ENERGY CONSERVATION

IMPLEMENTATION PROCEDURES

Introduction:

Energy conservation is a matter of great concern to all citizens. Schools are not exempt from the effects of energy sources and inflationary cost. An increasing percentage of the school system's operating budget must be devoted to financing the escalating costs of utilities, and this trend will continue as utility rates increase and known sources of energy decrease.

Energy management and conservation without interruption of the instructional program is the challenge and responsibility of each employee and student.

The Board of Education recognizes the necessity for properly managed energy conservation. The Board has adopted an energy conservation policy and the subject implementation procedures. All employees are directed to conserve energy in the areas of heating, cooling, cooking, and lighting of facilities, the use of hot water and other material resources, and the operation of all equipment.

Implementation:

Primary means to energy conservation are:

1. Operate energy-consuming equipment only when needed.

2. Operate at an efficient level, consistent with applicable codes and regulations.

3. Maintain equipment and facilities in a condition which promotes efficient operation.

4. Replace or retrofit energy-consuming systems consistent with a life cycle cost analysis or other appropriate basis, and secure professional advice as needed.

5. Make experience in energy conscious design a criterion in the selection of architects and engineers for design services.

Ref: **Board Policy # 560**

6. Ensure that energy efficient design is built into contracts for design services and into the design/construction of all renovations, additions, and new buildings.

Implementation of this policy is the responsibility of the Superintendent, Director of Maintenance, ~~and~~ Principal, or facility manager, HVAC department, safety officer, and Energy Manager. ~~The Superintendent shall designate an Energy Policy Director, who shall:~~ In order to adhere to Energy Policy 6535, we shall:

~~1. Develop special operating procedures for the school system.~~

~~2. Develop appropriate energy goals for each existing school or facility by the formulation of an energy conservation committee at each individual location within the county.~~

~~3.~~ 1. Monitor energy use monthly by comparing ~~actual~~ current usage to previous/past usage. ~~established goals~~.

~~4.~~ 2. Monitor indoor air quality and other environmental factors to ensure operation of a quality learning environment.

~~5.~~ 3. ~~Serve as chairman of the~~ Coordinate with Facilities ~~Planning Committee~~ planning and ~~serves~~ on any committee which procures design services.

~~6.~~ 4. Participate in the review of energy related considerations in programs and designs of all ~~energy related~~ renovations, additions, and new facilities.

Operating Procedures:

Because individual differences are always present in the operation of buildings, special operating procedures have been developed by occupants and maintenance mechanics as a building is used over several years. The HVAC ~~Engineer~~ Department shall record these special operating procedures ~~in a checklist format~~ for the benefit of current and future occupants and operators of each facility.

Energy Goals for Existing Building:

Energy goals shall be developed initially by simply using the fiscal year summary report for the last complete year as a starting point.

~~After evaluating the actual operating history during the prior year and any modifications to the building or equipment, a percentage reduction goal will be determined by the HVACRESS Engineer, in consultation with occupants of each building. The goal is actually a chart of projected monthly energy used expressed in units for each type of fuel.'~~

Because energy prices are volatile, goals in dollars are mainly useful for setting projected budget and comparing relative costs of alternative fuels. Because the goal is based on the "last complete year's actual energy use," the goal will be partially determined by the weather. When actual monthly energy usage is compared to the goal, adjustment should be made as described below under *Energy Records*. The goal shall be adjusted annually if the comparison of actual use to projected use shows further savings to be possible.

Energy Records:

Records shall be maintained on a monthly basis in unit and dollar costs for each type of energy or fuel consumed. Summary reports shall be compiled ~~for the heating season and~~ for each fiscal year. Monthly ~~and seasonal~~ reports shall show a comparison ~~to the energy use goal for that period~~ a baseline year. Comparisons should be adjusted for degree days, hours of community use, and other relevant circumstances.

