Three Affco sites save $21,000 annually with compressed air leak tests

Affco surveyed air leaks recently at its sites, reducing electricity use by 215,000 kWh per year at three of its sites, saving $21,000 per year

The Opportunity

All of Affco's sites use compressed air, and air leaks occur regularly. Air leaks typically account for 20 – 50% of compressed air electricity use. A diligent approach to finding and stopping these leaks result in immediate electricity savings.

Often it is a challenge to prevent the number of air leaks building up. Regular surveying and stopping leaks avoids a small energy waste problem becoming a potentially large energy waste problem.

Air leaks are normally stopped sooner or later and therefore stopping leaks sooner saves energy.

The Solution

EECA proposed to AFFCO an air leak savings trial to demonstrate the potential energy savings. This would include employing a qualified surveyor using an ultrasonic leak detector. From a number of proposals Ash Air was selected to conduct these surveys.

Ash Air also offered to log air compressors energy use for 1 – 2 weeks before and after stopping the leaks. This would also help identify other potential energy savings in each compressed air system.

Affco accepted an agreement with EECA to conduct three rounds of air leak surveys during a one year period. EECA would assist with 40% of the survey costs.

The Results

Ash Air reported $110,000 of air leaks across the group after Round One of surveys. It is currently half way through its second round of surveys and logging compressors. A survey costs $1,680 per site including 40% grant.

Four sites (Wiri, Napier, Wairoa and Rangiuru) where logging was completed a second time demonstrated savings were achieved at three of the sites.

These ranged from 39,000 kWh per year to 89,000 kWh per year savings. Note, the compressor system design affects the amount of electricity saved for a given size air leak stopped. For example, air savings had no effect on electricity saved where a Hydrovane was running at constant speed without unloading.

→ Four sites logged twice
→ 215,000 kWh saved per year!
→ $21,000 annual energy savings

From Ash Air report with logging data: