General Guidelines for Energy Management Systems (EMS) at MCPS

What does Energy Management do?

The office of Energy Management controls the heating, cooling and air conditioning of all MCPS schools that are under Direct Digital Control (DDC). From a central location in Rockville they schedule the time, set point and status of all equipment in the schools by building zones.

Note: Equipment repairs of malfunctioning equipment need to be submitted as a work order to the Division of Maintenance and are not part of the EMS scope of work.

A Rule of Thumb:
The EMS boilers and chillers interlock with the pumps, which are regulated by the EMS. If the pumps are on, the equipment should be operating also. If the equipment is not working, contact the Division of Maintenance for repair, not EMS.

For temperature issues in a school facility, the building services staff can contact Energy Management Systems by phone at (301) 548-4940.

How can we run most effectively?

1. Know your Plant: What type of equipment is in your central plant?
2. Help Wanted – before you call EMS:
    a. Check your equipment first – is it on?
    b. Provide accurate support data (zone, time, temp, HVAC ID, status –see attached template)
    c. Be specific with your request
    d. Make sure you followed operating procedures
        i. Accurate set points (70°F for heating/76°F for cooling)
        ii. Doors and windows closed
        iii. Units unobstructed
        iv. Clean filters

3. Be familiar with school building operation:
    How schools HVAC systems operate differently than your home:

    a. Induction of Outside Air versus recycling/recirculation
    b. Constant ventilation versus cycling
    (air flow temperature fluctuations often noticed)
    c. Central plant components versus residential heat/AC

4. Is the entire building overheating?
    a. Check the Air Compressor
        i. Blow down daily to avoid contaminating controls
        ii. Proper air pressure is essential for proper operation

5. Check your scheduling:
    a. Provide your schedule to EMS
    b. Early start-up and after-hour operations – avoid unnecessary operation time
    c. Consolidate the actual use of space

6. Control the impact of no load (no dehumidification and outside air intake).

7. Sub Cooling – is not only a waste of energy but also creates mold & mildew problems

8. Some rooms were never designed to be air conditioned, so don't even try.

9. Control excess and improper use of exhaust fans for kilns, photo labs, gym areas

10. Optimize equipment efficiency – belts, filters, valve and damper operations like your car

11. Optimize equipment efficiency – check belts, filters, valve and damper operations. Operating poorly maintained equipment is like driving a car in need of a tune up.

12. Don't tamper with controls, like jumping out or overriding equipment, because that could have major impact on various spaces.

    Vandalism to sensors and thermostats at:
    a. Electronic sensors – loss of communication and temperature control, and possible unit shut down or continuous operation
    b. Pneumatic thermostats – loss of temperature control, control air pressure and abnormal air compressor wear

13. Do not place in by-pass, because the energy efficiency is lost.

14. Avoid operating DX units and central chiller simultaneously and maintain proper condenser water temperatures for water cooled chillers.