

# Transforming SF6 Management: How a Large Electric Transmission Company Achieved Lower Emissions, Time Savings, and Cost Efficiency

Sulfur hexafluoride (SF6) is used in the electrical industry as a gaseous dielectric medium for high voltage switching equipment such as circuit breakers, circuit switchers, and gas insulated switchgear (GIS). The high dielectric strength (much higher than nitrogen or air) makes it possible to significantly reduce the size of electrical gear allowing for a much smaller facility footprint.

The benefits of SF6 as a dielectric medium led to its widespread use in the industry. Unfortunately, SF6 is also 23,500 times more potent than CO2 as a greenhouse gas. As SF6 equipment ages, it begins to develop leaks which are hard to detect and even harder to repair. To meet climate change initiatives, there is heightened sensitivity towards addressing SF6 emissions and even seeking alternative dielectric mediums.



## Benefits



10% SF6 emissions reduction annually



80% reduction in the time required to calculate monthly SF6 emissions, from 5 days to just 1 day



\$35,000 saved per year in SF6 purchases and top offs

## The Challenge

The utility set aggressive SF6 emission reduction targets consistent with regulatory and public expectations for environmental stewardship. Monthly SF6 emissions reporting was established to focus the organization and closely monitor performance. The current method for tracking SF6 emissions was a manual process accomplished by entering monthly bottle inventory and weights in multiple spreadsheets that were then sent to the team to calculate losses.

The absence of a centralized reporting system made it challenging to identify leaking equipment and obtain crucial details about the leaks, hindering maintenance efforts to prioritize and resolve issues. Moreover, the locally collected data sent to the team lacked consistency, further complicating the organization's quest for accurate values. Meeting emission goals required changes to business processes to expedite the required time from SF6 leak identification to final repair.

## The Solution

The implementation of Engage: SF6 Monitoring brought about a rapid transformation in the SF6 leak management program. Monthly inventory results were now uniformly collected within the same application, eliminating inconsistencies. Manual calculations were automated, significantly reducing reporting time for emissions.

All gas additions made to equipment were documented in Engage providing providing valuable insights into emission sources. Leveraging this information, the software calculated equipment leak rates, enabling easy identification of high-leak equipment for prioritized maintenance and planning. With its powerful reporting capabilities, Engage revolutionized SF6 leak management, optimizing efficiency and resource allocation for a more proactive and effective approach.

## The Result

Using Engage SF6 Monitoring, this utility was able to significantly exceed their SF6 emission reduction goals in the very first year of implementation. The wealth of SF6 data, ease of use, and information accessibility empowered the organization to streamline their business processes and significantly reduce the time required from leak identification to ultimate repair. The investment in the system yielded swift returns including reduced maintenance costs on SF6 purchases and top-offs, a significant decrease in the time required for emission calculations in reporting, and a substantial reduction in SF6 emissions—an impactful contribution to environmental preservation.

---

**Contact us today to  
learn more about SF6  
Monitoring**

---