

PARTNER CASE STUDY: CON EDISON

Con Edison serves 3.1 million customers in the state of New York. As a dedicated partner in the SF₆ Emissions Reductions Partnership, Con Edison is committed to taking a leadership role in working with the EPA to develop better ways to protect the environment from SF₆ gas. The company is emerging as an environmental leader in the industry while simultaneously experiencing financial savings through the implementation of an aggressive SF₆ management program.

SF₆ MANAGEMENT AND TRAINING FOR PERSONNEL

Con Edison has developed an “on the job” training session for personnel to understand the characteristics of SF₆ gas, its function within the electric power systems, the proper handling and safety precautions associated with using the gas.

The company’s Substations Operations group has also instituted an SF₆ Maintenance Management Program, where all purchases of SF₆ cylinders are inventoried, identified, weighed and leak checked. “Empty” cylinders are returned to the recycling center and weighed to determine the amount of gas used at the station and the amount of gas remaining in the cylinder. Any remaining gas is recycled into dedicated reclaiming carts and the empty cylinder returned to the manufacturer. A log is created of these activities in order to establish trends.

TECHNOLOGY AND PRODUCTS

To aid the improvement of Con Edison’s SF₆ management activities, the EPRI GasVue camera is used by personnel to determine if substation equipment contains SF₆ leaks. The process of leak detection is simplified with the use of this technology in that it does not require taking equipment out of service, which is costly due to incurred downtime costs and increased operating costs. The use of this laser imaging camera has enabled Con Edison to locate leaks of SF₆ gas more quickly and accurately, lowering purchases of the gas and helping the utility comply with possible future environmental regulations.

SAVINGS FROM IMPROVED SF₆ MANAGEMENT

Through the use of the GasVue camera, Con Edison has been able to benefit through significant financial savings. Since the use of the laser imaging camera and subsequent repairs are estimated to reduce SF₆ usage by 500 cylinders or 57,500 pounds, the utility realizes a savings of \$517,500 per year, where the cost of the gas is assumed to be \$9 per pound.

CONCLUSION

Con Edison has set a goal of reducing SF₆ emissions annually by using five percent fewer SF₆ cylinders than were used in 1996 (their baseline year). By 2001, the utility met and greatly exceeded their goal by reducing SF₆ emissions by approximately 29 percent since 1996. Con Edison explains that the most valuable effort in reaching this goal has been through the establishment of an aggressive plan on how to manage SF₆ gas. The company has clearly demonstrated that a pro-active approach to reducing SF₆ emissions to the atmosphere is feasible, effective, and beneficial not only for the company but also for the environment at large.