

## BUSINESS AND NONINSTRUCTIONAL OPERATIONS

### **Conservation of Resources: Buildings R 4-55.1**

#### A. Purpose

To ensure that Lynchburg City Schools pursues energy conservation efforts and practices that continue to preserve our natural resources while providing a safe and comfortable learning environment for all staff and students.

#### B. Issue

The nation is experiencing a depletion of its natural resources, which include crude oil, natural gas, and other energy sources. Lynchburg City Schools is committed to reducing its consumption of natural resources and continue to improve the quality of its educational programs. Lynchburg City Schools desires to work with other agencies to plan school system activities so that the learning environment of essential education programs is not curtailed or compromised.

#### C. Desired Outcome

Create a healthy and comfortable learning environment while controlling energy consumption more efficiently and diverting the otherwise rising utility costs towards educational programs. Continue development of energy conservation efforts that proportionally reduce energy consumption in new and existing facilities.

Students and staff of the Lynchburg City Schools 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, water, and reduce the production of solid waste. The goal is to optimize the use of natural resources on a daily basis yet maintain a comfortable learning environment.

This program is designed to reduce energy and natural resource consumption by at least five percent.. Implementation and success of this Resource Conservation Plan is a joint responsibility of administrators, teachers, students, and the community. Cooperation of each staff member is essential for success.

#### D. Detailed Energy Policy and Implementation Plan for Lynchburg City Schools

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 as well as an energy consumer.

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- All unnecessary lighting in unoccupied areas must be turned off. Teachers and custodians should turn on lights only in the areas in which they are working. All lights will be turned off when teachers and students leave school. After hours, custodians will turn on lights only in the immediate area in which they are working.
- Classrooms and offices should not have appliances (such as mini refrigerators/heaters/fans/microwaves) unless approved by the principal or director.
- Computers, copy machines, and all other office equipment are expected to be used at their most efficient level.
- The custodian 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 custodian will be responsible for the complete and total shutdown of the school building when closed for weekends, and during extended vacation (winter break and spring break). A checklist of items to consider will be available.
- Heating and cooling levels guidelines are established as listed below.

## I. Guidelines for Operating Lighting Equipment

- A. 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.
- B. Gymnasiums and multi-purpose rooms and cafeteria lights should not be left on unless they are being utilized, will be used within 15 minutes. High intensity discharge lighting (HID) will have to be considered on a per school basis.
- C. All outside lights should be turned off during daylight hours.
- D. Hallway and commons lighting should be turned off at the end of the instructional day.
- E. Night custodians should turn lights on only in their work area.

## II. Guidelines for Operation of Heating, Ventilating, and Air Conditioning (HVAC) Systems

## A. General Guidelines:

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- 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 15. All air conditioning will be turned off by November 1. In the spring, cooling equipment will be serviced and ready to be turned on by March 15. All heating equipment will be turned off by May 1. This adjustment is not required in buildings that have optimization time control systems.
- 2) The HVAC controls technician should monitor weather reports. It is his/her responsibility to make adjustments to the HVAC control system and the district energy management system 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. This adjustment is not required in buildings that have automatic optimization time control systems.
- 3) When the temperature is expected to change significantly over a weekend, clocks and the EMS controls should be adjusted to provide proper temperatures on Monday morning. This adjustment is not required in buildings that have automatic optimization time control systems.
- 4) Every opportunity to decrease HVAC system operating times should be considered by the systems controls technician. For example, the heating system requirements should be reduced on days of early dismissal, canceled school, inclement weather days, and canceled games and activities.
- 5) If below-freezing weather is predicted or occurs over a weekend, holiday or vacation period, the custodian and the maintenance technician are responsible to verify that adequate minimal night low limit heating is being maintained to protect the building 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 last class dismissal in the majority of classrooms in the buildings. Temperatures are measured four feet above floor level on either the wall opposite the hearing unit or in the center of the room.

	Winter	Summer
Classrooms (grades 4-12)	68-74 degrees F.	73-78
Classrooms (grades K-3)	68-74 degrees F.	73-78
Gymnasiums and Locker Rooms	65-74 degrees F.	73-78
Offices	68-74 degrees F.	73-78

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School Shops	65-74 degrees F.	73-78
Halls	65-74 degrees F.	73-78
Kitchens and Cafeterias	65-74 degrees F.	73-78

- 2) Acceptable temperature deviation from set point is plus or minus two degrees Fahrenheit.
  - 3) It is understood that schools that were built before the year 2000 cannot control the balance of heat as well as the newer facilities. The temperatures stated shall be used as a guide.
  - 4) Air-conditioned spaces shall not be cooled below 73 degrees.
  - 5) After class or activity hours, all areas should be set back to a target night low limit setting of 60 degrees F during heating season, when possible. Outside night low limit sensors should be set so as to provide an inside night low limit temperature of not more than 60 degrees F, when possible.
  - 6) Close doors and windows during the winter and summer months.
  - 7) Window blinds/draperies 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 during heating season when school is not in session, the entire building shall be operated on a target night low limit setting of 60 degrees F, when possible.
  - 2) On workdays when students and teachers are not present during heating season, the entire building shall be operated on a target night low limit setting of 60 degrees F, where possible. Outside night low limits sensors should be set so as to provide an inside night low limit temperature of not more than 60 degrees F, where possible. Variations for working staff comfort can be made via over-ride controls for specific zones, when possible, and lengths of time, with temperature not to exceed 68 degrees F.
  - 3) If offices are occupied by regularly assigned staff, zoning shall be used in lieu of operating the central heat plant when possible. Maximum thermostat settings for zoned areas shall be the same as school day operation.
  - 4) 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.
  - 5) All other energy uses must be approved in advance by the director of facilities and transportation.

## III. Guidelines for the Operation of Domestic Water Heaters

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## A. School Days:

- 1) Thermostats for water heaters will be set so water temperature at all sinks will not exceed 110 degrees F.
- 2) Thermostats for water heaters that service kitchens will be set at 120 degrees F.
- 3) When available, time clocks will be set to provide for maximum efficiency.

## B. Weekends and School Vacation Days

Water heaters will be set on vacation set back, when possible.

Approved by Superintendent: October 18, 1979

Revised by Superintendent: August 2, 1983

Revised by School Board: December 2, 2008