

Board of Education Policy 9.2400
Administrative Procedures For
Energy Conservation and Building Management

I. General

- A. Every student and employee of the board is expected to be a pro-active energy saver, as well, as an efficient energy consumer.
- B. The principal is responsible for the total energy usage for his/her building.
- C. Teachers are responsible for implementing this administrative procedure during the time that he/she is present in the classroom.
- D. The custodian is responsible for control of common areas, such as hallways, lobby, cafeteria, etc. Since the custodian typically the last person to leave a building in the evening, he/she is responsible for nighttime shutdown of energy consuming systems.

II. Rules and Procedures

A. General Building Envelope and Equipment Use

Every employee and student of the board shall comply with the rules and procedures set forth herein.

- 1. Classroom doors and windows shall remain closed when HVAC equipment is operating. Doors between conditioned space and non-conditioned space shall remain closed at all times, such as between hallways and gym or courtyard area.
- 2. All exhaust fans should be turned off during unoccupied hours.
- 3. All office machines, such as copy machines, laminating equipment, etc., shall be switched off each night and during unoccupied times. FAX machines and copy machines which serve as network printers are excluded.
- 4. All personal computers (PCs) should be turned off completely each night and during extended unoccupied periods. This includes the monitor, local printer, and speakers. Network equipment is excluded. As a preferred practice, the monitor and speakers of a PC should be switched off during the school or work day when it is known that the PC will be inactive for more than 90 minutes.
- 5. The Chief Technology Officer will ensure all capable PC's have been programmed for the "energy saver" mode using the power management feature. Where network constraints restrict this feature for the PC, monitors will be set to "sleep" after 30 minutes of inactivity.

B. HVAC Equipment Operation and Temperature Settings

- 1. State officials recommend that the thermostat set points for energy conservation be set at 76 degrees F for room cooling and 70 degrees F for room heating. Individual thermostats for HVAC systems are to be set within optimum temperature ranges for the duration of the heating and cooling seasons, as follows:

SEASON	ROOM USE	SET (degrees F)	POINTS
Cooling	Occupied¹	74 to 78	
Cooling	Unoccupied²	85	
Heating	Occupied	68 to 72	
Heating	Unoccupied	55	

Note 1 – Room occupancy means authorized persons are in the space using it more than once during the normal school or work day, or for more than one hour continuously at any time of day. Rooms containing equipment designated critical by the Chief Technology Officer are considered occupied, subject to special procedures.

Note 2 – Rooms normally occupied during the school or work day should be considered unoccupied when the students or staff leave that area at the end of the school or work day. It is anticipated that the temperature of the room will be maintained long enough to afford comfort for the period that the teacher remains in the classroom when the students have left.

2. In complement to the temperature set points in the paragraph above, relative humidity levels in conditioned rooms shall not average more than 60% for any 24 hour period.
3. Thermostats that control multiple rooms in a single zone may have to be adjusted by maintenance in order to obtain acceptable room temperatures and meet room temperature guidelines across the zone.
4. During unoccupied times, which include nights, weekends, inclement weather days and holidays, HVAC equipment with set back thermostats will be set according to the heating and cooling set points under paragraph II.B.1. To the maximum extent practicable, and for all other equipment not similarly equipped, the HVAC equipment shall be turned off during unoccupied times. Where HVAC equipment is shut down the outside air dampers will be fully closed also.
5. Heating and air conditioning start times will be adjusted by trained personnel, dependent on weather, to ensure room/classroom comfort when the school day or work day begins. During extreme winter conditions unoccupied temperature settings will be adjusted to prevent building or property damage.
6. Thermostat adjustments are to be made only by trained maintenance personnel. When room temperatures fall outside the established guidelines given in this paragraph maintenance shall be contacted so the appropriate action can be taken to survey and correct room temperatures.
7. Any civic groups using facilities should not be allowed to make adjustments to any HVAC equipment clocks, over-ride controls or thermostat settings or enter associated mechanical rooms. All exceptions to HVAC clocks, over-rides or thermostat settings must be approved by the administration of the school.
8. Circulating fans may be used in lieu of or in complement to operating HVAC systems, where they can be installed and operated in accordance with County Fire Marshal and Catawba County Schools Maintenance Department procedures.

9. Where cross-ventilation is available during periods of mild weather, HVAC systems should be shut down and room temperature adjusted using windows and doors open to the outside on either side of a room. Cross-ventilation may be unavailable if opening doors or windows would result in unacceptable security risk or violate school system security policy.
10. During the spring and autumn when there is no threat of freezing, all high temperature hot water and forced air heating systems should be switched off during unoccupied times. During these times, hot water heating should be switched off using appropriate loop pumps, and hot water re-circulating pumps should be switched off.
11. All domestic hot water systems shall not be set higher than 110 degrees F (no higher than 140 degrees F for cafeteria service).
12. Tank-less and other instant hot water heating devices, such as dishwasher heating boosters, should remain switched off until the general time period use is required. These devices typically take less than 5 minutes to reach operating temperatures.
13. For heat pumps, there shall be a 6 degree F dead-band between heating and cooling modes.
14. Refrigeration equipment in kitchens, lounges and other authorized locations should be switched off during extended unoccupied times (more than 7 consecutive days) where not required by school operations or health regulations. Products normally stored in these units should be removed and /or consolidated wherever possible to empty the unit for shut down. Manufacturer preservation procedures shall be followed by the school, vendor, or maintenance department in shutting down and re-starting refrigeration equipment.

C. Lighting Control

1. All unnecessary lighting in unoccupied areas will be turned off. For purposes of lighting control, an unoccupied area is any area where students or staff are absent for more than 5 minutes. For gymnasiums and similar facilities with high intensity lighting, an unoccupied area is any area where students or staff are absent for more than 12 minutes.
2. In areas used for foot traffic circulation, such as hallways, lobbies, etc., lighting should be turned off wherever safe and practicable during the normal school or work day, and shall be turned off completely during unoccupied times except the minimum lighting required for security purposes.
3. All outside/exterior lighting shall be off during daylight hours.
4. Athletic field lighting shall not be left on unless the area is being utilized.
5. All lights will be turned off when students and teachers leave school. Custodians will turn on lights only in the specific rooms in which they are working, and shall shut off lighting when leaving each room, each time.

6. All employees and students should refrain from turning on lights unless definitely needed. Lights not only consume electricity but also give off heat that places an additional load on the air conditioning equipment, increasing the amount of electricity needed to cool the room.

D. Water Use

1. Plumbing or intrusion (i.e. roof) leaks shall be reported and repaired immediately.
2. All irrigation of grounds and landscaping shall be limited to between the hours of 5:00 a.m. to 9:00 a.m. Single irrigation events should not exceed 30 minutes.
3. Irrigation should be curtailed or eliminated in consideration of recent and forecast rainfall.
4. When spray irrigating, water should not directly hit adjacent buildings.

Approved by:

Superintendent

Date