



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Ethylene Oxide (EtO) Public Outreach

PADEP Northeast Region

December 1, 2022

Tom Wolf, Governor

Ramez Ziadeh, Acting Secretary

Air Quality Permit

- B Braun holds Air Quality Permit 39-00055
 - Current EtO controlled sources
 - sterilizers (8)
 - aeration room
 - B. Braun has installed new and updated controls

Previous Controls

- DEOXX Scrubber
 - Designed to control 99% EtO
 - Required as best available technology
- Catalytic Oxidizer
 - Designed to control 99% EtO
 - Required by 40 CFR Subpart O of the National Emission Standards for Hazardous Air Pollutants for Sterilization Facilities

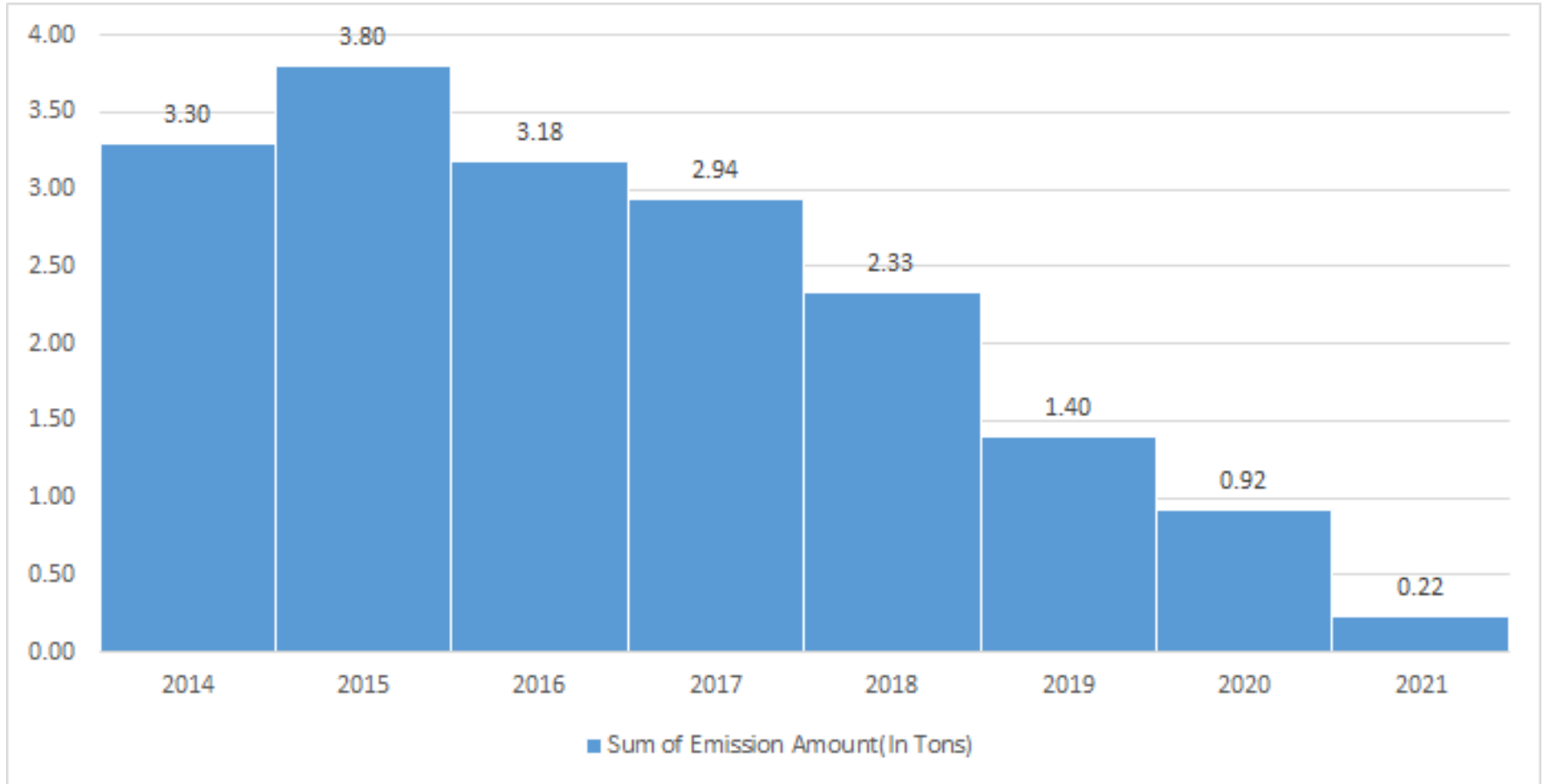
New Controls

- Dry Bed System installed in 2019
 - Voluntarily installed by B. Braun
 - Controls EtO from previously uncontrolled rear sterilizer vent
 - Designed for 99% EtO control
 - Significant reduction in overall EtO emissions

Updated Controls

- Catalytic Oxidizer with Peak Shaver – 2020
 - Voluntarily upgraded by B. Braun replacing existing DEOXX scrubber and catalytic oxidizer
 - Previous equipment designed for 99% EtO control
 - New system is designed to achieve 99.9% EtO control
 - Demonstrated EtO destruction of 99.98%
 - Significant reduction in overall EtO emissions

B Braun EtO Emission Trend



EtO Emission Reductions

- 10TPY EtO emission limit
- Current EtO emissions at 2.2% of limit
- 90% EtO emission reduction since 2018

PADEP Inspections

- PADEP conducts periodic unannounced inspections
- Full Compliance Evaluations (FCE)
- Last FCE – November 2022
- No violations identified



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