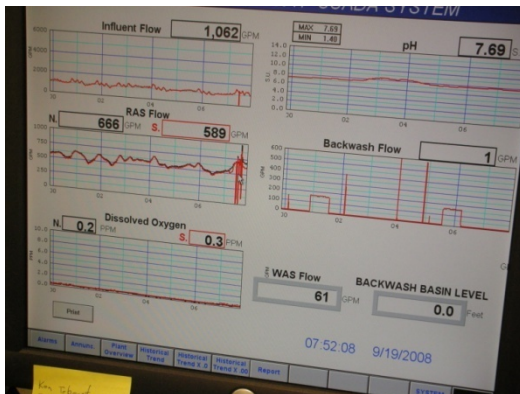


Family of Tools Needs Definition – to Help Practitioners in Energy Audits

In considering the more serious energy audits, the practitioner should be armed with a set of tools. I've not seen a good practical list for this task so I thought it might be of value to begin a list, here. Many of these tools are suggested in the many energy articles which have become prevalent in the trade journals.

Here is a start:

- Amp probe or “clamp-on” amp coils which fit around motor lead wires or lead wires leading to consumers of power.
- Recording Watt meter – this is the logical next step up from amp meters and can be considered less popular due to costs and logistics of getting to a portable form of such watt meters.
- RPM meter – to determine exact RPM and correlate with load factor for motor.
- Flow meter – air and water flow meters are available from multiple rental sources. GE rentals (a division of GE Company) have a number of models available for nominal rental fees.
- Pressure gages with snubbers (and diaphragm protectors) with ranges appropriate. Such gages are now available in digital form and allow extensive recording/time tracking opportunities
- Heat sensing imaging equipment (Fluke and others) which offer infrared images which can be timed to interface with other instruments in this family of devices.
- Digital cameras and video recorders – which record and date the data input/shown from the above family of devices
- Access to power company data for meters which are providing and recording power consumption at the sites being investigated. Power companies have very detailed history for power being used at major meter locations – such as for a major pumping station and – for sure – at water and wastewater sites.



Of course, the next step is to actually compile the required data in a method which allows complete evaluation of efficiencies at a later date in another location (typically at an office the day or two after the data is compiled). There are software tools to enable compiling and presenting the meaningful data which can – then – be made useful for those in control of making the necessary changes/investments to implement energy savings.

There are a few, select, engineers who are invaluable assistance in determining “what to measure” and “what to do” with the data. When you find that engineer, you have a gem of intangible and valuable talent for a successful energy reduction program.

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