

Collotype Label HVAC System Upgrade

Background

Collotype Labels is one of the world's largest premium label printers. The Napa California facility is one of its many worldwide locations that specializes in labels for the wine and spirit industry. The Napa location is an industrial and office facility that produces both adhesive and non-adhesive labels.

Collotype Labels has policies that encourage sound environmental practices and sustainability initiatives in each of their facilities. In support of these policies, and in pursuit of operational efficiencies, the Napa facility was looking for ways to reduce their energy consumption and overall energy bill. Pacific Gas and Electric (PG&E) hired AESC to perform a Large Integrated Audit at the Napa production facility to identify energy efficiency opportunities.



Study Description

AESC visited the site, sub-metered facility equipment and generated an audit report that identified (13) potential energy efficiency, demand response and self-generation measures. The most significant energy efficiency measure identified by the AESC

audit team was a modification to the air distribution system. Collotype believed they had an undersized HVAC system and were planning to add package air conditioning units. However, AESC determined that the problem was not the system's capacity, but rather the lack of appropriate air flow in the distribution system. The customer agreed to pursue AESC's recommendation and, with financial incentives from PG&E, moved forward with the project.

The retrofit involved the re-design of the ductwork to improve air delivery to the production floor. The return air to the package units was reduced to allow stratification in the high-rise ceiling and the supply ducts were extended to provide sufficient flow to the printing machines. In addition, an indirect evaporative make-up air unit was installed to balance the negative pressure in the building due to the many exhaust fans. The new system uses outside air for cooling when external temperatures are below 70° F. Since Collotype's manufacturing process runs 24 hours per day and the printing machines always require cooling, considerable energy savings are achieved by using outside air instead of mechanically cooled air.

CONTACT INFO

Antonio Corradini – Director of Engineering
acorradini@aesc-inc.com
760.931.2641 ext. 114
www.aesc-inc.com

AESC Corporate Headquarters
5927 Balfour Court
Suite 213
Carlsbad, California 92008

The AESC team assisted with modified system design and worked closely with the construction and facility maintenance team to ensure estimated benefits were realized.

Within one year from the presentation of the Large Integrated Audit findings, the project was completed. Measurement and verification confirmed the savings and the customer received the Customized Retrofit program incentive from PG&E. In addition to the described ventilation distribution system upgrade, Collotype implemented many of AESC's other energy efficiency recommendations including lighting upgrades, window film installation, compressed air demand reduction and optimized HVAC scheduling for the office space.

Ductwork before the retrofit



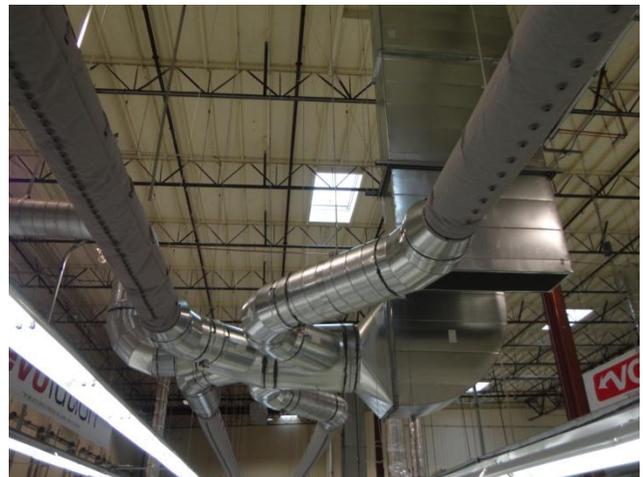
Project Results

The final savings calculations for the HVAC upgrade were approved at 370,000 kWh per year with an

increase in peak demand reduction to 50 kW. Implementation of the HVAC system upgrade and the evaporative cooling system represents a 12% reduction of the facility's 2011 annual electric consumption. The customer is saving approximately \$52,000 a year, while reducing its carbon footprint by more than 100 tons of CO₂.

In 2013, AESC is auditing another Collotype facility in Sonoma.

Ductwork after the retrofit



AESC Services and Specialties

- Energy efficiency assessment and calculations of commercial and industrial facilities
- ASHRAE Level I, II, and III audits
- Design and specification of HVAC systems
- Installation Inspection and Measurement and Verification (M&V)
- Combined Heat & Power Feasibility Analysis with advanced generation and energy storage
- Energy & Environmental Impact Evaluation
- Identification of Incentives & Financing Options
- Customer & Utility Energy Program Development & Support