project future utility costs and select better rates within electric service providers (ESP) in deregulated markets; and plan for replacement of inefficient equipment including building automation control systems.

Department Goals:

The Department of Energy is dedicated to the efficiency of energy use in the Pharr-San Juan-Alamo Independent School District. This is primarily accomplished by using our automated control system. By monitoring the automated control system, labor requirements are reduced and prompt responses to problems are facilitated. Building utility is tracked and discrepancies are investigated to maximize the reduction in energy consumption, utility, and fuel costs without sacrificing human comfort and safety.

Department Guidelines:

1. Work toward achieving a cost avoidance on energy usage
2. Evaluate all incoming calls and verify controls to see if a technician actually needs to go onsite thus minimizing fuel cost and man hours.
3. Effectively identify inefficient equipment and acquire with high-energy- efficient ratio (EER) replacements
4. Effectively control utility waste
5. Plan and forecast future consumption of utilities
6. Keep abreast of all innovations that can reduce energy usage in schools
7. Work with building principals and committees to determine ways to reduce energy consumption
8. Make changes to school cooling plants that will reduce the use of energy
9. Cost and consumption records will be maintained and monitored.
10. Communicate total cost avoidance to staff and the public.
11. Routine audits of all facilities to ensure implementation of policies.
12. Responsible for adjusting the energy management systems including temperature settings and run times for heating, and cooling equipment.
13. Work with maintenance personnel to develop and implement a preventative plan for systems, building envelope, and moisture management.
14. Limit the use of buildings during nights, weekends, and holidays.
15. Send energy conservation guidelines at the start of each school year to all employees.
16. Work with the Project Manager to implement energy efficient equipment and building structures with all new construction.
17. Implement data loggers to validate humidity, temperature, and light levels.
18. Work with IT department to implement an energy saving sleep mode to district computers.

Air Condition Guidelines: Set points for the district shall be in accordance to American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 55 "Thermal Conditions for Human Occupancy".

1. Standard set point 72-78 degrees with the average being 74 districtwide.
2. Unoccupied times will have the buildings go into setback mode with the standard temperature at 85 degrees. The unoccupied period begins when the students leave the area at the end of the day. It is anticipated that the temperature of the classroom will be maintained long enough to afford comfort until the staff leave.
3. Start times will be based on seasonal weather conditions but will not be any less than one hour prior to the morning bell.
4. A/C will not be scheduled to run during summer months unless the facility is being used for summer school, team cleaning, or moisture control.
5. Implement the use of ceiling fans where possible to help with comfort without lowering cooling setpoints.

Heating Guidelines:

1. Standard heat set point is 68-70 degrees.
2. Unoccupied set point shall be 50 degrees and will begin when the students leave the area.

Lighting Guidelines:

1. All lighting in unoccupied areas will turned off. Staff should make certain that lights are turned off when leaving the classroom or office when empty and utilize natural lighting where appropriate.
2. All exterior lighting shall be off during daylight hours.
3. Gym lights should only be only when occupied.
4. All lights shall be off at the end of the day.
5. The increase of unnecessary lights not only consumes electricity, but also adds heat load to the space which increase the demand for cooling thereby increasing the consumption and cost.

Water Guidelines:

1. Ensure all plumbing and roof leaks be reported immediately to minimize loss and cost.
2. Ground watering shall not take place during hot periods and only prior to 10am to minimize evaporation and cost.
3. Spray irrigating shall be monitored to prevent overspray onto the buildings and parking lots.

Energy Management Action Plan

- Conduct in-service training for custodial staff to promote the energy program.
- Attend energy conservation conferences and training.
- Have the energy program on the agendas of the campuses staff meetings.
- Encourage school administrators to review the energy conservation program with their staff.
- Encourage the use of natural lighting.
- Enforce the classroom doors being closed when HVAC system is operating.
- Isolate after school activities to designated areas to facilitate lighting and HVAC control.
- Identify lights that can be turned off or reduced in halls, corridors, and common areas during after school transition.
- Limit the use of facilities when only small groups are requesting gyms, auditorium, and cafeterias.
- Work with staff to improve the shutdown of all computers during unoccupied times.
- Ensure all restrooms lights are off at the end of the day.
- Work with staff to have all vestibule and exterior doors closed at all times.
- Have teachers use the classroom blinds properly to maximize energy conservation.
- Have all copiers and office machines off at the end of the day.
- Ensure coaches have gyms lights off when unoccupied.
- Enforce the use of fans and dehumidifiers when cleaning carpets instead of leaving HVAC on.
- Consolidate summer school into cluster campuses to minimize the need of HVAC and to allow for building maintenance.
- Work with maintenance to use team cleaning strategy during the summer to enable more complete building shutdowns.
- Mandatory that all HVAC request be submitted using the MPulse system.
- Eliminate the optimal start of all BAS to maximize savings.
- Verify all BAS time and temperature settings during holidays and time changes.
- Enforce all board approved energy policies.
- Work with maintenance to ensure the district black out policy is in effect by adjusting timers.
- Verify that doors and windows are properly sealed.
- Ensure all domestic water heaters are set on 120 degrees.
- Reduce the number of AHU or RTU's in gym, auditorium, and cafeteria when a reduced number of people are occupying it.
- Work with HVAC department supervisor to have a coil cleaning plan in place.
- Have the filter replacements include pleated MERV 6 or 8 rating.
- Repair and calibrate all sensors in the building automation system to maximize energy savings.
- Ensure chilled water temperatures are not set below 45 degrees.
- Monitor the BAS daily for any possible malfunction of equipment to minimize downtime.
- Establish and maintain a current Energy Star Portfolio.