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Measuring Equipment for Energy Auditors

Diverging opinions exist on what extent measuring equipment is needed, when it should be used, and how it should be used during energy audits. Some of our readers object to having stringent requirements regarding the use of measuring equipment during energy audits, while others feel these requirements are beneficial and provide a marketing advantage to their energy auditing firms.

It is understood that one may detect many cases of energy inefficiency in a firm without using measuring equipment and quantifying energy consumption. There are always obvious cases of energy wastage where anybody with common sense and no formal training or experience can identify saving potentials. However, this should not be taken as an excuse to promote walk through audits with no systematic approach involving measuring equipment as needed.

To encourage the systematic and appropriate use of measuring equipment in energy audits, we have started gathering information about measuring equipment as a service to energy auditors and managers under our section Energy audit instruments. However, information provided by equipment suppliers is only half of the coin. More important is to get feedback from users about field experience using such equipment.

Measuring electrical parameters doesn't seem to be too much of a problem except for total harmonic distortions and transients, or the occasional blowing of a fuse because screw drivers and bus bars are a bad mix.

However, other more common measuring tasks such as flows of gases and liquids, as well as stack gas composition are more challenging and riddled with problems, even if one uses expensive and sophisticated equipment.

As a beginning we therefore ask practitioners in the field about their experience with regard to:

(i) Measuring flow of air, steam and water with online and mobile, intrusive or non-intrusive equipment.

(ii) Measuring % O_2, % CO_2, or % CO in the stack gas of combustion systems.

We hope our subscriber base will share their field experience with others by stating the measuring equipment used for a particular task and what problems or advantages concerning accuracy, handling, reliability, suitability as well as repair and maintenance costs are associated with the instrument. We will as usual honor practical feedback and post it on the net.