

ENVIRONMENTAL SOLUTIONS FOR THE OIL & GAS INDUSTRY



ENGINEER | DESIGN | BUILD | INSTALL

Custom Systems for Air Pollution Control and Water & Wastewater Treatment

Monroe Environmental® has decades of experience working with plants and engineers in the oil and gas, chemical, and petrochemical industries. We offer cost-effective solutions to meet demanding regulatory requirements, reduce maintenance costs, improve worker safety, streamline production, and minimize downtime.

Monroe's Engineered Systems

Air Pollution Control

- Packed Tower Scrubbers
- Venturi Scrubbers
- Quench Towers
- Dust Collectors
- Oil Mist Collectors
- Wet ESPs
- Fiber Bed Filters

Water & Wastewater Treatment

- Circular Clarifiers & Thickeners
- Lamella Plate Vertical Clarifiers
- Horizontal Plate Clarifiers
- API Oil/Water Separators
- Oil Skimmers/Oil Recovery Units
- X-Flo Mobile Clarifier™ and Rental Clarifiers
- Air Strippers

Application & Process Expertise

Air Pollution Control

- NH₃, H₂S, SO₂, HCl, HF, and acid gas
- Particulate matter – PM₁₀ and PM_{2.5}
- Condensables, aerosols, and opacity
- VOCs and odor
- Mist and dust collection

Water & Wastewater Treatment

- Suspended (TSS) and dissolved (TDS) solids
- Metals precipitation and reduction
- Oil separation and recovery
- Ammonia and VOC stripping
- Mobile water treatment and rentals

Recent Monroe Projects



Quench Tower and SO₂ Scrubber for boiler expansion: A chemical plant that produces coal tar pitch was expanding operations and needed to control flue gas emissions from a new boiler.



Wet Scrubber treats HCl & Cl₂ exhaust from RTO: A Monroe Wet Scrubber system was selected to capture and neutralize the toxic gases at a pharmaceutical manufacturing plant.



Secondary Clarifier for polymer plant: Rebuilt and upgraded to maximize sludge removal for 90 ft. diameter Circular Clarifier capable of processing over 2 million gallons per day.



Lamella Plate Vertical Clarifier for the reduction of cobalt hydroxides from a process water stream at a petrochemical plant.



Solids Contact Clarifier for midstream oil and gas facility to process river water – softening and lowering total suspended solids, metals, and turbidity – for use in the plant.



Horizontal Plate Clarifiers provide water re-use for resins plant: Separates PVC resins and other solids from large volumes of process water to allow for re-use.



Amine Scrubber provides fume control: Packed Tower Scrubber for a gulf coast chemical manufacturing plant to control odorous fumes from chemical storage tanks.



Evaporative Quench Tower for FGD project: Tower designed to ASME Section VIII pressure vessel standards.



Fiber Bed Mist Collectors for asphalt storage terminal to control PM_{2.5} particulate, fumes, mist, and vapors exhausted from its heated asphalt storage tanks. Downstream H₂S adsorption vessels would plug and fail if these pollutants were not removed. The mist and vapors were very fine, requiring filtration equipment capable of removing submicron particulate.





Two-stage Wet Scrubber with C-276 hastelloy Quench Tower and FRP Packed Tower to remove HF from gas stream at a chemical plant using KOH. The systems included integral scrubber sump, recirculation pump, piping, instruments, valves, and supports for hurricane wind speeds.



A custom Monroe API Oil Water Separator provides primary oil, water, and solids separation prior to downstream biological treatment for a gulf coast refinery. The unit was 150 ft. long and included a cover, explosion protection vents, and was built to API 421 standards.



X-Flo Mobile Clarifier™ for produced water treatment: Monroe's X-Flo Mobile Clarifiers have a high throughput capacity and the ability to separate and remove settle-able solids as well as floating oils at the same time. The system contains integral sludge handling and oil skimming mechanisms.



30 ft. diameter Circular Clarifier to treat wastewater at a fluoropolymer plant. Monroe provided the complete clarifier system, including tank, drive, mechanism, bridge, and access platform with installation on a turnkey basis.



Retrofit of two Lamella-type Plate Clarifiers at a chemical plant. A competitor's clarifier was insufficiently designed to handle process temperatures and was warping and buckling, causing safety and process hazards. Monroe gutted the clarifier and installed new supports and plates to allow the unit to operate properly, saving the plant over \$200,000 versus replacing the clarifier.



Wet Scrubber removes and recovers phenolic formaldehyde resin from nitrogen gas stream for a gulf coast chemical manufacturing plant.



Air Stripper removes ammonia from ethylene glycol to increase the purity of the recycled liquid for an industrial solvents facility.

ABOUT MONROE ENVIRONMENTAL

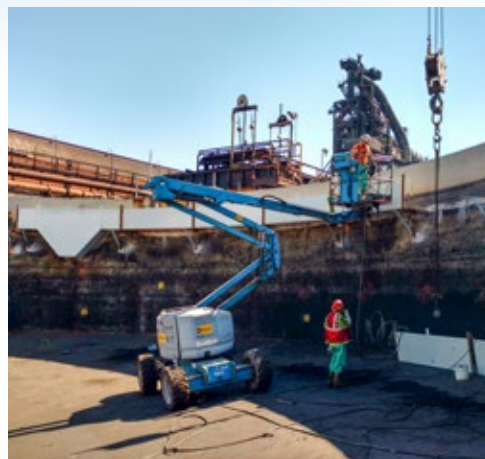
Unsurpassed Experience and Reputation

Monroe Environmental is a premier provider of air pollution control and water/wastewater treatment systems and services. For over 50 years, Monroe has provided thousands of systems for industrial, municipal, institutional, commercial, and government facilities. We have installations throughout North America, from northern Canada to southern Mexico, and around the globe. As a testament to our outstanding reputation, some of the largest and most prestigious manufacturing companies in the world routinely turn to Monroe to solve their most challenging environmental problems.

One-Stop Shopping – Systems, Services, and Solutions

Monroe is a full-service company offering a complete line of pollution control equipment that is designed, engineered, and manufactured for the needs of each customer and application on an individual basis. We have complete in-house fabrication and shop assembly capabilities that serve to reduce project costs, provide superior quality control, and expedite project completion times. We also have the experience and capabilities to provide turnkey installations along with a wide array of related services ranging from engineering and design through permitting, project management, and commissioning.

Monroe's staff of engineers, technicians, and project managers is highly experienced at evaluating, custom-designing, fabricating, installing, and commissioning cost-effective, durable, and reliable systems. In addition, in order to help ensure continued successful system operations with minimal downtimes and peak efficiencies, we offer a complete menu of support options that include extensive spare and replacement part inventories, as well as annual, as-needed, and emergency services.



Experience the Monroe Difference

The foundation of Monroe's success, reputation for excellence, and continued growth is our commitment to providing each customer the highest levels of service and support in combination with the best, highest quality, and most cost-effective systems for ensuring long-term successful operations. This, combined with our top-notch staff, in-house capabilities, and wide array of offerings distinguish Monroe Environmental as one of the finest environmental equipment providers.

Contact us today and let us help determine the best solution to your air and water pollution control needs. Join the ranks of countless satisfied customers who have experienced the Monroe difference.

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