



Case Study - Compressed Air

Client – Manufacture – Cleveland, TN.

Project – Compressed Air System Upgrade

Situation – The Cleveland, TN facility operated 1,650 horsepower of compressed air supply along with refrigerated air dryers. Due to frequent pressure deviations, operators set the compressed air pressure level to 110 PSIG on average with levels reaching 116 PSIG.

Solution – Woodstone Energy conducted an in-depth analysis and measurement of the compressed air system performance and trended the actual demand. The system study result indicated modifying several system parameters that ultimately will enable operators to place the 900 HP compressor in stand-by while utilizing the two remaining screw compressors as primary supply.

- 10,000 Gallons of supply storage was installed to create a reserve of compressed air to meet peak demand instances associated with process conveying.
- Additionally, a compressed air pressure control valve was installed to create a high pressure reserve in the new storage tank and regulate production operating pressure to a

lower, more efficient level of 95 PSIG. Currently, 100 PSIG is the existing set point.
-A second and third compressed air pressure control valve was installed in two other process locations to modify pressure setting in specific locations.

End Result – The Woodstone Energy compressed air system retrofit provided an energy reduction of 2,870,336 kWh per year. Annual energy savings were calculated at \$215,275.20 per year. Placing the 900 horsepower compressor in stand-by provided reserve compressed air supply back-up for service needs and any emergencies. This project delivered a 40% reduction in annual compressed air system operation cost.

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