

# Five Years of Continuous Operation

## Aerisa's Air Purification Technology Successfully Achieves Air Permit Requirements at the Santa Paula WWTP



Santa Paula WWTP

### The Situation

Aerisa's air purification system installation at the Santa Paula (CA) WWTP will enter its fifth year of continuous service in early 2015. This 4.0 MGD membrane filtration facility is owned by PERC Water Corporation, known for inventive facility design and state-of-the-art technology implementation.

Since May 2010, Santa Paula WWTP personnel have operated the automated air ionization technology from Aerisa for the headworks and solids handling building as well as for process tank headspace. With less than 0.01 PPM of H<sub>2</sub>S as a design criterion, the automated sensors for H<sub>2</sub>S and other hazardous chemicals provide real-time adjustment to airflow based on readings in the building. Since the

application areas. These ions proactively attack the contaminants at their source, vastly improving in-area working conditions. As a second purification step, outside air may be ionized and mixed with pretreated facility air to deliver high quality exhaust. Contaminants treated through ionization include hydrogen sulfide, ammonia, amines, mercaptans, reduced organic sulfur compounds, volatile organic compounds, surface bacteria and virus.

The Aerisa ionization technology for wastewater applications is based on ions produced by an ionization tube. The tube works with single phase AC power transformed to approximately 3,000 volts. The electrical potential created by the tube, along with system airflow, creates positive and negative oxygen ions that form molecular ion clusters with highly oxidizing power. Each ionization unit comes with five tubes, with the application-specific quantity of ionizers housed in an industrial air handler.

### Low O&M Expense

Ionization systems require no chemicals, water, or disposal of spent media. One Aerisa ionization unit effectively treats 500 to 1000 CFM, but only requires 50 watts of power. Since ionization systems utilize the facility volume as a reaction chamber instead of using a tank as with exhaust-only scrubbers, pressure



Engineered Ion Distribution Aeriduct



AerExhaust AHUs

implementation of the Aerisa ionization system, the Santa Paula WWTP has consistently met its state mandated air permit requirements.

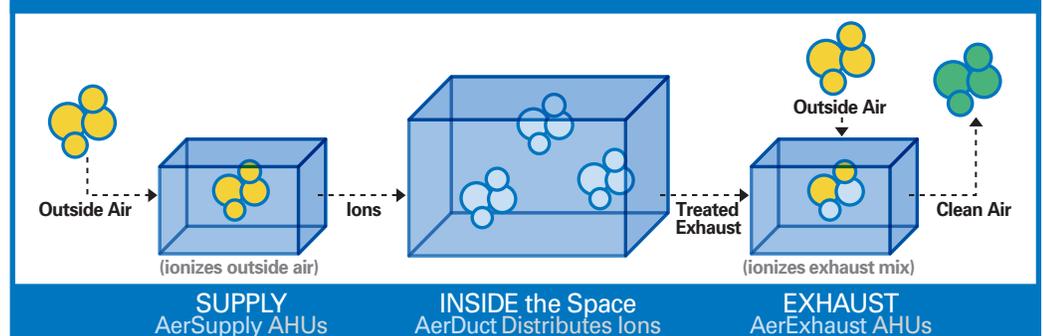
### A Different Approach

Unlike legacy odor control systems that utilize carbon, chemicals or biological media to scrub air exhausted out of a building or headspace, Aerisa ionization systems supply highly ionized air with O<sub>2</sub><sup>+</sup> and O<sub>2</sub><sup>-</sup> ions to the

drop is low, and the resulting fan power requirement is 75-80% less than traditional solutions.

System maintenance is relatively minimal; in general, periodic air handler filter replacement and yearly ionization tube replacement is required. Thus, operational and maintenance (O&M) costs for Aerisa air purification systems are a fraction of that for exhaust-only scrubbers.

## AERISA'S TWO-STAGE APPROACH FOR ODOR ELIMINATION



## Highlights

- Five years of continuous operation
- Consistent attainment of air permit requirements
- Effective odor control, corrosion control and workplace air quality improvement
- SCADA controlled system



AerSupply with Ionizer Section

## Aerisa Solution

- Eliminates odors within hours of installation
- Treats odors at their source
- Creates healthier work environment
- Provides significant capital, installation and operational savings
- Ongoing maintenance costs approximately one-third that of traditional scrubber systems
- Straightforward retrofit for most municipal wastewater facilities



Aerisa | 1214 W. Boston Post Road, Suite 410 | Mamaroneck, NY 10543  
Phone (480) 302-6300 | 1-877-4-AERISA | info@aerisa.com | www.aerisa.com