

The Facilities Engineer And Energy Conservation

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As Facilities Engineers, Stationary Engineers, Plant Operators, or whatever title we hold, we often see ourselves as the user of our natural resources and we don't think so much about energy conservation. One may say, "I use hundreds of gallons of water & fuel in a day, how can I possibly be energy efficient. Let's take a look at some ideas:

1. Check the operation of the makeup water regulator that supplies water to the deaerator or feedwater heater. High water levels in a deaerator can inhibit the heater's ability to properly mix steam with the water and drive off the oxygen and other corrosive gases present in makeup water.
2. Feedwater piping and condensate return lines should be properly insulated and leak-free.
3. Check that the shaft packing on feedwater and condensate pumps is properly adjusted to both minimize leakage and prevent damage to the pump shaft.
4. Make sure your feedwater & makeup water gauges are correct & read them often.
5. If the boilers don't have oxygen analyzers periodically check the flame for discoloration, flame pattern, burner tip and burner ring carbon buildup.
6. Verify that the makeup air unit for the boiler is operating correctly and utilize an open boiler room overhead door for make up air instead of running the makeup air unit.
7. Control the amount of cold air coming into the plant in the winter by either utilizing the makeup air unit or by adjusting the opening in plant window/doors to provide proper makeup air for proper/efficient boiler operation.
8. Monitor pump fan motors, maintain them, keep them clean, check the connections frequently, and utilize Digital Drives (DDC's) and setbacks for electrical efficiency.
9. Utilize good quality combustion controls and highly recommended combustion controls vendors. Make sure the boiler combustion controls are operating properly and that they receive regular preventive maintenance.
10. Turn off any unnecessary bearing cooling water, lights, space heaters, fans, etc. Again, utilize a BMS, (Building Management System) to monitor & adjust setbacks, shut offs, load sheds, etc.
11. In your plant or if you're a building maintenance engineer responsible for a facility, make sure windows are closed in climate controlled areas, make sure toilets/urinals are flushing properly, make sure sinks aren't dripping, make sure refrigerators/freezers are defrosted regularly, make sure doors & windows are sealed properly, be sure to maintain cooling/refrigeration units & clean coils & filters regularly, etc.

Those are several ways to control energy costs and most importantly, conserve our natural resources.

Again, as a Plant/Facility Operator it is your duty to conserve our natural resources by controlling energy consumption.

*****KNOWLEDGE IS POWER*****