How to prepare for a compressed air energy audit

The compressed air energy audit comes in all shapes and sizes, from free and basic to full system audit with specific measurements, such as leak detection, power and flow rate, maintenance review and more.

In this editorial, Imtiaz Rastgar highlights that even though inexpensive audits are available, but one should be cautious of how they are performed. Many compressor manufacturers offer audits at no charge and use it as a tool to make further sales. He advises that a customer should choose an independent air audit company which can give impartial advice. The author presents some of the tips in order to prepare for an energy audit.

There are five main questions, one should ask the prospective auditor:

1. Do you have a reference or previous customer information so that one can talk and evaluate the details?
2. Will you help evaluate the complete system, supply and demand size?
3. What kind of report will you supply?
4. Will you help remedy the inefficiencies?
5. Will you offer a post audit and perhaps an annual PM check-up study?

Another key element to consider before employing a company to perform an audit is a that this audit can be performed when the system is running normally. There is usually no need for downtime during an audit.

Which Type of Audit Do you need?

Often, the audit you choose depends on the type of operation and the budget available. Audits generally fall into three categories:

1. Basic Audit (walking the line).
2. Data Logging.
3. Full System Audit.

A basic audit includes a visual inspection of the compressed air system and is often available from compressor manufacturer at no charge and used as a tool to make further sales of compressors. In this context, care should be exercised in choosing an independent air audit company which can offer an impartial advice.

The data logging involves performance tracing of the compressor system for a minimum of seven days, which often reveals if the compressor is correctly sized or if it is operating at its optimal CFM output. While data logging does come with a cost, one should always check with their local utility providers for available rebates or incentive programs.

A full System Audit can cost up to PKR 1,500,000 to 2,000,000 depending on the nature of the audit, but typical savings range from 30% to 50% when the audit recommendation is put into practice. The full system audit often includes air measurement of compressed air demand, air leak detection and control and air quality, the benefits include lower energy costs and higher production efficiency. This is usually paid for the fee paid for the audit. Large users of compressed air, with connected loads of 500 kW and above stand to gain immensely from waste reduction occurring through leaks and other inefficiencies in the compressed air system.◆