

CASE STUDY

Clifton Sanitation Enhances Employee Safety and Operational Efficiency with Plasma Air's 7000 Series

A Modern Approach to Cleaner Air in Wastewater Treatment



INTRODUCTION

Clifton Sanitation, nestled near Grand Junction, Colorado, is committed to delivering exceptional wastewater services while upholding the highest standards of safety for employees and the community. Built in 2008, the facility was designed with odor mitigation in mind and at the time adopted ionization solutions utilizing, what is now, outdated hard ionization technology to combat odors and gases. However, by 2023, the aging system, which required regular maintenance, was failing to meet performance expectations.

CHALLENGES

- Tube-style hard ionization solutions nearing the end of their lifecycle.
- Malfunctioning unit transformers.
- High replacement costs for tube units.
- Intensive cleaning and maintenance requirements for tube units.

Plasma Air 7000 SOLUTION

Recognizing the urgency to address these challenges, Matt Talley, Safety Coordinator and Treatment Plant Operator, spearheaded the search for a more modern, effective and safer employee-friendly odor control solution. He discovered the Plasma Air 7000 Series, boasting innovative soft ionization technology, which does not produce ozone, and significant cost savings.

BENEFITS

- 1. Safer Air Quality:** Zero ozone emissions ensure a safer environment for employees and visitors, eliminating respiratory concerns.
- 2. Odor Elimination:** Effectively neutralizes hydrogen sulfide (H_2S), providing a fresh and clean working environment.
- 3. Comparable Ion Output:** Matches the ion output of comparable solutions, ensuring efficiency.
- 4. Reduced Maintenance:** Significantly lowers product maintenance, offering operational efficiency.
- 5. Cost-Effective:** Boasts a low total cost of ownership compared to tube products, with no replacement parts and significant labor cost savings.
- 6. Corrosion Safeguard:** Reduces H_2S gases, protecting facilities from corrosion.

The Decision-Making Process

Matt Talley faced the crucial decision of either repairing and replacing the outdated tube solutions or embracing a new technology. Matt reflects, "The wastewater industry faces significant challenges, sorting through expensive and complex odor control solutions. Plasma Air's 7000 Series caught our attention as a very promising alternative."



1. Cost Comparison

The five-year projected cost for rebuilding the existing tube system was approximately \$61,000. In contrast, a full system conversion to the 7000 Series units has an estimated life cycle cost of \$15,000, presenting a substantial cost advantage. Furthermore, the 7000 Series eliminates the ongoing expense of maintaining tubes and transformers.



2. Performance Evaluation

After six months of testing comparing ion outputs between the tube solutions and the 7000 Series, Matt found them to be comparable. The 7000 Series not only addressed odor control but also effectively reduced hydrogen sulfide levels.



3. Maintenance Considerations

Traditional tube products require extensive maintenance in wastewater environments, involving the constant upkeep of transformers and tubes. In contrast, the 7000 Series demands minimal cleaning, easily managed with a cotton swab or compressed air, with no need for replacement parts.



4. Employee Safety

The pivotal factor in the decision-making process was the emphasis on employee safety. The 7000 Series is validated as UL 2998 for zero ozone emissions. Exposure to ozone can lead to various health issues, including headaches, coughing, and even chronic conditions like asthma. After installation, employees reported a notable improvement in the facility's air quality.



Plasma Air 7000 Series

RESULTS AND FUTURE PLANS

The successful implementation of Plasma Air's 7000 Series has not only resolved Clifton Sanitation's immediate challenges but also paved the way for future expansions. Matt Talley affirms, "Given the success with the 7000 Series, we plan to replace an additional 16 modules with 7000s next year."

In conclusion, Clifton Sanitation's strategic shift to Plasma Air's 7000 Series not only ensured a safer and healthier working environment but also positioned them for continued success in wastewater treatment, embodying their commitment to excellence, employee well-being, and environmental responsibility.

Odors are a major problem in the wastewater industry and the solutions offered to the industry can be overcomplicated. We're very pleased with the Plasma Air products, which have proven to be extremely effective, plus offer us substantial cost savings.