

Barriers for energy Efficiency

Title:

Plant personnel find energy conservation studies as faultfinding missions – Disagreement about saving potential

Section:

Plant operating personnel acceptance about the savings achieved

Category:

Energy audit methodology

Industry:

South based industry

Summary:

The detailed trials on compressed air leakage indicated that the air leakage is in unacceptable range. When the scientific method to evaluate the leakage estimation says that 66% of total air generation is going to meet the compressed air leakage generated fears with in the operating personnel that the management may initiate drastic action on them

Energy audit should be considered as the tool for the energy saving potential measure identification rather than the faultfinding mission.

Back ground:

Detailed energy audit in south based industry was carried out particularly in compressed air system. The payment terms were based on the savings identified (i.e, 10% savings achieved should go as fees)

During normal operation of plant, three Service air compressors (1800 m³/h) will be in operation. The total compressed air consumption in the plant is 5400 m³/h. Leakage test was carried out on Sunday in service air system to quantify the leakage level. During the test it was ensured that no equipment /maintenance personnel is using compressed air. Two service air compressors (Compressor #1 & #3) were operated to observe the loading and unloading of the compressors.

It was observed that these two compressors were on load continuously without unloading. By this it could be concluded that leakage itself would be 66% of total generation. i.e. 3600 m³/h.

Quantity of compressed air leakage	: 3600 m ³ /h
Power consumption of compressors	
Compressor # 1	: 170 kW
Compressor # 3	: 178 kW
Total power consumption	: 348 kW

The acceptable leakage in compressed air should not be more than 15% of total air generation. Compressed air leakage can be brought down to the acceptable level by simple measures such as replacing/ rectifying the valves, joints, fittings, hoses etc. Leak surveys were conducted in all shops to identify the major leaks. These leaks were listed separately and given to the plant management for arresting them.

At the first instance, the operating personnel involved in the study were excited to know the leakage level and corresponding leakage levels. In fact the plant operating personnel, thinking that they will get good remark from the management prepared the observations and findings.

The audit team left the plant for a week to their office with high enthusiasm that they could really achieve some thing, which can be implemented, and at the same time the client would benefit immensely.

Two weeks later after frequent calls to the client to inquire about the study of other areas, plant operating personnel indicated that there are no more areas that require study. More over they said that the leakage test was not correct and the day, which the team in association with plant selected, was not appropriate.

Finally, through the other sources it was learnt that the management blamed the plant operating personnel for operating the system very badly, there by operating personnel for their advantage changed story to their benefit.

During the process the Audit Company has lost the revenue of Rs 10.00 lakhs at the same time has to face very tough time in putting the facts.

Lesson learnt :

Never treat the energy audit findings as fault finding ones.