Energy Goals for Renovations, Additions, and New Facilities:

Life-cycle cost analysis shall be used to evaluate energy efficiency investments in all new construction and major renovation projects. All new construction and major renovation projects shall be designed to meet or exceed the energy performance requirements of the current edition of ANSI/ASHRAE/IES Standard 90.1, *Energy Standard for Sites and Buildings except Low-Rise Residential Buildings*. The district shall use the *ASHRE Advanced Energy Design Guide for K-12 School Buildings* as the guiding framework for achieving energy savings beyond the minimum code and consider utility incentive programs during the design and construction process. ~~With current building technology and a life cycle cost approach to design, including reasonable estimates for future energy and maintenance costs, the following energy goals are attainable and shall be incorporated into the program for all new facilities and major renovations.~~

~~**Design Goals:**~~

~~Elementary and Middle Schools~~	~~20,000-35,000 BTU/SQ FT/YEAR~~
~~High Schools~~	~~30,000-40,000 BTU/SQ FT/YEAR~~

~~**Acceptable Operating Range Goal:**~~

~~Elementary and Middle Schools~~	~~25,000-40,000 BTU/SQ FT/YEAR~~
~~High Schools~~	~~30,000-50,000 BTU/SQ FT/YEAR~~

Operating Goals-All Facilities

All district facilities shall be benchmarked annually using the U.S. EPA ENERGY STAR Portfolio Manager to track site Energy Use Intensity (EUI) and overall energy performance. The district's long-term goal is for all facilities to achieve ENERGY STAR qualification with a score of 75 or higher (ENERGY STAR certification is not required). The district shall demonstrate continuous improvement in energy performance across its building portfolio, with priority given to facilities with the lowest ENERGY STAR scores and greatest potential for cost-effective improvement.

Energy Sources:

An economic study shall be made before selecting energy sources for major additions, renovations, and new school facilities or where conversion from one fuel to another is being considered. When alternative fuels are compared, proposed heating/cooling/ architectural system should also be evaluated with a life cycle cost approach. Key factors to consider are current and future fuel costs, maintenance costs, availability of fuels in the future, a cost of changing fuels to allow using the lowest cost fuel.

RULES GOVERNING WATER CONSUMPTION

1. All manual water–consuming appliances and fixtures, such as hose bibs, spigots in the kitchen, faucets in other areas of the building, etc., shall be supervised when in use ~~in order to ensure no waste occurs~~ and not left running unattended.

2. All school restrooms should be checked daily by custodial staff, and especially on Friday afternoon, to make sure faucets or toilets (flush valves) are not running. ~~no fixture has been left on by students~~.

3. Toilets in all areas of use shall be used as intended. Items not intended for flushing in toilets, such as baby or cleaning wipes, cloths, feminine products, vapes, etc.… are prohibited from being flushed in toilets. Violations may result in discipline and/or financial repercussions for damages.

4. Any operational issues for ~~All~~ automatic water–consuming appliances, such as ice machines, dishwashers, washing machines, etc., shall be reported to Maintenance through the work order system. ~~checked periodically to ensure and maintain proper operation~~.

5. Only vehicles owned and operated by the Buncombe County School System shall be washed with water, materials, or equipment purchased by the System. Washing of private vehicles shall be prohibited.

6. Water shall not be used to wash down sidewalks, driveways, or parking lots except under extenuating circumstances or when conducting approved maintenance.

7. ~~All outdoor watering shall be supervised at all times.~~ All automatic watering devices shall be monitored for proper operation. ~~when in use.~~ Leaks and other issues shall be reported to Maintenance through the work order system.

8. ~~A comprehensive system of turf and horticulture management shall be established. This shall include but not be limited to:~~ Water conservation is primarily the responsibility of the Plumbing Department, Athletic Directors, Agriculture Teachers, and Custodial staff.

~~a. One individual established to oversee all areas of the program.~~

~~b. The use of soil samples to establish requirements of the area being managed.~~

~~c. A log sheet shall be maintained for any areas watered. This log sheet shall include the following:~~

~~(1) Number of sprayer devices used.~~

~~(2) Length of time the sprayer devices were in operation.~~

~~(3) The amount of fertilizer, lime, or insecticide applied to the area being watered.~~

~~(4) The time the fertilizer, lime, or insecticide was applied to the area being watered.~~

~~(5) The log sheet shall be signed by the principal and sent to the Maintenance Department monthly.~~

8. A reduction of all incoming water pressure into facilities to 60 psi while maintaining at least 40 psi at all fixtures.

9. A commitment by all that when we consume water, we know why and how much we should use.

10. All internal and external facility user groups planning for excessive water use must have approval from the Assistant Superintendent of School Support Services.

Ref: **Board Policy # 560**