



SHIP & SHORE
ENVIRONMENTAL, INC.
Clean Air Solutions for Industry

Products & Services

Ship & Shore Environmental, Inc. has the capability and expertise to custom engineer and design **pollution abatement equipment** and **plant optimization services** that are specific to your process.



DIRECT-FIRED THERMAL OXIDIZER

Direct-Fired Thermal Oxidizers (DFTO) use a burner to heat up the combustion chamber to proper oxidization temperatures for the required destruction efficiency (DRE), which can reach high levels of up to 99.9% DRE. If the process emission contains high levels of Volatile Organic Compounds (VOCs) and heat content, it can be used as fuel gas for the burner. DFTOs can be combined with a waste heat boiler or hot oil heater for process efficiency.



RECUPERATIVE THERMAL OXIDIZER

Recuperative Thermal Oxidizers are designed based on VOC concentration, volume of airflow, and desired destruction efficiency. With the use of a heat exchanger, the VOC-laden process stream is preheated to its combustion temperature and converted to carbon dioxide, water vapor, and heat. This pre-heating allows the system to operate with minimal fuel consumption and can be relatively self-sustaining at moderate Lower Explosive Limit (LEL).



ENCLOSED FLARE

A flare is the simplest type of enclosed combustor technology and is mainly used for treating landfill and biogas applications. Enclosed flares typically operate at 98% destruction efficiency (DRE). Ship & Shore flares can be designed for greater than 98% DRE if needed. Other flare applications include petrochemical and chemical plants, oil and gas drilling operations, biogas treatment, tank loading terminals, and barge degassing.



STEAM-GENERATING T.O.

A Steam Generating Thermal Oxidizer (SGTO) combines a boiler with a thermal oxidizer and may be useful for manufacturing plants that use steam, hot water, or oil for process heating. SGTOs use Volatile Organic Compound (VOC) emissions as fuel for the burner, reducing overall fuel consumption and carbon footprint of the facility. It can process large air flows due to Ship & Shore's unique design and construction of the burner package.



REGENERATIVE THERMAL OXIDIZER

Regenerative Thermal Oxidizers (RTOs) are most efficient for processes that have high volumes of air streams containing low to medium VOC concentrations. RTOs will significantly reduce operating costs and energy consumption by re-directing thermal energy generated during manufacturing, which can result in a self-sustaining operation. RTOs can be combined with scrubbers and other treatment systems.



REMEDIATION SOLUTIONS

Ship & Shore offers quality solutions and equipment for groundwater and soil treatment applications. Our remediation and Soil Vapor Extraction (SVE) systems are custom engineered and designed to treat chlorinated hydrocarbon compounds and emerging contaminants of concern (COCs). We provide a wide range of solutions and technologies including oil water separators, air strippers, and Multi Phase Extraction (MPE) systems.





VALUE ADDED SERVICES

Enclosures

Depending on the needs of the customer, Ship & Shore can custom engineer and design Permanent Total Enclosures (PTE), weather enclosures, or sound enclosures. Permanent Total Enclosures (PTE) are a highly effective way to prevent fugitive emissions from entering the atmosphere. In locations where cold climate is an issue, weather enclosures can be provided to protect the system. For environments with sound requirements, sound enclosures are available.

VOC Collection Systems

A properly designed collection system is essential to meeting air quality collection requirements, maintaining proper flow through the ducting system, and safely directing Volatile Organic Compound (VOC) emissions to the pollution abatement equipment. Our Ship & Shore process engineers have the expertise to develop a design that meets all of these requirements, including ducting layout, dimensions, dampers, and installation of the collection system.



Ship & Shore RTO with Heat Exchanger for waste heat recovery

Air Permitting

Air permits document how air pollution sources will operate in compliance with emission limits and with other applications of the process. Our systems have met and continue to meet the most stringent air quality permit requirements. Ship & Shore project managers provide all drawings, calculations, and technical assistance needed for state and local air permit applications and modifications associated with the project.

Incentive/Rebate

Government-funded programs have been established through natural gas and electric utility providers to help mitigate costs associated with implementing environmental efforts. With the installation of energy-efficient technology or waste heat recovery options, cash incentives can be earned. Ship & Shore has helped many of our customers apply for and receive thousands of dollars in rebates from these incentive programs.

Energy Analysis

As your engineering partner, we help analyze your current energy usage and offer cost-effective methods to reduce energy consumption and lower overall operating costs. We have the expertise to custom design systems capable of capturing waste heat generated from various process sources and redirect to other areas of production to save and re-use energy. Let us gather the data and provide solutions you need.

AFTERMARKET SERVICES

PM INSPECTIONS

To ensure optimum performance of your pollution abatement system, annual Preventive Maintenance (PM) Inspections are vital. Ship & Shore trained technicians can service any brand of oxidizer. These annual inspections reduce the risk of nuisance shutdowns, help ensure the system is always in compliance, and improves overall equipment efficiency. Potential damages can be avoided with early detection, as existing problems or signs of future ones will be evaluated and recorded. After assessment and inspection of the oxidizer, a written report outlining observations and recommendations for spare parts, repairs, or maintenance is provided.



OTHER SERVICES:

- Media Replacement
- Spare Parts
- Repairs & Retrofits
- Remote Assessment and Troubleshooting
- PLC and HMI Upgrades
- Process Testing and Compliance
- Waste Heat Recovery
- Low NOx Burners