



Air Purification Technology

*Removing odor, corrosion, airborne dust and VOCs
at wastewater treatment and industrial facilities*

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Greetings!

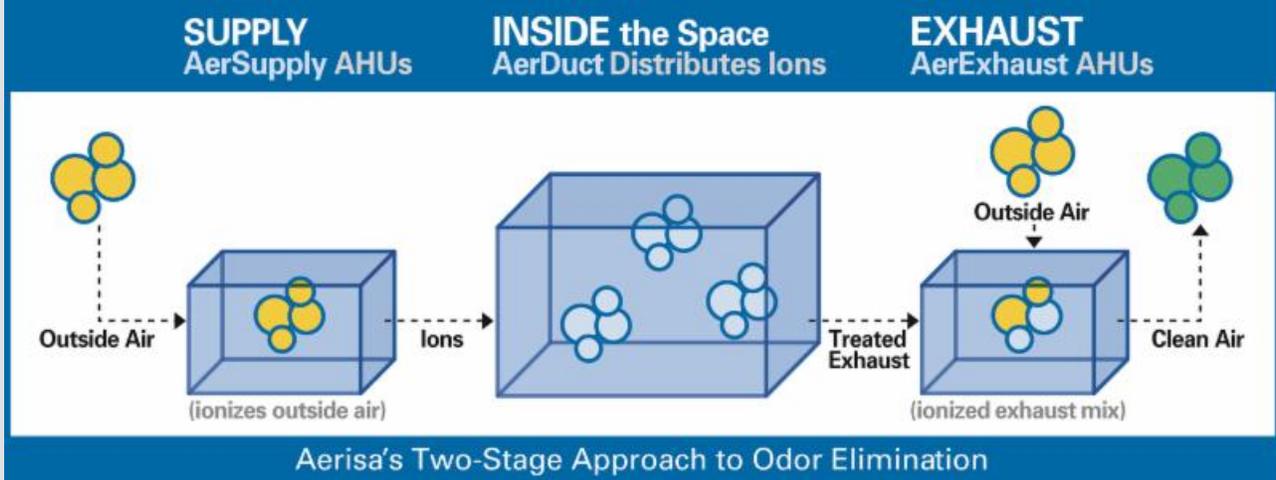
Air Ionization: Don't Confuse It With Photoionization or Ozonation

During another of my recent presentations of the Aerisa air purification technology, a client asked, "**Your odor control systems appear much safer than photoionization or ozonation-- Would you please explain the differences?**"

As stated in my recent email, confusion about this has been unfortunately created by inaccurate, misleading, or non-information given by others. **Air ionization is a different technology than ozonation or photoionization** (or more accurately, photocatalytic oxidation).

Air ionization systems supply highly-ionized air (i.e., with O_2^+ , O_2^- ions) into the space to proactively attack the contaminants at their source while vastly improving in-area working conditions. As a second purification step, outside air may be ionized and mixed with pre-treated facility air to deliver high quality exhaust.

The ions created by air ionization are completely natural and safe-- **you're breathing them at some concentration right now!** The Aerisa technology increases these oxidative ions in the application area (e.g., headworks building, dewatering room, tank headspace, large pump station) to safely provide odor and corrosion control.



Photocatalytic Oxidation (PCO) is a new odor control technology that utilizes numerous UV bulbs, a metal (titanium or potassium) compound supported on media (such as granular carbon) and humidity to treat exhaust from a space. This technology produces hydroxyl radicals and unstable peroxides, very oxidative compounds, but **extremely harmful to humans** and which must be used in an exhaust-only configuration. In my opinion, PCO is meant for low flow rate, highly contaminated gas streams, as **20+ UV bulbs are needed per 1000 cfm**. Thus, scalability for large flow rates is questionable as bulb maintenance, media replacement and power costs will be unattractive. PCO also generates sulfuric acid that must be drained to waste.

Ozone Readings at
Liberty Utilities - Palm Valley WRF
Goodyear AZ
July 29, 2014
using a calibrated, "warmed-up"
EcoSensors Model A-21ZX

[CLICK HERE to play video](#)

Ozonation was discussed in my [recent email](#). Though the equipment itself may appear similar, ozone (O_3) generators commonly operate at 30,000-40,000 volts, whereas **Aerisa's ionizers operate at less than 3,000 volts to negate ozone production**. As stated previously, the **OSHA standard for ozone is 0.10 ppm average over an 8-hour work shift-so, it doesn't take much to be a personnel safety issue**. Therefore, gas phase O_3

applications are typically for high concentration odors and for unattended, small spaces such as pump stations. Ozone attacks natural rubber, nitrile, nylon, and mild steel--this too must be considered.

I trust the above provides clarity regarding the vast safety differences between Aerisa's air ionization system versus that of PCO and ozone.

Aerisa will continue to lead the air ionization industry through successful installations as well as conveying truthful information about our technology.

Come see us at our upcoming conferences!

- Rocky Mountain WEA, Albuquerque NM, September 8th-9th
- Tri-State Seminar, Las Vegas NV, September 23rd-24th
- WEFTEC, Booth 1952, New Orleans LA, Sept. 29th- Oct 1st



Please visit Aerisa.com or contact me with any questions you may have.

Sincerely,

Stuart Humphries

s.humphries@aerisa.com

480-302-6300

1214 W. Boston Post Road | Suite 410 | Mamaroneck, NY 10543
480-302-6300 | info@aerisa.com

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